



**VOLUME II**

**B-21 Main Operating Base 1 (MOB 1)  
Beddown at Dyess AFB, Texas or  
Ellsworth AFB, South Dakota**

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**FINAL**

**Environmental Impact Statement**

**APPENDICES**

**March 2021**



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**APPENDIX A**  
**PUBLIC INVOLVEMENT**

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## ACRONYMS AND ABBREVIATIONS

ARSD	Administrative Rules of South Dakota
CIN	Committer Identification Number
EIS	Environmental Impact Statement
MOB 1	Main Operating Base 1
NEPA	National Environmental Policy Act
NHLs	National Historic Landmarks
NNLs	National Natural Landmarks
NOI	Notice of Intent
NPS	National Park Service
USAF	U.S. Air Force

# A. PUBLIC INVOLVEMENT AND AGENCY OUTREACH

## A.1 NOTICE OF INTENT

### A.1.1 Original Notice of Intent (March 6, 2020)



**13148**

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Please submit your comments using only one of these methods. Submissions through the CFTC Comments Portal are encouraged. Any statements submitted in connection with the committee meeting will be made available to the public, including by publication on the CFTC website, <https://www.cftc.gov>.

**FOR FURTHER INFORMATION CONTACT:** Abigail S. Knauff, EEMAC Secretary, Commodity Futures Trading Commission, Three Lafayette Centre, 1155 21st Street NW, Washington, DC 20581; (202) 418-5123.

**SUPPLEMENTARY INFORMATION:** At this meeting, the EEMAC will hear remarks on the Commission's Position Limits for Derivatives proposed rule as approved on January 30, 2020. Specifically, the EEMAC will examine: (1) The proposed position limits for spot months, single month, and all-months-combined and (2) the proposed bona fide hedge exemptions from such position limits and related procedures. The EEMAC will also hear a presentation from the Market Intelligence Branch on recent developments within the energy derivatives marketplace.

The meeting will be open to the public with seating on a first-come, first-served basis. Members of the public may also listen to the meeting by telephone by calling a domestic toll-free telephone or international toll or toll-free number to connect to a live, listen-only audio feed. Call-in participants should be prepared to provide their first name, last name, and affiliation.

*Domestic Toll Free:* 1-888-947-9959.  
*International Toll and Toll Free:* Will be posted on the CFTC's website, <https://www.cftc.gov>, on the page for the meeting, under Related Links.  
*Pass Code/Pin Code:* 2927172.

The meeting agenda may change to accommodate other EEMAC priorities. For agenda updates, please visit the EEMAC committee website at: [https://www.cftc.gov/About/CFTCCommittees/EnergyEnvironmentalMarketsAdvisory/emac\\_meetings.html](https://www.cftc.gov/About/CFTCCommittees/EnergyEnvironmentalMarketsAdvisory/emac_meetings.html).

After the meeting, a transcript of the meeting will be published through a link on the CFTC's website at: <https://www.cftc.gov>. All written submissions provided to the CFTC in any form will also be published on the CFTC's website. Persons requiring special accommodations to attend the meeting because of a disability should notify the contact person above.  
(Authority: 7 U.S.C. 2(a)(15)(B)(i)).

Dated: March 3, 2020.  
**Robert Sidman,**  
*Deputy Secretary of the Commission.*  
[FR Doc. 2020-04622 Filed 3-5-20; 8:45 am]  
BILLING CODE 6351-01-P

**CONSUMER PRODUCT SAFETY COMMISSION**

**Sunshine Act Meeting Notice**

**TIME AND DATE:** Wednesday, March 11, 2020; 1:30 p.m.

**PLACE:** Hearing Room 420, Bethesda Towers, 4330 East West Highway, Bethesda, MD 20814.

**STATUS:** Commission Meeting—Closed to the Public.

**MATTER TO BE CONSIDERED:** Compliance Matter: Staff will brief the Commission on the status of a compliance matter.

**CONTACT PERSON FOR MORE INFORMATION:** Alberta E. Mills, Secretary, Division of the Secretariat, Office of the General Counsel, U.S. Consumer Product Safety Commission, 4330 East West Highway, Bethesda, MD 20814, (301) 504-7479.

Dated: March 4, 2020.  
**Alberta E. Mills,**  
*Secretary.*  
[FR Doc. 2020-04779 Filed 3-4-20; 4:15 pm]  
BILLING CODE 6355-01-P

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**CONSUMER PRODUCT SAFETY COMMISSION**

**Sunshine Act Meeting Notice**

**TIME AND DATE:** Wednesday, March 11, 2020; 10 a.m.

**PLACE:** Hearing Room 420, Bethesda Towers, 4330 East West Highway, Bethesda, MD 20814.

**STATUS:** Commission Meeting—Open to the Public.

**MATTER TO BE CONSIDERED:** Briefing Matter: FY2020 Midyear Review.

**CONTACT PERSON FOR MORE INFORMATION:** Alberta E. Mills, Secretary, Division of the Secretariat, Office of the General Counsel, U.S. Consumer Product Safety Commission, 4330 East West Highway, Bethesda, MD 20814, (301) 504-7479.

Dated: March 4, 2020.  
**Alberta E. Mills,**  
*Secretary.*  
[FR Doc. 2020-04764 Filed 3-4-20; 4:15 pm]  
BILLING CODE 6355-01-P

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**CORPORATION FOR NATIONAL AND COMMUNITY SERVICE**

**Guidance Document Portal; Correction**

**AGENCY:** Corporation for National and Community Service.

**ACTION:** Notice; correction.

**SUMMARY:** The Corporation for National and Community Service published a Notice in the **Federal Register** of March

2, 2020, concerning notification of a Guidance Portal on the agency's public website, pursuant to Executive Order 13891 and OMB Memorandum M-20-02. The document gave the incorrect URL for the Guidance Portal.

**FOR FURTHER INFORMATION CONTACT:** Amy Borgstrom, [aborgstrom@cns.gov](mailto:aborgstrom@cns.gov) or 202-606-6930.

**SUPPLEMENTARY INFORMATION:**

**Correction**

In the **Federal Register** of March 2, 2020, in FR Doc. 2020-04226, in the third column at the bottom of page 12270, in the **ADDRESSES** line, correct the information to read:  
**ADDRESSES:** [www.nationalservice.gov/guidance](http://www.nationalservice.gov/guidance).

Dated: March 2, 2020.  
**Amy Borgstrom,**  
*Associate Director of Policy.*  
[FR Doc. 2020-04569 Filed 3-5-20; 8:45 am]  
BILLING CODE 6050-SS-P

**DEPARTMENT OF DEFENSE**

**Department of the Air Force**

**Notice of Intent To Prepare an Environmental Impact Statement for the B-21 Main Operating Base 1 (Mob 1) Beddown at Dyess Air Force Base, Texas or Ellsworth Air Force Base, South Dakota**

**AGENCY:** Department of the Air Force, DoD.

**ACTION:** Notice of intent.

**SUMMARY:** The United States Air Force (Air Force) is issuing this notice to advise the public of its intent to prepare an Environmental Impact Statement (EIS) for the B-21 Main Operating Base 1 (MOB 1) Beddown at Dyess Air Force Base (AFB), Texas or Ellsworth AFB, South Dakota. The EIS will assess the potential environmental consequences of the proposal to beddown the Department of Defense's new bomber aircraft, the B-21 "Raider," which will eventually replace existing B-1 and B-2 bomber aircraft.

**DATES:** The Air Force plans to hold six public scoping meetings: Tuesday, March 31, 2020: Holiday Inn at Rushmore Plaza, 505 North 5th Street, Rapid City, SD 5770; Wednesday, April 1, 2020: Sturgis Community Center, 1401 Lazelle Street, Sturgis, SD 57785; Thursday, April 2, 2020: Douglas Middle School, 691 Tower Road, Box Elder, SD 57719; Tuesday, April 7, 2020: Abilene Convention Center, 1100 North 6th Street, Abilene, TX 79601; Wednesday, April 8, 2020: Wylie High

FINAL | ENVIRONMENTAL IMPACT STATEMENT  
B-21 MOB 1 BEDDOWN AT DYESS AFB OR ELLSWORTH AFB

School Performing Arts Center, 4502 Antilley Road, Abilene, TX 79606; and Thursday, April 9, 2020: Tye Community Center, 103 Scott Street, Tye, TX 79563.

**ADDRESSES:** Additional information on the B-21 MOB 1 Beddown EIS environmental impact analysis process can be found on the project website at [www.B21EIS.com](http://www.B21EIS.com). The project website can also be used to submit comments. Inquiries and comments-by-mail regarding the Air Force proposal should be directed to Dyess AFB Public Affairs, ATTN: B-21 EIS, 7 Lancer Loop, Suite 136, Dyess AFB, TX 79607; (325) 696-4820; [7bwpa@us.af.mil](mailto:7bwpa@us.af.mil); or Ellsworth AFB Public Affairs, ATTN: Steve Merrill, 28th Bomb Wing Public Affairs, 1958 Scott Dr., Suite 4, Ellsworth AFB, SD 57706; (605) 385-5056; [28bw.publicaffairs@us.af.mil](mailto:28bw.publicaffairs@us.af.mil). Comments will be accepted at any time during the environmental impact analysis process. However, to ensure the Air Force has sufficient time to consider public input in the preparation of the Draft EIS, scoping comments must be submitted to the website or mailed to one of the addresses listed above by April 24, 2020.

**SUPPLEMENTARY INFORMATION:** The beddown of the B-21 will take place through a series of three Main Operating Bases (MOB), referred to as MOB 1, MOB 2, and MOB 3. The Air Force proposes to beddown MOB 1, which includes two B-21 Operational Squadrons, a B-21 Formal Training Unit (FTU), and a Weapons Generation Facility (WGF) in this EIS. MOB 2 and MOB 3 beddown locations would be evaluated in future NEPA analyses, after the location for MOB 1 is chosen. The B-21 will operate under the direction of the Air Force Global Strike Command. The B-21 will have both conventional and nuclear roles and will be capable of penetrating and surviving in advanced air defense environments. It is projected to enter service in the 2020s, and the Air Force intends to have at least 100 B-21 aircraft built.

The purpose of the Proposed Action is to implement the goals of the National Defense Strategy by modernizing the U.S. bomber fleet capabilities. The B-21 Raider is being developed to carry conventional payloads and to support the nuclear triad by providing a visible and flexible nuclear deterrent capability that will assure allies and partners through the United States' commitment to international treaties. The B-21 will provide the only stealth bomber capability and capacity needed to deter, and if necessary, defeat our adversaries in an era of renewed great power

competition. MOB 1 will support training of crewmembers and personnel in the operation and maintenance of the B-21 aircraft in an appropriate geographic location that can provide sufficient airfield, facilities, infrastructure, and airspace to support the B-21 training and operations.

The EIS will analyze Dyess AFB and Ellsworth AFB as basing alternatives for MOB 1 for the Proposed Action, as well as a No Action Alternative. The basing alternatives were developed to minimize mission impact, maximize facility reuse, minimize cost, and reduce overhead, as well as leverage the strengths of each base to optimize the B-21 beddown strategy. The potential impacts of the alternatives and the No Action Alternative that the EIS may examine include impacts to land use, airspace, safety, noise, hazardous materials and solid waste, physical resources (including earth and water resources), air quality, transportation, cultural resources, biological resources, socioeconomic, and environmental justice. The Air Force is preparing this EIS in accordance with the National Environmental Policy Act (NEPA) of 1969; 40 Code of Federal Regulations (CFR), parts 1500-1508, the Council on Environmental Quality (CEQ) regulations implementing NEPA; and the Air Force's Environmental Impact Analysis Process (EIAP) as codified in 32 CFR part 989.

**Scoping and Agency Coordination:** The scoping process will be used to involve the public early in the planning and development of the EIS, to help identify issues to be addressed in the environmental analysis. To effectively define the full range of issues and concerns to be evaluated in the EIS, the Air Force is soliciting scoping comments from interested local, state, and federal agencies and interested members of the public.

The Air Force will hold six scoping meetings to inform the public and solicit comments and concerns about the proposal. Scoping meetings will be held in local communities surrounding Dyess and Ellsworth AFBs. Scheduled dates, locations, and addresses for each meeting will be published in the Rapid City Journal and Black Hills Pioneer newspapers in South Dakota, the Abilene Reporter News and The Wylie News newspapers in Texas, as well as the Native Sun News, Indian Country Today and the Original Briefs tribal

newspapers, a minimum of fifteen (15) days prior to each meeting.

**Adriane Paris,**  
*Acting Air Force Federal Register Liaison Officer.*

[FR Doc. 2020-04593 Filed 3-5-20; 8:45 am]

BILLING CODE 5001-10-P

## DEPARTMENT OF DEFENSE

### Office of the Secretary

#### Department of Defense Military Family Readiness Council; Notice of Federal Advisory Committee Meeting

**AGENCY:** Under Secretary of Defense for Personnel and Readiness, Department of Defense (DoD).

**ACTION:** Notice of Federal Advisory Committee meeting.

**SUMMARY:** The DoD is publishing this notice to announce that the following Federal Advisory Committee meeting of the DoD Military Family Readiness Council will take place.

**DATES:** Open to the public Tuesday, March 24, 2020, from 10 a.m. to 12 p.m.

**ADDRESSES:** Pentagon, 1155 Defense Pentagon PLC2 Pentagon Library & Conference Center, Room B6, Washington, DC 20301.

**FOR FURTHER INFORMATION CONTACT:** William Story, (571) 372-5345 (Voice), (571) 372-0884 (Facsimile), OSD Pentagon OUSD P-R Mailbox Family Readiness Council, [osd.pentagon.ousd-p-r.mbx.family-readiness-council@mail.mil](mailto:osd.pentagon.ousd-p-r.mbx.family-readiness-council@mail.mil) (Email). Mailing address is: Office of the Deputy Assistant Secretary of Defense (Military Community & Family Policy), Office of Family Readiness Policy, 4800 Mark Center Drive, Alexandria, VA 22350-2300, Room 3G15. Website: <https://www.militaryonesource.mil/leaders-service-providers/military-family-readiness-council>. The most up-to-date changes to the meeting agenda can be found on the website.

**SUPPLEMENTARY INFORMATION:** This meeting is being held under the provisions of the Federal Advisory Committee Act (FACA) of 1972 (5 U.S.C., Appendix, as amended), the Government in the Sunshine Act of 1976 (5 U.S.C. 552b, as amended), and 41 CFR 102-3.140 and 102-3.150.

**Purpose of the Meeting:** This is the first meeting of the Council for Fiscal Year 2020 (FY2020). During this meeting the Director, Defense Health Agency, will present information to the Council, including changes in dependent health care systems and implications for military family



## A.1.2 Amended Notice of Intent (March 24, 2020)



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waterfront access for kayak launching. There will be no boundary change with the approval of the revised management plan. The revised management plan will serve as the guiding document for the 10,235-acre Great Bay National Estuarine Research Reserve for the next five years.

NOAA's Office for Coastal Management will conduct an environmental analysis in accordance with the National Environmental Policy Act on the proposed approval of the Great Bay National Estuarine Research Reserve's revised management plan. The public is invited to provide comment or information about any potential environmental impacts of the proposed action, and these comments will be used to inform NOAA's decision on whether to approve the revised management plan.

(Authority: 16 U.S.C. 1461 *et seq.*)

Dated: March 19, 2020.

**Keelin S. Kuipers,**

*Deputy Director, Office for Coastal Management, National Ocean Service, National Oceanic and Atmospheric Administration.*

[FR Doc. 2020-06163 Filed 3-23-20; 8:45 am]

BILLING CODE 3510-08-P

### DEPARTMENT OF COMMERCE

**National Oceanic and Atmospheric Administration**

[RTID 0648-XW008]

**Endangered and Threatened Species; Extension of Public Comment Period**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Notice; extension of public comment period.

**SUMMARY:** NMFS hereby extends the comment period on the notice of initiation of 5-year reviews of 28 species of Pacific salmon and steelhead (*Oncorhynchus spp.*) listed under the Endangered Species Act of 1973, as amended (ESA).

**DATES:** Comments and new relevant information related to these 5-year reviews must be received by midnight on May 26, 2020.

**ADDRESSES:** You may submit information on this document, identified by NOAA-NMFS-2019-0097, by any of the following methods:

- **Electronic Submissions:** Submit all electronic public comments via the Federal e-Rulemaking Portal [www.regulations.gov](http://www.regulations.gov). To submit

comments via the e-Rulemaking Portal, first click the "submit a comment" icon, then enter NOAA-NMFS-2019-0097 in the keyword search. Locate the document you wish to comment on from the resulting list and click on the "Submit a Comment" icon to the right of that line.

- **Mail or Hand-Delivery:** Address comments to Robert Markle, NMFS, West Coast Region, 1201 NE Lloyd Blvd., Suite 1100, Portland, OR 97232.

- **Instructions:** Comments must be submitted by one of the above methods to ensure that we can receive, document, and consider them. Comments sent by any other method, sent to any other address or individual, or received after the end of the comment period may not be considered. All comments received are a part of the public record and will generally be posted for public viewing on [www.regulations.gov](http://www.regulations.gov) without change. All personal identifying information (e.g., name, address, etc.) submitted voluntarily by the sender will be publicly accessible. Do not submit confidential business information, or otherwise sensitive or protected information. We request that all information be accompanied by: (1) Supporting documentation such as maps, bibliographic references, or reprints of pertinent publications; and (2) the submitter's name, address, and any association, institution, or business that the person represents. NMFS will accept anonymous comments (enter "N/A" in the required fields if you wish to remain anonymous).

Please note that submissions without supporting information—those merely stating support for or opposition to the action under consideration—will be noted but not used in making any listing determinations, as such comments do not represent actual scientific or commercial data.

**FOR FURTHER INFORMATION CONTACT:** Robert Markle at the above address, by phone at (503) 230-5419, or by email at [robert.markle@noaa.gov](mailto:robert.markle@noaa.gov).

**SUPPLEMENTARY INFORMATION:** On October 4, 2019, we announced the initiation of 5-year reviews for 28 listed species of Pacific salmon and steelhead; see 84 FR 53117 for a complete list of the species under review as well as the relevant statutory provisions, policies and information under consideration. The original comment period was set to close on March 27, 2020.

However, we are now extending the comment period by 60 days to provide additional opportunity for public input.

**Authority:** 16 U.S.C. 1531 *et seq.*

Dated: March 19, 2020.

**Angela Somma,**

*Chief, Endangered Species Conservation Division, National Marine Fisheries Service.*

[FR Doc. 2020-06149 Filed 3-23-20; 8:45 am]

BILLING CODE 3510-22-P

### DEPARTMENT OF DEFENSE

**Office of the Department of the Air Force**

**Notice of Intent To Prepare an Environmental Impact Statement for the B-21 Main Operating Base 1 (MOB 1) Beddown at Dyess Air Force Base, Texas or Ellsworth Air Force Base, South Dakota—Cancellation of Public Scoping Meetings**

**AGENCY:** Department of the Air Force, DoD.

**ACTION:** Amended notice of intent.

**SUMMARY:** The United States Air Force (Air Force) is issuing this amended and updated notice from the original notice published on March 6, 2020 (**Federal Register**, Vol. 85, No. 45, 13148) to advise the public of its continuing intent to prepare an Environmental Impact Statement (EIS) for the B-21 Main Operating Base 1 (MOB 1) Beddown at Dyess Air Force Base (AFB), Texas or Ellsworth AFB, South Dakota. As a direct result of the National Emergency declared by the President on Friday, March 13, 2020, in response to the coronavirus (COVID-19) pandemic in the United States and the Center for Disease Control's recommendations for social distancing and avoiding large public gatherings, the Air Force is now canceling six public scoping meetings between March 31, 2020 and April 9. In lieu of the public scoping meetings, the Air Force will use the alternative means set forth below to inform the public and stakeholders and to obtain input for scoping the proposed action.

**ADDRESSES:** Additional scoping-related information on the B-21 MOB 1 Beddown EIS environmental impact analysis process can be found on the project website at [www.B21EIS.com](http://www.B21EIS.com). The project website can also be used to submit comments. In the alternative, interested persons may submit written comments by mail or email. For those who do not have ready access to a computer or the internet, the scoping-related materials posted to the website will be made available upon request by mail or phone. Inquiries, requests for scoping-related materials, and comments by mail regarding the Air Force proposal should be directed to either the Dyess AFB Public Affairs,

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ATTN: B-21 EIS, 7 Lancer Loop, Suite 136, Dyess AFB, TX 79607; (325) 696-4820; [7bwpa@us.af.mil](mailto:7bwpa@us.af.mil); or to Ellsworth AFB Public Affairs, ATTN: Steve Merrill, 28th Bomb Wing Public Affairs, 1958 Scott Dr., Suite 4, Ellsworth AFB, SD 57706; (605) 385-5056; [28bw.publicaffairs@us.af.mil](mailto:28bw.publicaffairs@us.af.mil).

Written scoping comments will be accepted at any time during the environmental impact analysis process up until the public release of the Draft EIS. However, to ensure the Air Force has sufficient time to consider public input in the preparation of the Draft EIS, scoping comments must be submitted to the website or postmarked to one of the addresses listed above by May 9, 2020.

**SUPPLEMENTARY INFORMATION:** The EIS will assess the potential environmental consequences of the proposal to beddown the Department of Defense's new bomber aircraft, the B-21 "Raider," which will eventually replace existing B-1 and B-2 bomber aircraft. The Air Force is preparing this EIS in accordance with the National Environmental Policy Act (NEPA) of 1969; 40 Code of Federal Regulations (CFR), Parts 1500-1508, the Council on Environmental Quality (CEQ) regulations implementing NEPA; and the Air Force's Environmental Impact Analysis Process (EIAP) as codified in 32 CFR part 989.

The beddown of the B-21 will take place through a series of three Main Operating Bases (MOB), referred to as MOB 1, MOB 2, and MOB 3. The Air Force proposes to beddown MOB 1, which includes two B-21 Operational Squadrons, a B-21 Formal Training Unit (FTU), and a Weapons Generation Facility (WGF) in this EIS. MOB 2 and MOB 3 beddown locations would be evaluated in future NEPA analyses, after the location for MOB 1 is chosen. The B-21 will operate under the direction of the Air Force Global Strike Command. The B-21 will have both conventional and nuclear roles and will be capable of penetrating and surviving in advanced air defense environments. It is projected to enter service in the 2020s, and the Air Force intends to have at least 100 B-21 aircraft built.

**Purpose and Need for the Proposed Action:** The purpose of the Proposed Action is to implement the goals of the National Defense Strategy by modernizing the U.S. bomber fleet capabilities. The B-21 Raider is being developed to carry conventional payloads and to support the nuclear triad by providing a visible and flexible nuclear deterrent capability that will assure allies and partners through the United States' commitment to

international treaties. The B-21 will provide the only stealth bomber capability and capacity needed to deter, and if necessary, defeat our adversaries in an era of renewed great power competition.

**Description of the Proposed Action and Alternatives:** The Air Force proposes to beddown MOB 1, which includes two B-21 Operational Squadrons, a B-21 Formal Training Unit (FTU), and a Weapons Generation Facility (WGF) in this EIS. MOB 1 will support training of crewmembers and personnel in the operation and maintenance of the B-21 aircraft in an appropriate geographic location that can provide sufficient airfield, facilities, infrastructure, and airspace to support the B-21 training and operations. The EIS will analyze Dyess AFB and Ellsworth AFB as basing alternatives for MOB 1 for the Proposed Action, as well as a No Action Alternative. The basing alternatives were developed to minimize mission impact, maximize facility reuse, minimize cost, and reduce overhead, as well as leverage the strengths of each base to optimize the B-21 beddown strategy.

**Brief Summary of Expected Impacts:** The potential impacts of the alternatives and the No Action Alternative that the EIS may examine include impacts to land use, airspace, safety, noise, hazardous materials and solid waste, physical resources (including earth and water resources), air quality, transportation, cultural resources, biological resources, socioeconomic, and environmental justice.

**Scoping and Agency Coordination:** The scoping process will be used to involve the public early in the planning and development of the EIS, to help identify issues to be addressed in the environmental analysis. To effectively define the full range of issues and concerns to be evaluated in the EIS, the Air Force is soliciting scoping comments from interested local, state, and federal agencies and interested members of the public.

As a direct result of the National Emergency declared by the President on Friday, March 13, 2020, in response to the coronavirus (COVID-19) pandemic in the United States and the Center for Disease Control's recommendations for social distancing and avoiding large public gatherings, the Air Force has canceled six public scoping meetings between March 31, 2020 and April 9.

This amended notice of intent will be published in the Rapid City Journal and Black Hills Pioneer newspapers in South Dakota, the Abilene Reporter News and The Wylie News newspapers in Texas, as well as the Native Sun

News, Indian Country Today and the Original Briefs tribal newspapers.

**Request for Written Comments:** The Air Force seeks written comments in the manner or methods listed in the ADDRESSES paragraph above on potential alternatives and impacts and identification of any relevant information, studies, or analyses of any kind concerning impacts affecting the quality of the human environment.

**Adriane S. Paris,**  
Acting Air Force Federal Register Liaison Officer.

[FR Doc. 2020-06136 Filed 3-23-20; 8:45 am]

BILLING CODE 5001-10-P

## DEPARTMENT OF DEFENSE

### Office of the Secretary

[Docket ID DoD-2020-OS-0001]

### Privacy Act of 1974; System of Records; Correction

**AGENCY:** Office of the Secretary, Department of Defense (DoD).  
**ACTION:** Notice of a modified System of Records; correction.

**SUMMARY:** On Tuesday, January 14, 2020, the DoD published a notice titled "Privacy Act of 1974; System of Records" that modified a System of Records titled, "Forms and Account Management Service (FAMS), DCFO 01." Subsequent to the publication of the notice, DoD discovered that the SORN designator "DCFO 01" was not correct. This notice corrects the error.  
**DATES:** This correction is effective on March 24, 2020.

**FOR FURTHER INFORMATION CONTACT:** Patricia L. Toppings, 571-372-0485.

**SUPPLEMENTARY INFORMATION:** On Tuesday, January 14, 2020 (85 FR 2112-2114), the DoD published a notice titled "Privacy Act of 1974; System of Records" that modified a System of Records titled, "Forms and Account Management Service (FAMS), DCFO 01." The error referenced in the SUMMARY section of this notice is corrected to read as follows:

1. On page 2112, in the third column, in the SUMMARY section "DCFO 01" is corrected to read "DUSDC 02."
2. On page 2113, in the second column, in the SYSTEM NAME AND NUMBER paragraph, "DCFO-01" is corrected to read "DUSDC 02."

Dated: March 19, 2020.

**Aaron T. Siegel,**  
Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 2020-06151 Filed 3-23-20; 8:45 am]

BILLING CODE 5001-06-P

## A.2 AGENCIES AND INTERESTED PARTIES MAILING LIST

### A.2.1 Dyess AFB Agency and Interested Parties Mailing List

Please note that blank cells in the following table indicate that the specific name of an office holder was not available, but notifications were instead addressed to the organization and office itself.

Dyess AFB Agency and Interested Parties Mailing List				
Organization	Salutation*	First Name*	Last Name*	Title/Office
Department of Cultural Affairs	Dr.	Jeff	Pappas	SHPO
Office of the Regional Administrator	Mr.	Ken	McQueen	Regional Administrator
Texas Commission on Environmental Quality - Region 3	Ms.	Winona	Henry	Regional Director
Texas Commission on Environmental Quality - Region 3	Ms.	Winona	Henry	Regional Director
Texas Commission on Environmental Quality - Region 3	Mr.	Michael	Taylor	Air/Water/Waste Section Manager
Texas Historical Commission	Mr.	Mark	Wolfe	SHPO
Texas Parks and Wildlife	Mr.	Carter	Smith	Executive Director
USFWS Ecological Services Field Office	Mr.	Adam	Zerrenner	Field Supervisor
USFWS Ecological Services Field Office	Sir/ Madam			Field Supervisor
Abilene Chamber of Commerce	Sir/Madam			
Abilene Industrial Foundation	Sir/Madam			
Abilene Parks and Recreation	Mr.	Richard	Rodgers	Parks Division Manager
Big Country Regional Advisory Council	Mr.	Grant	Madden	RAC Chair
Buffalo Gap Chamber of Commerce	Sir/Madam			
Merkel Economic Development Corp.	Sir/Madam			
Taylor County	Mr.	Justin	Williams	Director, Environmental Department
Andrews County Commission				County Judge
Brewster County Commission				County Judge
Crane County Commission				County Judge
Culberson County Commission				County Judge
Ector County Commission				County Judge
Hudspeth County Commission				County Judge
Jeff Davis County Commission				County Judge
Loving County Commission				County Judge
Midland County Commission				County Judge
Pecos County Commission				County Judge
Presidio County Commission				County Judge
Reagan County Commission				County Judge
Reeves County Commission				County Judge

Dyess AFB Agency and Interested Parties Mailing List				
Organization	Salutation*	First Name*	Last Name*	Title/Office
Sterling County Commission				County Judge
Taylor County Commission	Mr.	Randall D.	Williams	County Commissioner
Taylor County Commission	Mr.	Kyle	Kedrick	County Commissioner
Taylor County Commission	Mr.	Brad	Birchum	County Commissioner
Taylor County Commission	Mr.	Chuck	Statler	County Commissioner
Taylor County Commission	Mr.	Downing A.	Bolls, Jr.	County Judge
Tom Green County Commission				County Judge
Ward County Commission				County Manager
Winkler County Commission				Chairman
City of Abilene	Mayor	Anthony	Williams	Mayor
City of Abilene	Mr.	Shane	Price	City Councilman
City of Abilene	Mr.	Jack	Rentz	City Councilman
City of Abilene	Ms.	Donna	Albus	City Councilwoman
City of Abilene	Mr.	Weldon W.	Hurt	City Councilman
City of Abilene	Mr.	Travis	Craver	City Councilman
City of Alpine	Mayor	Andres "Andy"	Ramos	
City of Baird	Mayor	Donny	Smith	Mayor
City of Baird	Mr.	Jim	Dobbs	City Councilmember
City of Baird	Mr.	David	Parkhill	City Councilmember
City of Baird	Ms.	Laverne	Mason	City Councilmember
City of Baird	Ms.	Deborah	Moorehead	City Councilmember
City of Baird	Mr.	Hector	Aguirre	City Councilmember
City of Clyde	Mayor Pro-Tem	Stephen	Kniffen	Mayor Pro-Tem
City of Clyde	Mayor	Rodger	Brown	Mayor
City of Clyde	Ms.	Tammie	Coffman	Council Member
City of Clyde	Mr.	J.W.	Schlee	Council Member
City of Clyde	Mr.	Paul	McGuire	Council Member
City of Clyde	Mr.	Danny	White	Council Member
City of Fort Stockton	Mayor	Chris	Alexander	
City of Marfa	Mayor	Manny	Baeza	
City of Merkel	Mayor	Mary	Schramper	Mayor
City of Merkel	Mr.	Larry	Bland	City Councilmember
City of Merkel	Mr.	Jason	Beard	City Councilmember
City of Merkel	Mr.	Brady	Rutledge	City Councilmember
City of Merkel	Mr.	Joseph	Wilson	City Councilmember
City of Monahans	Mayor Pro-Tem	Jeppie	Wilson	
City of Odessa	Mayor	David	Turner	
City of Pecos	Mayor	David	Flores	
City of Tye	Mayor	Roy	Votaw	Mayor
City of Tye	Ms.	Vada	Childers	Tye City Council
City of Tye	Mr.	Kenny	Dry	Tye City Council
City of Tye	Mayor Pro-Tem	Nancy	Moore	Tye City Council
City of Tye	Mr.	Bill	Murphy	Tye City Council
City of Tye	Mr.	Chuck	Downs	Tye City Council

Dyess AFB Agency and Interested Parties Mailing List				
Organization	Salutation*	First Name*	Last Name*	Title/Office
Town of Buffalo Gap	Mayor	David	Perry	Mayor
Town of Buffalo Gap	Mr.	James	Mabes	Alderman
Town of Buffalo Gap	Mr.	Mickey	Stewart	Alderman
Town of Buffalo Gap	Ms.	Doris	Dillard	Alderman
Town of Buffalo Gap	Ms.	Nancy	Henderson	Alderman
Town of Buffalo Gap	Mr.	Pete	Renick	Alderman
Abilene	Mr.	Stanley	Smith	City Attorney
Abilene District Office, District 24	Mr.	Ben	Bailey	District Representative
House District 24	The Honorable	Dawn	Buckingham	State Senator
House District 55	The Honorable	Cathrynn	Brown	State Representative
House District 61	The Honorable	David	Gallegos	State Representative
House District 71	The Honorable	Stan	Lambert	State Representative
House District 72	The Honorable	Drew	Darby	State Representative
House District 74	The Honorable	Alfonso "Poncho"	Nevárez	State Representative
House District 81	The Honorable	Brooks	Landgraf	State Representative
House District 82	The Honorable	Tom	Craddick	State Representative
Senate District 19	The Honorable	Pete	Flores	State Senator
Senate District 28	The Honorable	Charles	Perry	State Senator
Senate District 29	The Honorable	Jose'	Rodriguez	State Senator
Senate District 31	The Honorable	Kel	Seliger	State Senator
Senate District 31	The Honorable	Kel	Seliger	State Senator
Senate District 41	The Honorable	Gregory	Fulfer	State Senator
Bataan Memorial Building	Mr.	Ken	Hughes	Local Government Division
Governor's Office of Budget and Planning	Ms.	Denise S.	Francis	Director, State Grants Team
11th District	The Honorable	Mike	Conaway	US Congressman
11th District	The Honorable	Mike	Conaway	US Congressman
19th District	The Honorable	Jodey	Arrington	US Congressman
19th District	The Honorable	Jodey	Arrington	US Congressman
23rd District	The Honorable	Will	Hurd	US Congressman
23rd District	The Honorable	Will	Hurd	US Congressman
District 2	The Honorable	Xochitl	Torres Small	US Congressman
District 2	The Honorable	Steve	Pearce	US Congressman
New Mexico	The Honorable	Martin	Heinrich	US Senator
New Mexico	The Honorable	Martin	Heinrich	US Senator
New Mexico	The Honorable	Tom	Udall	US Senator
State of New Mexico	The Honorable	Michelle Lujan	Grisham	Governor
State of Texas	The Honorable	Greg	Abbott	Governor
Texas	The Honorable	Ted	Cruz	US Senator

Dyess AFB Agency and Interested Parties Mailing List				
Organization	Salutation*	First Name*	Last Name*	Title/Office
Texas	The Honorable	Ted	Cruz	US Senator
Texas	The Honorable	John	Cornyn	US Senator
Texas	The Honorable	John	Cornyn	US Senator
Andarko Agency Bureau of Indian Affairs				
Jicarilla Agency Bureau of Indian Affairs	Ms.	Verinda	Reval	Superintendent
Mescalero Agency Bureau of Indian Affairs	Mr.	Charles	Riley	Superintendent
Pawnee Agency Bureau of Indian Affairs	Mr.	Jeremy	Lovekamp	Superintendent
Southern Plains Region Regional Office				Bureau of Indian Affairs
Southern Pueblos Agency Bureau of Indian Affairs	Mr.	John E.	Antonio, Sr.	Superintendent
Southwest Region Regional Office				Bureau of Indian Affairs
Mescalero Apache Tribe	Ms.	Holly	Houghten	THPO
Caddo Nation of Oklahoma	Mr.	Phil	Cross	THPO
Wichita and Affiliated Tribes	Mr.	Gary	McAdams	THPO
Comanche Nation	Ms.	Martina	Callahan	THPO
Jicarilla Apache Nation	Dr.	Jeffrey	Blythe	THPO
(not applicable)	Ms.	Sandra E.	Samuels	
(not applicable)	Mr.	Daniel	Graham	
(not applicable)	Ms.	Rosalyn W	Wilson	
FAA FCT/Midwest ATC Service				Air Traffic Manager
Eden Regenerative Community	Mr.	Daniel	McVey	

\* Please note that blank cells in the table indicate that the specific name of an office holder was not available, but notifications were instead addressed to the organization and office itself.

## A.2.2 Ellsworth AFB Agency and Interested Parties Mailing List

Please note that blank cells in the following table indicate that the specific name of an office holder was not available, but notifications were instead addressed to the organization and office itself.

Ellsworth AFB Agency and Interested Parties Mailing List				
Organization Name	Salutation*	First Name*	Last Name*	Title/Office
Baker Chamber of Commerce	Mr.	Paul	Engel	President
Bowman Area Chamber of Commerce	Ms.	Emily	Bostyan	President
Bowman Area Chamber of Commerce	Ms.	Chrissy	Blankenbaker	Director
Bowman Area Chamber of Commerce	Ms.	Savanna	Stroh	Director
Bowman Township		Bruce	McLaughlin	Chairman
Buffalo Town Board	Mr.	Gary	Johnson	
Chamber of Commerce	Mr.	Mark	Rambow	Executive Director
City of Bridger				
City of Halliday				
City of Minot	Mayor	Shaun	Sipma	Mayor
City of Regent				
Dickinson Area Chamber of Commerce	Sir/Madam			
Flasher City Commission	President	Tamara	Bartz	President
Forsyth Area Chamber of Commerce and Agriculture	Sir/Madam			
Fromberg Town Hall				
Hereford Volunteer Fire Department				
Isabel City Hall				
Lavina Town Office				
McIntosh City Hall				
Miles City Airport Commission	Mr.	Lee	Richardson	Chairman
Miles City Area Chamber of Commerce	Ms.	Dannette	Cremer	President
Miles City Area Economic Development Council		Elizabeth	Patten	Executive Director
Minot Area Chamber of Commerce		Tiom	Rafferty	Chairman
Minot Area Development Corporation	Mr.	L. John	MacMartin	Interim President/CEO
Rapid City Chamber of Commerce				
Terry Town Hall				
Bowman City Commission		Lyn	James	President
Bowman City Commission		Vail	Mryon	City Commissioner
Box Elder City Hall	Mayor	Larry	Larson	Mayor
City of Baker	Mayor	JoDee	Pratt	Mayor
City of Beach	Mayor	Henry	Gerving	Mayor
City of Belfield	Mayor			Mayor

Ellsworth AFB Agency and Interested Parties Mailing List				
Organization Name	Salutation*	First Name*	Last Name*	Title/Office
City of Belle Fourche	Mayor	Gloria	Landphere	Mayor
City of Beulah	Mayor	Travis	Frey	Mayor
City of Bismarck	Mayor	Steve	Bakken	Mayor
City of Braddock	Mayor	Del	Svalen	Mayor
City of Broadus	Mayor			City Hall Broadus
City of Buffalo	Mayor	Shane	Schrader	Mayor
City of Center	Mayor	Harold	Wilkins	Mayor
City of Colstrip		John	Williams	Mayor
City of Custer	Mayor	Corbin	Herman	
City of Deadwood	Mayor	David	Ruth Jr.	
City of Dunn Center	Mayor	Scott	Lynch	Mayor
City of Dupree	Mayor	Don	Howe	Mayor
City of Elgin	Mayor			Mayor
City of Faith	Mayor	Glen	Haines	Mayor
City of Forsyth	Mr./Ms. Mayor			Mayor
City of Gillette	Mayor	Louise	Carter-King	Mayor
City of Glendive	Mayor	Jerry	Jimison	Mayor
City of Golva	Mayor	Darin	Maus	Mayor
City of Hardin	Mayor	Joseph	Purcell	Mayor
City of Hazelton		Terry	Macdonald	Auditor
City of Hazen	Mr.	Jerry	Obenauer	Commission President
City of Hebron	Mayor	Grant	Walth	Mayor
City of Hill City	Mayor	Kathy	Skorzewski	Mayor
City of Killdeer	Mr.	Chuck	Muscha	Commission President
City of Laurel	Mayor	Thomas	Nelson	Mayor
City of Lead	Mayor	Ron	Everett	Mayor
City of Lemmon	Mayor	Neal	Pinnow	Mayor
City of Lemmon	Mayor	Neal	Pinnow	Mayor
City of Linton	Mayor	Dan	Imdieke	Mayor
City of Lovell	Mayor	Kevin	Jones	Mayor
City of Mandan	Mayor	Tim	Helbling	Mayor
City of Medora	Mayor	Todd	Corneil	Mayor
City of Miles City	Mayor	John	Hollowell	Mayor
City of New England	Mayor	Marty	Opdahl	Mayor
City of Rapid City	Mayor	Steve	Allender	Mayor
City of Roundup	Mayor	Sandra	Jones	Mayor
City of Sentinel Butte	Mayor	Rick	Olson	Mayor
City of Sheridan	Mayor	Roger	Miller	Mayor
City of Spearfish	Mayor	Dana	Boke	Mayor
City of Stanton	Mayor	Ron	Boyko	Mayor
City of Sturgis	Mayor	Mark	Carstensen	Mayor
City of Sundance	Mayor	Paul	Brooks	Mayor
City of Timber Lake	Mayor	Clyde	Pfeifle	Mayor
City of Washburn	Mayor			Mayor
City of Wibaux	Mayor			Mayor
City of Wilton		LeeAnn	Domonoske-Kellar	Mayor



Ellsworth AFB Agency and Interested Parties Mailing List				
Organization Name	Salutation*	First Name*	Last Name*	Title/Office
City of Zap	Mayor	Norman	Fuchs	Mayor
Clearmont Town Hall		Greg	Rohrer	Mayor
Cowley Town Hall	Mayor	Joel	Peterson	Mayor
Dayton Town Hall	Mayor	Norm	Anderson	Mayor
Dickinson City Commission	Mr.	Scott	Decker	Mayor, Commission President
Eagle Butte City Clerk	Mayor	Larry	Keller	Mayor
Gillette City Council				
Hulett Town Government	Mayor	Ted	Parsons	Mayor
Joliet City Hall	Mayor	Harley	Sorrells	Mayor
Lodge Grass City Hall	Mayor	Henry	Speelman Sr.	Mayor
Melstone City Hall	Mayor	Tim	DeJaegher	Mayor
New Underwood Town Hall	Mayor	Jack	Trullinger	Mayor
Newcastle City Offices	Mayor	Deb	Piana	Mayor
Nisland City Hall	Mr./Ms. Mayor			Mayor
Pine Haven Town Hall	Mayor	Bill	Cunningham	Mayor
Sturgis City Council				
Town Hall	Mayor	Peter	Clark	Mayor
Town of Ekalaka	Mayor	Steven	Ford	Mayor
Town of Garryowen	Mayor	Chris	Kortlander	Mayor
Town of Moorcroft	Mayor	Dick	Claar	
Town of Plevna	Mayor	William	Benner	Mayor
Upton City Hall	Mayor	Travis	Beck	Mayor
Whitewood City Hall	Mayor	Mitch	Harmon	Mayor
Bowman County	Mr.	Rod	Diede	
Bowman County	Mr.	Dean	Pearson	Tax Director
Bowman County Development Corporation	Ms.	Teran	Doerr	Executive Director
Butte County Historical Society				
Butte County Veterans Service Office	Mr.	Bob	Wagner	Veterans Service Officer
Campbell County Economic Development Corporation	Ms.	Phil	Christopherson	CEO
Carter County Chamber of Commerce	Mr.	David	LeVeau	President
Custer County Fire		Bud	Peterson	County Fire Warden
Fallon County	Sir/Madam			
Fallon County DES/911	Mr.	Chuck	Lee	DES Director
Grant County Commission	Mr.	Alton	Zenker	Chairman
Grant County Job Development Authority	Ms.	Luann	Dart	Director
Harding County	Ms.	Kathy	Glines	County Auditor
Meade County Admin.		Jerry	Derr	Commission Assistant/ HR Director
Meade County Resource Advisory Committee				Secretary
Powder River Chamber of Commerce				

Ellsworth AFB Agency and Interested Parties Mailing List				
Organization Name	Salutation*	First Name*	Last Name*	Title/Office
Adams County Commissioners		Dustin	Laufer	Chairman
Aurora County Commissioners				
Big Horn County Commissioners				
Big Horn County Commissioners				
Bowman County Commissioners	Mr.	Rick	Braaten	Commissioner
Bowman County Commissioners	Mr.	Pine	Abrahamson	Commissioner
Bowman County Commissioners	Mr.	Lynn	Brackel	Commissioner
Bowman County Commissioners	Mr.	Josh	Buckman	Commissioner
Bowman County Commissioners	Mr.	Jerry	Jeffers	Commissioner
Burleigh County Commissioners	Mr.	Brian	Bitner	Chairman
Butte County Commissioners				
Campbell County Commissioners				
Campbell County Commissioners Office				
Campbell County Sheriff's Office	Mr.	Scott	Matheny	Sheriff
Carbon County Commissioners				
Carter County Commissioners				
Carter County Commissioners	Mr.	Steve	Rosencranz	Commissioner
Corson County Commissioners				
Crook County Commissioners		Kelly	Dennis	Chairman
Crook County Land Use Planning & Zoning Commission	Mr.	Roger	Connett	Chairman
Custer County	Mr.	Jason	Strouf	Chairman
Custer County Commissioners				
Custer County Commissioners				
Dewey County Commissioners				
Dunn County				Commissioners
Emmons County				Commissioners
Fall River County Commissioners				
Fallon County Commissioners				
Fallon County Commissioners	Mr.	Steve	Baldwin	
Fallon County Commissioners	Ms.	Deb	Ranum	Chairperson
Fallon County Commissioners	Mr.	Roy	Rost	
Golden Valley County Commissioners				

Ellsworth AFB Agency and Interested Parties Mailing List				
Organization Name	Salutation*	First Name*	Last Name*	Title/Office
Grant County Commissioners				
Haakon County Commissioners				
Harding County Commissioners				
Hettinger County Commissioners				
Johnson County Commissioners				
Lawrence County Commissioners				
Lawrence County Commissioners	Mr.	Randy	Deibert	Chair
McCone County Sheriff	Mr.	Dave	Harris	Sheriff
McKenzie County				Commissioners
Meade County Commissioner Dist 1	Mr.	Rod	Bradley	Vice Chairman
Meade County Commissioners				
Mercer County				Commissioners
Morton County				Commissioners
Musselshell County Commissioners				
Oliver County				Commissioners
Pennington County Commissioners				
Perkins County Commissioners				
Perkins County Sheriff		Kelly	Serr	Sheriff
Perkins County State's Attorney		Shane	Penfield	
Powder River County Commissioners		Lee	Randall	Chairman
Prairie County Commissioners				
Rosebud County Commissioners	Mr.	Robert	Lee	Presiding Officer
Sheridan County Commissioners	Mr.	Tom	Ringley	Chairman
Sioux County Commissioners				
Slope County Commissioners				
Stillwater County Commissioners				
Treasure County Commissioners				
Tripp County Commissioners				
Walworth County Commissioners				
Weston County Commissioners				
Yellowstone County Commissioners				

Ellsworth AFB Agency and Interested Parties Mailing List				
Organization Name	Salutation*	First Name*	Last Name*	Title/Office
Ziebach County Commissioners				
Black Hills National Forest				District Ranger
Bureau of Land Management				
Bureau of Land Management				Field Manager
Bureau of Land Management				Field Manager
Bureau of Land Management				Field Manager
Bureau of Land Management	Mr.	Kevin	Christensen	District Manager
Bureau of Land Management				Field Manager
Bureau of Land Management				Field Manager
Bureau of Land Management	Mr.	Duane	Spencer	Acting State Director
Bureau of Land Management	Mr.	Ryan	Sundberg	
Bureau of Land Management				
Custer National Forest				Acting Forest Supervisor
Department of Interior		Robert	Stewart	
Department of Transportation Aeronautics Division	Mr.	Larry	Flynn	Administrator
Devils Tower National Monument				
Little Missouri National Grassland - McKenzie Ranger District				
Little Missouri National Grassland - Medora Ranger District				
MCC Economic Development	Sir/Madam			
National Business Aviation Association	Mr.	Ed	Bolen	President and CEO
National Park Service Midwest Regional Office	Sir/Madam			
National Park Service, Intermountain Region	Sir/Madam			Director
National Park Service, Midwest Regional Office	Mr.	Nick	Chevance	Regional Environmental Coordinator
National Parks Conservation Association, Northern Rockies Regional Office	Ms.	Betsy	Buffington	Regional Director
NPS Natural Sounds Program	Ms.	Vicki	McCusker	
Office of Environmental Policy and Compliance	Dr.	Michaela	Noble	Director
U.S. Environmental Protection Agency, Region 8 - Montana Office	Mr.	Stephen	Potts	
U.S. Fish and Wildlife Service	Mr.	Scott	Larson	Field Supervisor
U.S. Fish and Wildlife Service	Mr.	Tyler	Abbott	Field Supervisor
U.S. Fish and Wildlife Service	Mr.	Jeffrey	Towner	Field Supervisor
U.S. Fish and Wildlife Service	Ms.	Jodi	Bush	Field Supervisor
U.S. Fish and Wildlife Service	Ms.	Connie	Young-Dubovsky	Fisheries Information System and Outreach Coordinator

Ellsworth AFB Agency and Interested Parties Mailing List				
Organization Name	Salutation*	First Name*	Last Name*	Title/Office
U.S. Forest Service				
U.S. Forest Service	Mr.	Jennifer	Eberlien	Regional Forester
U.S. Forest Service				Douglas Ranger District
U.S. Forest Service	Mr.	Shannon	Boehm	District Ranger
U.S. Forest Service	Mr.	Steve	Kozel	District Ranger
U.S. Forest Service	Ms.	Elizabeth	McFarland	
U.S. Forest Service	Mr.	Ken	Wabaunsee	
U.S. Forest Service Sioux Ranger District	Sir/Madam			
U.S. Forest Service, Douglas Ranger District	Sir/Madam			
US Environmental Protection Agency, Region 8	Ms.	Suzanne	Bohan	Director, Enforcement and Compliance Assurance Division
US Fish & Wildlife Department Service	Sir/Madam			
US Forest Service, Grand River Ranger District	Mr.	Paul	Drayton	
USDA APHIS/WS		Shane	Huseby	
USDA Forest Service				
USDA Forest Service				
USDA Forest Service		Mark	Slacks	
USDA Forest Service				
USDA Forest Service, Medicine Bow-Routt Natl Forests, Thunder Basin Natl Grassland				
USDA Wildlife Service		Cody	Krause	
USDA Wildlife Services		Alan	Brown	
USDA Wildlife Services	Mr.	John E.	Steuber	Montana Wildlife Services Director
USDA Wildlife Services	Mr.	John	Paulson	North/South Dakota Wildlife Services State Director
Wyoming Office of Homeland Security	Ms.	Lynn	Budd	Director
House of Representatives	Mr.	Dusty	Johnson	Representative- South Dakota
Montana State House District 39	Ms.	Geraldine	Custer	Representative
Montana State House District 40	Mr.	Barry	Usher	Representative
Montana State House District 41	Ms.	Rae	Peppers	Representative
Montana State House District 42	Ms.	Sharon	Stewart Peregoy	Representative
Montana State House District 43	Ms.	Peggy	Webb	Representative
Montana State House District 45	Mr.	Daniel	Zolnikov	Representative
Montana State Senate District 20	Mr.	Duane	Ankney	Senator

Ellsworth AFB Agency and Interested Parties Mailing List				
Organization Name	Salutation*	First Name*	Last Name*	Title/Office
Montana State Senate District 21	Mr.	Jason	Small	Senator
Montana State Senate District 22	Mr.	Doug	Kary	Senator
North Dakota Legislative District 31	Ms.	Karen	Rohr	Representative
North Dakota Legislative District 31	Mr.	Donald	Schaible	Senator
North Dakota Legislative District 31	Mr.	Jim	Schmidt	Representative
North Dakota Legislative District 33	Mr.	Gary	Kreidt	Representative
North Dakota Legislative District 33	Mr.	Gary	Kreidt	Representative
North Dakota Legislative District 33	Mr.	Bill	Tveit	Representative
North Dakota Legislative District 33	Ms.	Jessica	Unruh	Senator
North Dakota Legislative District 36	Mr.	Jay	Elkin	Senator
North Dakota Legislative District 36	Mr.	Mike	Schatz	Representative
North Dakota Legislative District 36	Mr.	Luke	Simons	Representative
North Dakota Legislative District 39	Mr.	Bill	Bowman	Senator
North Dakota Legislative District 39	Mr.	Keith	Kempenich	Representative
North Dakota Legislative District 39	Mr.	Denton	Zubke	Representative
North Dakota State House Dist. 39	Mr.	David	Drovdal	State Representative
North Dakota Legislative District At-Large	Mr.	Kelly	Armstrong	Representative
Representative Liz Cheney	Ms.	Amy	Edmonds	Communications Director
Representative Liz Cheney	Ms.	Jackie	King	Deputy District Director
Senator Jon Tester	Ms.	Penny	Zimmerman	Regional Field Director
Senator Mike Enzi		DeAnna	Kay	Field Representative
Senator Mike Enzi	Ms.	Karen	McCreery	State Director
South Dakota Legislative District 28	Mr.	Ryan	Maher	Senator
South Dakota Legislative District 28A	Mr.	Dean	Schrempp	Representative
South Dakota Legislative District 28B	Mr.	J. Sam	Marty	Representative
South Dakota Legislative District 29	Mr.	Kirk	Chaffee	Representative
South Dakota Legislative District 30	Ms.	Julie	Frye-Mueller	Representative

Ellsworth AFB Agency and Interested Parties Mailing List				
Organization Name	Salutation*	First Name*	Last Name*	Title/Office
South Dakota Legislative District 30	Mr.	Tim	Goodwin	Representative
South Dakota Legislative District 31	Senator	Bob	Ewing	Senator
South Dakota Legislative District 31	Mr.	Dayle	Hammock	Representative
South Dakota Legislative District 31	Mr.	Timothy	Johns	Representative
South Dakota Legislative District 31	Mr.	Tom	Nelson	Senator
South Dakota Legislative District 31	Mr.	Fred	Romkema	Representative
South Dakota Legislative District 33	Ms.	Jacqueline	Sly	
South Dakota Legislative District At-Large	Mr.	Dusty	Johnson	Representative- South Dakota
South Dakota State House Dist. 29	Mr.	Thomas	Brunner	Representative
South Dakota State Senate Dist.29	Mr.	Gary	Cammack	Senator
State of Montana	Mr.	Roger	Webb	Senator
State of South Dakota	Mr.	Gary L.	Cammack	Senator
State of Wyoming	Mr.	Mark	Gordon	Governor
U.S. House Montana At-large District	Mr.	Greg	Gianforte	Representative
United States Senate	Senator	John	Barrasso	United States Senator- Wyoming
United States Senate	Senator	John	Barrasso	Senator- Wyoming
United States Senate	Senator	Kevin	Cramer	United States Senator - North Dakota
United States Senate	Mr.	Kevin	Cramer	Senator
United States Senate	Senator	Steve	Daines	United States Senator- Montana
United States Senate	Senator	Mike	Enzi	United States Senator- Wyoming
United States Senate	Senator	Mike	Enzi	United States Senator- Wyoming
United States Senate	Senator	John	Hoeven	United States Senator
United States Senate	Mr.	John	Hoeven	Senator
United States Senate	Senator	Mike	Rounds	Senator- South Dakota
United States Senate	Senator	Mike	Rounds	United States Senator- South Dakota
United States Senate	Mr.	Jon	Tester	Senator
United States Senator	Senator	Steve	Daines	United States Senator- Montana
United States Senator	Mr.	Jon	Tester	Senator
United States Senator	Mr.	John	Thune	Senator
United States Senator	Mr.	John	Thune	Senator
United States Senator	Mr.	John	Walsh	Senator

Ellsworth AFB Agency and Interested Parties Mailing List				
Organization Name	Salutation*	First Name*	Last Name*	Title/Office
Wyoming State House At-Large District	Ms.	Liz	Cheney	Representative
Wyoming State House District 01	Mr.	Tyler	Lindholm	Representative
Wyoming State House District 02	Mr.	Hans	Hunt	Representative
Wyoming State House District 30	Mr.	Mark	Jennings	Representative
Wyoming State House District 30	Mr.	Mark	Jennings	Representative
Wyoming State House District 31	Mr.	Scott	Clem	Representative
Wyoming State House District 32	Mr.	Timothy	Hallinan	Representative
Wyoming State House District 40	Mr.	Richard	Tass	Representative
Wyoming State House District 51	Mr.	Cyrus	Western	Representative
Wyoming State House District 52	Mr.	Bill	Pownall	Representative
Wyoming State House District 53	Mr.	Roy	Edwards	Representative
Wyoming State Senate District 01	Senator	Ogden	Driskill	Senator
Wyoming State Senate District 21	Mr.	Bo	Biteman	Senator
Wyoming State Senate District 22	Mr.	Dave	Kinsky	Senator
Wyoming State Senate District 23	Mr.	John	Hines	State Senator
Regent City Hall	Mayor	Troy	Mosbrucker	Mayor
Bear Butte State Park	Sir/Madam			
Bowman-Slope Soil Conservation District	Ms.	Camie	Janikowski	Manager
Department of Environmental Quality	Mr.	Todd	Parfitt	Director
EAA/CAR	Mr.	Gary	Schroeder	
Experimental Aircraft Association (EAA)	Mr.	Randy	Hansen	Government Relations Director
Experimental Aircraft Association/North Dakota Aviation Council/North Dakota Pilot's Association		Todd	Schwarz	
Montana Department of Agriculture	Mr.	Ben	Thomas	Director
Montana Department of Natural Resources and Conservation	Mr.	John E.	Tubbs	Director



Ellsworth AFB Agency and Interested Parties Mailing List				
Organization Name	Salutation*	First Name*	Last Name*	Title/Office
Montana Department of Transportation Aeronautics Division	Mr.	Tim	Conway	Administrator
Montana Department of Transportation Aeronautics Division	Mr.	Wade	Cebulski	Chief, Airport/Airways Bureau
Montana Essential Air Service Task Force	Mr.	John	Rabenberg	
Montana Fish, Wildlife, and Parks	Sir/Madam			Director
Montana Historical Society	Sir/Madam			State Historic Preservation Officer
Montana Historical Society	Mr.	Bruce	Whittenberg	Director
Montana Legislative Environmental Quality Council	Mr.	Jim	Keane	Chair
MT Bureau of Land Management	Mr.	John	Mehlhoff	State Director
MT DEQ	Mr.	Shaun	McGrath	Director
ND Division of Community Service	Mr.	James	Boyd	Manager, Governmental Services
ND Indian Affairs Commission	Mr.	Scott	Davis	Executive Director
ND Tax Commission	Mr.	Ryan	Rauschenberger	
North Dakota Aeronautics Commission (NDAC)		Gaye	Niemiller	Administrative Officer
North Dakota Aeronautics Commission (NDAC)	Ms.	Shelia	Doll	Licensing Specialist
North Dakota Aeronautics Commission (NDAC)	Mr.	Mike	McHugh	Aviation Education Coordinator
North Dakota Aeronautics Commission (NDAC)	Mr.	Kyle	Wanner	Director
North Dakota Aeronautics Commission (NDAC)		Nels	Lund	Airport Planner
North Dakota Aeronautics Commission (NDAC)	Mr.	Adam	Dillin	Airport Planner
North Dakota Atmospheric Research Board	Mr.	Tom	Tupa	Chairman
North Dakota Atmospheric Resource Board	Mr.	Darin	Langerud	Director
North Dakota Aviation Council	Mr.	Darren	Hall	Chairman
North Dakota Department of Agriculture	Mr.	Doug	Goehring	Commissioner
North Dakota Department of Commerce	Ms.	Michelle	Kommer	Commissioner
North Dakota Department of Trust Lands	Ms.	Jodi	Smith	Commissioner
North Dakota Farm Bureau				
North Dakota Forest Service	Mr.	Tom	Claeys	State Forester
North Dakota Game and Fish Department	Mr.	Terry	Steinwand	Director

Ellsworth AFB Agency and Interested Parties Mailing List				
Organization Name	Salutation*	First Name*	Last Name*	Title/Office
North Dakota Game and Fish Department	Mr.	Greg	Link	Division Chief - Conservation/Communications
North Dakota Legislative District 36				State Capitol
North Dakota Parks and Recreation Department	Ms.	Melissa	Baker	Director
North Dakota State Historical Board	Mr.	Claudia	Berg	Director
North Dakota State Water Commission Atmospheric Research Board	Governor	Doug	Burgum	Chairman
North Dakota's Business Aviation Association	Mr.	Jonathan	Simmers	
North/ South Dakota Wildlife Services State Director	Mr.	John	Paulson	State Director
SD DENR PMB 2020	Mr.	Kelli	Buscher	Surface Water Quality Program
SD Dept. of Environmental and Natural Resources				Staff Attorney
South Dakota Cooperative Extension Service		Robert	Drown	
South Dakota Department of Agriculture	Ms.	Kim	Vanneman	Secretary
South Dakota Department of Game, Fish and Parks	Sir/Madam			
South Dakota Department of Game, Fish and Parks	Mr.	Stan	Michals	Energy and Minerals Coordinator
South Dakota Department of Military & Veterans Affairs	Mr.	Greg	Whitlock	Secretary
South Dakota Department of Public Safety	Mr.	Crain	Price	Secretary
South Dakota Department of Tourism and State Development				
South Dakota Department of Transportation	Mr.	Jon	Becker	Aeronautics Planning Engineer
South Dakota Department of Transportation				Director
South Dakota DOT		Andy	Vandel	Highway Safety Engineer
South Dakota Ellsworth Development Authority	Mr.	Scott	Landguth	Executive Director
South Dakota Game, Fish and Parks				Secretary
South Dakota Office of the State Historic Preservation Officer	Ms.	Paige	Olson	Review and Compliance Coordinator
South Dakota Office of Tribal Government Relations	Mr.	Dave	Flute	Secretary

Ellsworth AFB Agency and Interested Parties Mailing List				
Organization Name	Salutation*	First Name*	Last Name*	Title/Office
State of Montana SHPO				State Historic Preservation Officer
State of South Dakota	Mr.	Jay	Vogt	State Historic Preservation Officer
State of Wyoming	Ms.	Mary	Hopkins	State Historic Preservation Officer
WYDOT - District 4	Mr.	Max	Morbeto	Area Maintenance Crew Supervisor
WYDOT Headquarters	Maj. Gen.	Luke	Reiner	Agency Director
Wyoming Department of Agriculture	Mr.	Doug	Miyamoto	Director
Wyoming Department of Environmental Quality, Sheridan Field Office				District Engineer
Wyoming Dept of Transportation, Aeronautics Division	Mr.	Greg	Hampshire	
Wyoming Game and Fish	Mr.	Brian	Nesvick	Director
Wyoming State Historic Preservation Office	Mr.	John	Laughlin	Archaeologist
Wyoming State Parks, Historic Sites & Trails Headquarters				Administrator
North Dakota Governor's Office	Governor	Doug	Burgum	Governor
Office of the Governor	Governor	Steve	Bullock	Governor of Montana
Senator Mike Enzi	Mr.	Enzi	Mike	Senator
State of Montana	Mr.	Steve	Bullock	Governor
State of North Dakota	Mr.	Doug	Burgum	Governor
State of South Dakota	Governor	Kristi	Noem	Governor
State of Wyoming	Governor	Mark	Gordon	Governor
Crow Agency Bureau of Indian Affairs				Superintendent
Fort Peck Agency Bureau of Indian Affairs				Superintendent
Great Plains Region Regional Office				Regional Director
Rocky Mountain Region Regional Office				Regional Director
Northwest Regional Office				Regional Director
Blackfeet Agency Bureau of Indian Affairs				Superintendent
Cheyenne River Agency Bureau of Indian Affairs	Ms.	Gina	Douville	Superintendent
Rocky Boy's Agency Bureau of Indian Affairs				Superintendent
Flathead Agency Bureau of Indian Affairs				Superintendent
Crow Creek Agency Bureau of Indian Affairs	Mr.	Patrick F.	Duffy	Superintendent
US-DOI-BIA Crow Agency	Mr.	Ty	Ten Bear	

Ellsworth AFB Agency and Interested Parties Mailing List				
Organization Name	Salutation*	First Name*	Last Name*	Title/Office
Wind River Agency Bureau of Indian Affairs				Superintendent
Fort Belknap Agency Bureau of Indian Affairs				Superintendent
Lower Brule Agency Bureau of Indian Affairs	Mr.	James	Two Bulls	Superintendent
Northern Cheyenne Agency Bureau of Indian Affairs				Superintendent
Pine Ridge Agency Bureau of Indian Affairs	Mr.	John M.	Long	Superintendent
Rosebud Agency Bureau of Indian Affairs	Ms.	Lee Ann	Beardt	Superintendent
Sisseton Agency Bureau of Indian Affairs	Mr.	Russell	Hawkins	Superintendent
Fort Totten Agency Bureau of Indian Affairs	Ms.	Yvonne	LaRocque	Superintendent
Standing Rock Agency Bureau of Indian Affairs	Ms.	Shelia	White Mountain	Superintendent
Fort Berthold Agency Bureau of Indian Affairs	Ms.	Kayla	Danks	Superintendent
Turtle Mountain Agency Bureau of Indian Affairs	Mr.	Lyndon	Desjarlais	Superintendent
Yankton Agency Bureau of Indian Affairs	Ms.	Adelita	Guerue	Superintendent
Lower Brule Sioux Tribe	Ms.	Clair	Green	Cultural Resource Director
Blackfeet Nation	Mr.	John	Murray	THPO
Cheyenne River Sioux Tribe	Mr.	Steve	Vance	THPO
Chippewa Cree Tribe	Mr.	Jonathan	Windy Boy	THPO
Confederated Salish and Kootenai Tribe	Mr.	Kyle	Felsman	THPO
Crow Creek Sioux Tribe	Mr.	Merle	Marks	THPO
Crow Tribe of Indians	Mr.	William	Big Day	THPO
Eastern Shoshone Tribe	Mr.	Josh	Mann	THPO
Flandreau Santee Sioux Tribe	Mr.	Garrie	Kills A Hundred	THPO
Fort Belknap Indian Community	Mr.	Michael J.	Black Wolf	THPO
Fort Peck Assiniboine and Sioux Tribes	Ms.	Dyan	Youppe	THPO
Mandan, Hidatsa and Arikara Nation	Mr.	Elgin	Crows Breast	THPO
Northern Arapaho Tribe	Mr.	Devin	Oldman	THPO
Northern Cheyenne Tribe	Ms.	Teanna	Limpy	THPO
Oglala Sioux Tribe	Mr.	Thomas	Brings	THPO
Rosebud Sioux Tribe	Mr.	Ben	Rhodd	THPO
Sisseton-Wahpeton Oyate	Ms.	Dianne	Desrosiers	THPO
Spirit Lake Tribe	Dr.	Enrich	Longie	THPO
Standing Rock Sioux Tribe	Mr.	Jon	Eagle	THPO
Turtle Mountain Band of Chippewa Indians	Mr.	Jefferey	Desjarlais	THPO

Ellsworth AFB Agency and Interested Parties Mailing List				
Organization Name	Salutation*	First Name*	Last Name*	Title/Office
Yankton Sioux Tribe	Mr.	Kip	Spotted Eagle	THPO
(not applicable)	Ms.	Lisa L.	Reeves	
(not applicable)	Mr.	Mark Wayne	Zerbe	
David Turch and Associates	Mr.	David N.M.	Turch	
Bighorn County Airport		Eol	Auker	
Baker Municipal Airport	Mr.	Roger D	Meggers	
(not applicable)	Mr.	Doug M.	Stewart	
Big Horn County Airport Board	Ms.	Linda	Greenwalt	
(not applicable)	Mr.	Chuck	Kreiner	
Carter Co. Mt. Rancher	Mr.	Del	Dinstel	
(not applicable)	Mr.	Monte D.	Reder	
Office of Senator John Thune	Mr.	Qusi	Al Haj	
Miles City Airport	Mr.	Lee J	Harbaugh	
Airport – MPA	Mr.	Patrick J	Lifto	
(not applicable)	Mr.	Ty	Warnberg	
(not applicable)	Mr.	Richard A	Benz	
Bowman County Emergency Management	Mr.	Dean A	Pearson	
Bowman Airport	Mr.	Rodney	Schaaf	
City of Box Elder	Mr.	Bob	Kaufman	
(not applicable)	Mr.	Craig	Steve	
Paradise Valley Airport (2SD0)	Ms.	Norma	Kraemer	
City of Box Elder		Blaise	Emerson	
Midwest ATC Service				Air Traffic Manager
Retired	Mr.	Eldon B	Curington	
Office of Senator John Thune	Mr.	Jon	Abdnor	
South Dakota Public Broadcasting	Mr.	Seth	Tupper	
NGC	Mr.	Andrew	Metrick	

\* Please note that blank cells in the table indicate that the specific name of an office holder was not available, but notifications were instead addressed to the organization and office itself.

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## A.3 AGENCIES AND INTERESTED PARTIES NOI LETTER

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### A.3.1 Dyess AFB – General Agency Letter



**DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 7TH BOMB WING (AFGSC)  
DYESS AIR FORCE BASE TEXAS**

March 10, 2020

Colonel Jose E. Sumangil  
Commander  
7th Bomb Wing  
7 Lancer Loop  
Dyess AFB Texas 79607

Receiver Name

Title

Organization

Street Address

City ST 12345-6789

Dear Receiver Name

The United States Air Force (USAF) is issuing this notice to inform state and local agencies of its intent to prepare an Environmental Impact Statement (EIS) for the B-21 Main Operating Base 1 (MOB 1) Beddown at Dyess Air Force Base (AFB), Texas or Ellsworth AFB, South Dakota. The Air Force's notice of intent (NOI) to prepare an EIS and hold public scoping meetings was published in the Federal Register on March 6, 2020. The EIS will assess the potential environmental consequences of the proposal to beddown the Department of Defense's new bomber aircraft, the B-21 "Raider," which will eventually replace existing B-1 and B-2 bomber aircraft. The EIS is being prepared in accordance with National Environmental Policy Act (NEPA) of 1969; 40 Code of Federal Regulations (CFR), Parts 1500-1508, the Council on Environmental Quality (CEQ) regulations for implementing NEPA; and the Air Force Environmental Impact Analysis Process (EIAP) [32 CFR Part 989].

This notice also serves to invite early public and agency participation in determining the scope of environmental issues and alternatives to be analyzed in the EIS and to identify and eliminate from detailed study the issues which are not significant. To effectively define the full range of issues and concerns to be evaluated in the EIS, the Air Force is soliciting scoping comments from interested local, state and federal agencies, interested American Indian tribes, and interested members of the public.

The beddown of the B-21 will take place through a series of three Main Operating Bases (MOB), referred to as MOB 1, MOB 2, and MOB 3. The Air Force proposes to beddown

***DEATH FROM ABOVE***

MOB 1, which includes B-21 Operational Squadrons, a B-21 Formal Training Unit (FTU), and a Weapons Generation Facility (WGF) in this EIS. MOB 2 and MOB 3 beddown locations would be evaluated in future NEPA analyses, after the location for MOB 1 is chosen. The B-21 will operate under the direction of the Air Force Global Strike Command. The B-21 will have both conventional and nuclear roles and will be capable of penetrating and surviving in advanced air defense environments. It is projected to enter service in the 2020s, and the Air Force intends to have at least 100 B-21 aircraft built.

The purpose of the Proposed Action is to implement the goals of the National Defense Strategy by modernizing the U.S. bomber fleet capabilities. The B-21 Raider is being developed to carry conventional payloads and to support the nuclear triad by providing a visible and flexible nuclear deterrent capability that will assure allies and partners through the United States' commitment to international treaties. The B-21 will provide the only stealth bomber capability and capacity needed to deter, and if necessary, defeat our adversaries in an era of renewed great power competition. MOB 1 will support training of crewmembers and personnel in the operation and maintenance of the B-21 aircraft in an appropriate geographic location that can provide sufficient airfield, facilities, infrastructure, and airspace to support the B-21 training and operations.

The EIS will analyze Dyess AFB and Ellsworth AFB as basing alternatives for MOB 1 for the Proposed Action, as well as a No Action Alternative. The basing alternatives were developed to minimize mission impact, maximize facility reuse, minimize cost, and reduce overhead, as well as leverage the strengths of each base to optimize the B-21 beddown strategy. The potential impacts of the alternatives and the No Action Alternative that the EIS may examine include impacts to land use, airspace, safety, noise, hazardous materials and solid waste, physical resources (including earth and water resources), air quality, transportation, cultural resources, biological resources, socioeconomics, and environmental justice.

The Air Force will be holding public scoping meetings in areas potentially impacted by the proposal. During the public scoping meetings, the Air Force will provide additional information about the B-21 MOB 1 Beddown EIS. The purpose of the meetings and the scoping period is to further solicit input regarding the scope of issues to be addressed and identify environmental issues to be analyzed in depth. Written comments received by the Air Force during the public scoping period will be considered in the preparation of the Draft EIS. Scoping comments may be submitted to the Air Force at the planned public scoping meetings, via the public website ([www.B21EIS.com](http://www.B21EIS.com)), or mailed. Comments will be accepted at any time during the Environmental Impact Analysis Process (EIAP). However, to ensure the Air Force has sufficient time to consider public input in the preparation of the Draft EIS, scoping comments must be submitted no later than April 24, 2020.

**DATES:** The Air Force plans to hold six public scoping meetings from 6:00 p.m. to 8:00 p.m., on the dates and at the locations listed below. Local notices announcing scheduled dates, locations, and addresses for each public scoping meeting will also be published in the Rapid City Journal and Black Hills Pioneer newspapers in South Dakota, the Abilene Reporter News and The Wylie News newspapers in Texas, as well as the Native Sun News, Indian Country Today and the Original Briefs tribal newspapers, a minimum of fifteen (15) days prior to each meeting.

- Tuesday, March 31, 2020: Holiday Inn at Rushmore Plaza, 505 North 5th Street, Rapid City, SD 57701
- Wednesday, April 1, 2020: Sturgis Community Center, 1401 Lazelle Street, Sturgis, SD 57785
- Thursday, April 2, 2020: Douglas Middle School, 691 Tower Road, Box Elder, SD 57719
- Tuesday, April 7, 2020: Abilene Convention Center, 1100 North 6th Street, Abilene, Texas 79601
- Wednesday, April 8, 2020: Wylie High School Performing Arts Center, 4502 Antilley Road, Abilene, Texas 79606
- Thursday, April 9, 2020: Tye Community Center, 103 Scott Street, Tye, Texas 79563

The agenda for each scoping meeting is as follows:

- 6:00 p.m. to 6:30 p.m. – Open House and comment submission
- 6:30 p.m. to 7:00 p.m. – Air Force Presentation
- 7:00 p.m. to 8:00 p.m. – Open House and comment submission resumes

Additional information on the B-21 MOB 1 Beddown EIS environmental impact analysis process can be found on the project website at [www.B21EIS.com](http://www.B21EIS.com). The project website can also be used to submit comments. Inquiries and comments-by-mail regarding the USAF proposal should be directed to Dyess AFB Public Affairs, 7 Lancer Loop, Suite 136, Dyess AFB Texas 79607; (325) 696-4820; or [7bwpa@us.af.mil](mailto:7bwpa@us.af.mil).

Comments will be accepted at any time during the environmental impact analysis process. However, to ensure the Air Force has sufficient time to consider public input in the preparation of the Draft EIS, scoping comments must be submitted to the website or mailed to one of the addresses listed above by April 24, 2020.

Sincerely

  
JOSEPH T. SUMANGIL, Colonel, USAF  
Commander



## A.3.2 Ellsworth AFB – General Agency Letter



**DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 28TH BOMB WING (AFGSC)  
ELLSWORTH AIR FORCE BASE SOUTH DAKOTA**

Colonel David A. Doss  
28th Bomb Wing  
1958 Scott Drive, Suite 1  
Ellsworth Air Force Base, SD 57706-4710

Receiver Name, Title  
Organization  
Street Address  
City ST 12345-6789

Dear Receiver Name,

The United States Air Force (USAF) is issuing this notice to inform state and local agencies of its intent to prepare an Environmental Impact Statement (EIS) for the B-21 Main Operating Base 1 (MOB 1) Beddown at Dyess Air Force Base (AFB), Texas or Ellsworth AFB, South Dakota. The Air Force's notice of intent (NOI) to prepare an EIS and hold public scoping meetings was published in the Federal Register on March 6, 2020. The EIS will assess the potential environmental consequences of the proposal to beddown the Department of Defense's new bomber aircraft, the B-21 "Raider," which will eventually replace existing B-1 and B-2 bomber aircraft. The EIS is being prepared in accordance with National Environmental Policy Act (NEPA) of 1969; 40 Code of Federal Regulations (CFR), Parts 1500-1508, the Council on Environmental Quality (CEQ) regulations for implementing NEPA; and the Air Force Environmental Impact Analysis Process (EIAP) [32 CFR Part 989].

This notice also serves to invite early public and agency participation in determining the scope of environmental issues and alternatives to be analyzed in the EIS and to identify and eliminate from detailed study the issues which are not significant. To effectively define the full range of issues and concerns to be evaluated in the EIS, the Air Force is soliciting scoping comments from interested local, state and federal agencies, interested American Indian tribes, and interested members of the public.

The beddown of the B-21 will take place through a series of three Main Operating Bases (MOB), referred to as MOB 1, MOB 2, and MOB 3. The Air Force proposes to beddown MOB 1, which includes B-21 Operational Squadrons, a B-21 Formal Training Unit (FTU), and a Weapons Generation Facility (WGF) in this EIS. MOB 2 and MOB 3 beddown locations would be evaluated in future NEPA analyses, after the location for MOB 1 is chosen. The B-21 will operate under the direction of the Air Force Global Strike Command. The B-21 will have both conventional and nuclear roles and will be capable of penetrating and surviving in advanced air defense environments. It is projected to enter service in the 2020s, and the Air Force intends to have at least 100 B-21 aircraft built.

The purpose of the Proposed Action is to implement the goals of the National Defense Strategy by modernizing the U.S. bomber fleet capabilities. The B-21 Raider is being developed to carry conventional payloads and to support the nuclear triad by providing a visible and flexible nuclear deterrent capability that will assure allies and partners through the United States' commitment to international treaties. The B-21 will provide the only stealth bomber capability and capacity needed to deter, and if necessary, defeat our adversaries in an era of renewed great power competition. MOB 1

will support training of crewmembers and personnel in the operation and maintenance of the B-21 aircraft in an appropriate geographic location that can provide sufficient airfield, facilities, infrastructure, and airspace to support the B-21 training and operations.

The EIS will analyze Dyess AFB and Ellsworth AFB as basing alternatives for MOB 1 for the Proposed Action, as well as a No Action Alternative. The basing alternatives were developed to minimize mission impact, maximize facility reuse, minimize cost, and reduce overhead, as well as leverage the strengths of each base to optimize the B-21 beddown strategy. The potential impacts of the alternatives and the No Action Alternative that the EIS may examine include impacts to land use, airspace, safety, noise, hazardous materials and solid waste, physical resources (including earth and water resources), air quality, transportation, cultural resources, biological resources, socioeconomics, and environmental justice.

The Air Force will be holding public scoping meetings in areas potentially impacted by the proposal. During the public scoping meetings, the Air Force will provide additional information about the B-21 MOB 1 Beddown EIS. The purpose of the meetings and the scoping period is to further solicit input regarding the scope of issues to be addressed and identify environmental issues to be analyzed in depth. Written comments received by the Air Force during the public scoping period will be considered in the preparation of the Draft EIS. Scoping comments may be submitted to the Air Force at the planned public scoping meetings, via the public website ([www.B21EIS.com](http://www.B21EIS.com)), or mailed. Comments will be accepted at any time during the Environmental Impact Analysis Process (EIAP). However, to ensure the Air Force has sufficient time to consider public input in the preparation of the Draft EIS, scoping comments must be submitted no later than April 24, 2020.

**DATES:** The Air Force plans to hold six public scoping meetings from 6 p.m. to 8 p.m. on the dates and at the locations listed below. Local notices announcing scheduled dates, locations, and addresses for each public scoping meeting will also be published in the Rapid City Journal and Black Hills Pioneer newspapers in South Dakota, the Abilene Reporter News, and The Wylie News newspapers in Texas, as well as the Native Sun News, Indian Country Today, and the Original Briefs tribal newspapers, a minimum of fifteen (15) days prior to each meeting.

- Tuesday, March 31, 2020: Holiday Inn at Rushmore Plaza, 505 North 5th Street, Rapid City, SD 57701
- Wednesday, April 1, 2020: Sturgis Community Center, 1401 Lazelle Street, Sturgis, SD 57785
- Thursday, April 2, 2020: Douglas Middle School, 691 Tower Road, Box Elder, SD 57719
- Tuesday, April 7, 2020: Abilene Convention Center, 1100 North 6th Street, Abilene, TX 79601
- Wednesday, April 8, 2020: Wylie High School Performing Arts Center, 4502 Antilley Road, Abilene, TX 79606
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Additional information on the B-21 MOB 1 Beddown EIS environmental impact analysis process can be found on the project website at [www.B21EIS.com](http://www.B21EIS.com). The project website can also be used to submit comments. Inquiries and comments-by-mail regarding the Air Force proposal should be directed to Ellsworth AFB Public Affairs, ATTN: Steve Merrill, 28th Bomb Wing Public Affairs, 1958 Scott Dr., Suite 4, Ellsworth AFB, SD 57706; (605) 385-5056; [28bw.public.affairs@us.af.mil](mailto:28bw.public.affairs@us.af.mil).

Comments will be accepted at any time during the environmental impact analysis process. However, to ensure the Air Force has sufficient time to consider public input in the preparation of the Draft EIS, scoping comments must be submitted to the website or mailed to one of the addresses listed above by April 24, 2020.

Sincerely,

DOSS.DAVID Digitally signed by  
DOSS.DAVID.A.1049946151  
Date: 2020.03.06 11:40:55  
-0700  
A.1049946151  
DAVID A. DOSS, Colonel, USAF  
Commander

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## A.4 PUBLIC SCOPING SUMMARY

The National Environmental Policy Act (NEPA) and the U.S. Air Force's (USAF's) implementing regulations require the lead agency (in this case, the USAF) to seek public participation throughout the environmental impact analysis process. "Scoping" identifies potential issues and alternatives early in the NEPA development process. The USAF filed a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) and host public scoping meetings. The NOI was published in the Federal Register on March 6, 2020. Additionally, the USAF notified in writing local, state, and federal agencies and tribes of the intent to prepare an EIS and host public scoping meetings. Section A.2 (Agencies and Interested Parties Mailing List) provides a list of these contacts.

As a direct result of the National Emergency declared by the President on Friday, March 13, 2020, in response to the coronavirus (COVID-19) pandemic in the United States and the Center for Disease Control's recommendations for social distancing and avoiding large public gatherings, the USAF canceled the six previously scheduled scoping meetings that were set to occur in South Dakota and Texas from March 31, 2020, to April 9, 2020, as listed in the original NOI that was published on March 6, 2020 (Federal Register, Vol. 85., No. 45, 13148). An amended NOI, announcing the cancellation of in-person scoping meetings due to COVID-19, was subsequently published in the Federal Register on March 24, 2020 (Federal Register, Vol. 85, No. 57, 16619). The USAF also sent written updates about the public meeting cancellation to previously notified local, state, and federal agencies and tribes. Public meeting cancellation notifications were also published in the *Rapid City Journal* on March 28, 2020, the *Native Sun Times* on April 1, 2020, the *Original Briefs* on March 27, 2020, the *Indian Country Today* on March 26, 2020, the *Black Hills Pioneer* on March 28, 2020, and the *Abilene Reporter News* on March 29, 2020.

In lieu of the in-person scoping meetings, the USAF published all public scoping meeting materials on the project website: [www.B21EIS.com](http://www.B21EIS.com) on March 27, 2020, and extended the public commenting deadline to May 9, 2020. For those without access to the website, a request for a mailed hardcopy package of scoping materials could be submitted to Ellsworth AFB and Dyess AFB Public Affairs offices, as provided in all public notices. Scoping materials included an eight-page brochure, 11 large informational displays, 4 small informational displays, the scoping presentation, and a mail-in comment form. Scoping comments could be submitted via the public website or by mail. In addition to providing information on how to provide scoping comments, the scoping materials also provided interested persons with an overview of the following:

- The NEPA/EIS process
- The anticipated EIS timeline and pertinent timeframes for public input
- The environmental resources being studied in the EIS
- The background of the project
- The elements of the B-21 Main Operating Base 1 (MOB 1) beddown
- The purpose of and need for the Proposed Action
- The criteria used to select Dyess AFB and Ellsworth AFB

- The commonalities between the proposed alternatives
- The elements/scope of the proposed alternatives
- The No Action Alternative

A total of 22 individuals, organizations, and agencies submitted comments during the scoping period. The comments were submitted via the project website, e-mail or standard mail. To capture the public concerns regarding the B-21 MOB 1 EIS, the USAF reviewed each comment letter for content. Key issues were identified, summarized, and categorized by topic (Table A-1). Table A-1 lists the number of substantive comments received per EIS resource topic and is followed by summaries of scoping comments by those resource topics. Please note that only substantive comments are included in the summary. Substantive comments are those comments that help shape the EIS alternatives and analyses. Non-substantive comments, which include comments “voting” for or against an alternative, are not considered substantive. Since some commenters did not provide substantive comments and other commenters may have addressed more than one issue, the number of comments does not necessarily equal the number of comment letters received. Additionally, some individual issues may be categorized under multiple topics to ensure that comments were considered for all relevant topic areas.

**Table A-1. Scoping Comments by Topic Area**

Environmental Impact Statement (EIS) Topic	Number of Substantive Comments Received
National Environmental Policy Act Process and EIS Development	0
Purpose and Need	0
Description of Proposed Action and Alternatives	0
Air Quality	0
Airspace	0
Biological Resources	1
Cultural Resources	2
Physical Resources (Soils, Water)	2
Hazardous Materials and Solid Wastes	0
Health and Safety	0
Land Use	1
Noise	0
Transportation, Infrastructure and Utilities	0
Socioeconomics	0
Environmental Justice	0
Cumulative Impacts	0

#### **A.4.1 Biological Resources**

The Texas Parks and Wildlife Department wanted to ensure that the recent changes to the State Threatened and Endangered Species lists, which went into effect on March 30, 2020, were reviewed for Taylor County, Texas, for rare, threatened, and endangered species that could be present in the project area, depending upon habitat availability.

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#### A.4.2 Cultural Resources

The Montana State Historic Preservation Office requested review of any National Historic Preservation Act Section 106 compliance documentation for the project, particularly with regard to any potential ground-disturbing activities in Montana and possible changes to the Powder River Training Complex area.

The Northern Cheyenne Tribal Historic Preservation Office requested that “cultural resource pedestrian survey work include consulting tribes to ensure that any potential sites of religious and cultural significance to tribes be properly identified, assessed, and evaluated. Inclusion of potential traditional cultural properties protection measures in the EIS for mitigation, avoidance and/or protection measures is of the utmost importance to our nation.”

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#### A.4.3 Physical Resources

The South Dakota Department of Environment and Natural Resources made the following comments:

- At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site. Any construction activity that disturbs an area of 1 or more acres of land must have authorization under the General Permit for Storm Water Discharges Associated with Construction Activities.
- A Surface Water Discharge permit may be required if any construction dewatering should occur as a result of this project. Please contact [their] office for more information.
- Impacts to tributaries, creeks, wetlands, and lakes should be avoided by this project. These waterbodies are considered waters of the state and are protected under Administrative Rules of South Dakota (ARSD) Chapter 74:51. Special construction measures may have to be taken to ensure that water quality standards are not violated.

Bowman-Slope Soil Conservation District requested that the following key Policy Statements from the recently completed Natural Resources Policy Plan (available online at [www.bowmanslopescd.com](http://www.bowmanslopescd.com)) be consistent in the findings of the EIS:

- Require the inclusion of quantitative data that meets credible data criteria, even if the data were not produced by a federal agency.
- Support the use of credible scientific data. Credible scientific data is defined as rigorously reviewed, scientifically valid chemical, physical and/or biological monitoring data, collected in a timely manner under an accepted sampling and analysis plan; including quality control and assurance procedures and available historical data.
- Support managing for multiple uses on public lands to maintain and enhance desired plant communities that benefit watersheds, water quality, recreations, and

sustainable livestock grazing that are critical to the economic health of Bowman and Slope Counties.

- Support consistent, appropriate reclamation of all surface resource disturbances as soon as feasible after impacts have been created. “As feasible” means restoring at the time and season that seed establishment methods are most likely to succeed and are appropriate for the site.

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#### A.4.4 Land Use

The National Park Service (NPS) requested that the EIS evaluate potential soundscape, visual, and visitor experience impacts for nearby units that could be impacted by the MOB 1 decision, including:

- In the vicinity of Ellsworth AFB: Minuteman Missile National Historic Site, Badlands National Park, Wind Cave National Park, Jewel Cave National Monument, and Mount Rushmore National Memorial in South Dakota; Theodore Roosevelt National Park in North Dakota; Little Bighorn Battlefield National Monument in Montana; Devil's Tower National Monument in Wyoming; and Bighorn Canyon National Recreational Area in Montana and Wyoming.
- In the vicinity of Dyess AFB: Waco Mammoth National Monument and Guadalupe Mountains National Park in Texas; Carlsbad Cavern National Park and Salinas Pueblo Missions National Monument in New Mexico.
- There are also several National Natural Landmarks (NNLs) and National Historic Landmarks (NHLs) which could be impacted. These sites are not owned or managed by the NPS but have national significance for their natural and cultural resource values. Impacts to resources at these sites should also be considered:
- In Montana, Deer Medicine Rocks, Wolf Mountains Battlefield-Where Big Crow Walked Back and Forth, and Rosebud Battlefield-Where the Girl Saved Her Brother NHLs and Capitol Rock NNL.
- In New Mexico, Torgac Cave NNL.

## A.5 DRAFT EIS NOTICE OF AVAILABILITY



60458

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any quantity. Companies have the ability to import the chemical in low volumes below the CDR reporting threshold.

Authority: 15 U.S.C. 2601 *et seq.*

Andrew Wheeler,  
Administrator.

[FR Doc. 2020-21133 Filed 9-24-20; 8:45 am]  
BILLING CODE 6560-50-P

## ENVIRONMENTAL PROTECTION AGENCY

[ER-FRL-9053-1]

### Environmental Impact Statements; Notice of Availability

*Responsible Agency:* Office of Federal Activities, General Information 202-564-5632 or <https://www.epa.gov/nepa>. Weekly receipt of Environmental Impact Statements (EIS)

Filed September 14, 2020 10 a.m. EST Through September 21, 2020 10 a.m. EST

Pursuant to 40 CFR 1506.9.

*Notice:* Section 309(a) of the Clean Air Act requires that EPA make public its comments on EISs issued by other Federal agencies. EPA's comment letters on EISs are available at: <https://cdxnodengn.epa.gov/cdx-enepa-public/action/eis/search>.

EIS No. 20200188, Draft Supplement, USFS, WV, Mountain Valley Pipeline and Equitrans Expansion Project Draft Supplemental Environmental Impact Statement, Comment Period Ends: 11/09/2020, Contact: Ken Arney 888-603-0261.

EIS No. 20200189, Draft, USAF, GA, Moody Air Force Base Comprehensive Airspace Initiative, Comment Period Ends: 11/24/2020, Contact: Lorence Busker 229-257-2396

EIS No. 20200190, Draft, USAF, TX, B-21 Main Operating Base (MOB 1) Beddown at Dyess AFB, Texas or Ellsworth AFB South Dakota, Comment Period Ends: 11/09/2020, Contact: Julianne Turko 210-925-3777.

EIS No. 20200191, Final, USFS, AK, Rulemaking for Alaska Roadless Areas, Review Period Ends: 10/26/2020, Contact: Ken Tu 303-275-5156.

EIS No. 20200192, Final Supplement, FDOT, FHWA, FL, Tampa Interstate Study, Contact: Luis D. Lopez Rivera 407-867-6420. Pursuant to U.S.C. 139(n)(2), FHWA has issued a single document that consists of a final supplemental environmental impact statement and record of decision. Therefore, the 30-day wait/review period under NEPA does not apply to this action.

EIS No. 20200193, Final, BR, CA, Truckee Canal Extraordinary Maintenance, Review Period Ends: 10/26/2020, Contact: Laurie Nicholas 775-884-8360.

EIS No. 20200194, Final, NNSA, SC, Plutonium Pit Production at the Savannah River Site in South Carolina, Review Period Ends: 10/26/2020, Contact: Ms. Jennifer Nelson 803-557-6372.

### Amended Notice

EIS No. 20200168, Draft, FAA, CA, Bob Hope Hollywood Burbank Airport Replacement Passenger Terminal Project, Comment Period Ends: 10/27/2020, Contact: Edvige B. Mbakoup 424-405-7283. Revision to FR Notice Published 8/21/2020; Extending the Comment Period from 10/5/2020 to 10/27/2020.

EIS No. 20200182, Final, USFS, AZ, WITHDRAWN—Fossil Creek Wild and Scenic River Comprehensive River Management Plan, Contact: Mike Dechter 928-527-3416. Revision to FR Notice Published 09/18/2020; Officially Withdrawn per request of the submitting agency.

Dated: September 21, 2020.

Cindy S. Barger,  
Director, NEPA Compliance Division, Office of Federal Activities.

[FR Doc. 2020-21174 Filed 9-24-20; 8:45 am]  
BILLING CODE 6560-50-P

## ENVIRONMENTAL PROTECTION AGENCY

[EPA-HQ-OPP-2020-0390; FRL-10014-21]

### Ortho-Phthalaldehyde; Receipt of Application for Emergency Exemption, Solicitation of Public Comment

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice.

**SUMMARY:** EPA has received a specific exemption request from the National Aeronautics and Space Administration (NASA) to use the pesticide ortho-phthalaldehyde (OPA, CAS No. 643-79-8) to treat the coolant fluid of the internal active thermal control system of the International Space Station to control aerobic/microaerophilic bacteria in the aqueous coolant. The applicant proposes the use of a new chemical which has not been registered by EPA. Therefore, in accordance with the Code of Federal Regulations (CFR), EPA is soliciting public comment before making the decision whether to grant the exemption.

**DATES:** Comments must be received on or before October 13, 2020.

**ADDRESSES:** Submit your comments, identified by docket identification (ID) number EPA-HQ-OPP-2020-0390, by one of the following methods:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the online instructions for submitting comments. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute.

- *Mail:* OPP Docket, Environmental Protection Agency Docket Center (EPA/DC), (28221T), 1200 Pennsylvania Ave. NW, Washington, DC 20460-0001.

- *Hand Delivery:* To make special arrangements for hand delivery or delivery of boxed information, please follow the instructions at <http://www.epa.gov/dockets/contacts.html>.

Due to the public health concerns related to COVID-19, the EPA Docket Center (EPA/DC) and Reading Room is closed to visitors with limited exceptions. The staff continues to provide remote customer service via email, phone, and webform. For the latest status information on EPA/DC services and docket access, visit <https://www.epa.gov/dockets>.

**FOR FURTHER INFORMATION CONTACT:** Marietta Echeverria, Registration Division (7505P), Office of Pesticide Programs, Environmental Protection Agency, 1200 Pennsylvania Ave. NW, Washington, DC 20460-0001; main telephone number: (703) 305-7090; email address: [RDFTNotices@epa.gov](mailto:RDFTNotices@epa.gov).

**SUPPLEMENTARY INFORMATION:** In accordance with the regulations at 40 CFR 166.24(a)(1), EPA is soliciting public comment before making the decision whether to grant the exemption.

### I. General Information

#### A. Does this action apply to me?

You may be potentially affected by this action if you are a pesticide manufacturer (North American Industrial Classification System (NAICS) (Code 32532) or involved with the International Space Station. This listing is not intended to be exhaustive, but rather provides a guide to help readers determine whether this document applies to them. Other types of entities not listed could also be affected.

#### B. What should I consider as I prepare my comments for EPA?

1. *Submitting CBI.* Do not submit this information to EPA through [www.regulations.gov](http://www.regulations.gov) or email. Clearly mark the part or all of the information that you claim to be CBI. For CBI



## A.6 AGENCIES AND INTERESTED PARTIES DRAFT EIS NOTICE OF AVAILABILITY LETTER



DEPARTMENT OF THE AIR FORCE  
AIR FORCE CIVIL ENGINEER CENTER  
JOINT BASE SAN ANTONIO LACKLAND TEXAS



4 September 2020

AFCEC/CZN  
2261 Hughes Ave., Ste. 133  
JBSA Lackland, TX 78236-9853

SUBJECT: Environmental Impact Statement Public Review; B-21 Main Operating Base 1 (MOB 1) Beddown at Dyess Air Force Base (AFB), Texas or Ellsworth AFB, South Dakota

To Whom It May Concern,

The Air Force is publishing a Notice of Availability (NOA) in the Federal Register that announces the availability of the *Draft Environmental Impact Statement (EIS) for the B-21 MOB 1 Beddown at Dyess AFB, Texas or Ellsworth AFB, South Dakota*. The publication of the NOA on September 25, 2020, begins a 46-day public comment period. The Draft EIS and supporting documents are available on the project website at [www.B21EIS.com](http://www.B21EIS.com). A printed copy of the Draft EIS has also been provided to the following libraries and repositories:

Rapid City Public Library  
610 Quincy Street  
Rapid City, SD 57701

Dickinson Area Public Library  
139 3rd Street West  
Dickinson, ND 58601

Devereaux Library  
South Dakota School of Mines & Technology  
501 East Saint Joseph Street  
Rapid City, SD 57701

Abilene Public Library – Main Library  
202 Cedar Street  
Abilene, TX 79601

Sturgis Public Library  
1040 Harley-Davidson Way, Suite 101  
Sturgis, SD 57785

Howard County Library  
500 Main Street  
Big Spring, TX 79720

Big Horn County Library  
419 North Custer Avenue  
Hardin, MT 59034

Brownwood Public Library  
600 Carnegie Street  
Brownwood, TX 76801

Miles City Public Library  
1 South 10th Street  
Miles City, MT 59301

Fort Sumner Public Library  
235 W. Sumner Avenue  
Fort Sumner, NM 88119

The Air Force plans to hold virtual public hearings on the dates and times listed below. Please visit the project website ([www.B21EIS.com](http://www.B21EIS.com)) for details on registering to participate in the virtual public hearings and to make verbal comments during the hearings.

- Tuesday, October 13, 2020 – 5:30 p.m. to 7:30 p.m. Central Standard Time (CST)
- Thursday, October 15, 2020 – 5:30 p.m. to 7:30 p.m. CST

- Tuesday, October 20, 2020 – 5:30 p.m. to 7:30 p.m. Mountain Standard Time (MST)
- Thursday, October 22, 2020 – 5:30 p.m. to 7:30 p.m. MST

The project website can be used to submit comments on the Draft EIS. Comments may also be submitted by mail to Leidos, ATTN: B-21 EIS, 1456 Woodlawn Way, Gulf Breeze, Florida, 32563. Comments will be accepted at any time during the environmental impact analysis process. However, to ensure that the Air Force has sufficient time to consider public input in the preparation of the Final EIS, comments must be submitted to the website or mailed to the address listed above by November 9, 2020.

Please direct any requests for information or other inquiries to the Dyess AFB Public Affairs, (325) 696-4820, or after hours (325) 268-6554, [7bwpa@us.af.mil](mailto:7bwpa@us.af.mil); or Ellsworth AFB Public Affairs, (605) 385-5056, or after hours (605) 391-7436, [28bw.public.affairs@us.af.mil](mailto:28bw.public.affairs@us.af.mil).

Sincerely



Julianne Turko, Program Manager  
NEPA Division (AFCEC/CZN)

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## A.7 DRAFT EIS COMMENTS AND USAF RESPONSES TO COMMENTS

This section contains comments received from federal, state, and local agencies, organizations, the public, and Native American tribes during the Draft EIS comment period. In accordance with NEPA, the USAF considered all the verbal and written public, agency, and tribal comments received.

Section A.7.1, *Public/Agency Comment Identification Guide*, presents an explanation of how a reader can find a comment and its response in this Appendix. Section A.7.2, *Comment Letters and Verbal Testimony Received During the Public Comment Period (September 25, 2020 through November 9, 2020)*, presents copies of substantive comment submittals (written and verbal). Section A.7.3, *USAF Responses to Comments on the Draft EIS*, presents the USAF responses to substantive comments.

In this Final EIS, the USAF has responded to substantive comments, for example, by revising text to improve the clarity of discussion, making factual corrections, and explaining why some comments did not warrant further action. As stated in Section 1.4.3 of the EIS, substantive comments are those specific comments that challenge the analysis, methodologies, or information in the Draft EIS as being factually inaccurate or analytically inadequate; identify impacts not analyzed; develop and evaluate reasonable alternatives or feasible mitigations not considered by the USAF; or that offer specific information that may have a bearing on the decision (such as differences in interpretations of significance or scientific or technical conclusions) or cause changes to the proposed action. Non-substantive comments, which do not require a USAF response, are generally considered those comments that are nonspecific, express a conclusion or opinion about the proposed action, agree or disagree with the proposals, vote for or against the proposal itself or some aspect of it, state a position for or against a particular alternative, or otherwise state a personal preference or opinion. The USAF will take all comments into consideration in its decision-making process.

The USAF encouraged the public to submit comments at the virtual public hearings, in newspaper ads, in press releases, and on the EIS project website.

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### A.7.1 Public/Agency Comment Identification Guide

Section A.7.1.1, *Comment Receipt and Review*, outlines how comments were received, organized, reviewed, and categorized. Section A.7.1.2, *Locating Comments and Responses to Comments*, guides the reader who wishes to find a comment and related response in this Appendix, based on a commenter's name.

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#### A.7.1.1 Comment Receipt and Review

**Comment Receipt:** Comments on the Draft EIS included both written correspondence and verbal testimony received during the public comment period. The USAF assigned a Commenter Identification Number (CIN) to each comment letter.

**Comment Review:** In accordance with 40 Code of Federal Regulations 1503.4, the USAF assessed and considered comments as follows.

Each comment letter and verbal statement was carefully considered by the USAF. Substantive comments were identified on each comment letter or testimony, in a process called “bracketing” the comments. As previously mentioned, substantive comments are those comments considered to be meaningful within the scope of the issues currently considered in the EIS.

The bracketed comments were reviewed and responses were prepared. A Response Code was assigned to each substantive comment within the transcript of the verbal statements and comment letters. Response Codes are printed next to the bracket in the right margin of the comments, located in Section A.7.2, *Comment Letters and Verbal Testimony Received During the Public Comment Period (September 25, 2020 through November 9, 2020)*. Table A-2 indicates the resource area or comment topic that each Response Code is associated with. (The USAF responses to comments are provided in Section A.7.3, the section after the bracketed comments.)

**Table A-2. Response Code Key and the Respective Resource Area or Comment Topic**

Response Code	Resource Area or Comment Topic
AQ	Air Quality
AS	Airspace
HZ	Hazardous Materials and Solid Wastes – <i>Hazardous Materials and Waste, ERP Sites</i>
PA	Proposed Action and Alternatives
PH	Physical Resources – <i>Soils, Surface &amp; Ground Water, Wetlands, and Floodplains</i>

### A.7.1.2 Locating Comments and Response Codes

**Directory of Commenters** – A Directory of Commenters is presented in Table A-3, listing the names of all commenters alphabetically by last name. Each commenter can locate his/her name in this directory. Each comment submittal was assigned a CIN. The CIN is a number that was assigned to each comment letter or verbal testimony and is stamped on the letter or next to verbal comments. All written and verbal comments are organized numerically by CIN in Section A.7.2, *Comment Letters and Verbal Testimony Received During the Public Comment Period (September 25, 2020 through November 9, 2020)*.

(Note: As noted on the public website and during the virtual public hearings, providing names during the public comment process meant that each commenter understood that his/her name and comment would be made a part of the public record for this EIS. However, personal contact information has been redacted from copies of comments presented in Section A.7.2 for privacy.)

#### **Locating a Comment and Response Code –**

The comments are presented in their entirety in Section A.7.2, organized in order of the CIN. A commenter can find their name in the Directory of Commenters (Table A-3) to identify the CIN(s) assigned to their comment(s) and then look for that CIN to find the comment(s) and related Response Code(s).

### ***How to Find Comments and Responses***

- *Find your name and CIN in Table A-3*
- *Find the comment with your CIN in Section A.7.2*
- *Note the Response Code(s)*
- *Find the Response Code in Table A-4*

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#### **A.7.1.3 Locating Responses to Comments**

Public and agency involvement is an important part of the NEPA process, and all comments are taken into consideration during the decision-making process. The USAF would like to express appreciation for all comments. Many of the comments express the views of the commenter and, therefore, do not require a specific response. Nonetheless, these views are taken into consideration in the decision-making process. The fact that a specific response was not developed for a comment does not in any way reduce the value of anyone's participation.

USAF responses to comments are contained in Section A.7.3, *USAF Response to Comments on the Draft EIS*. All responses are ordered alphabetically/numerically by the "Response Code." Each response is designed to be read along with the bracketed comment it addresses. Assistance with acronyms can be found at the front of the EIS. To review the USAF's response to a given comment that has been bracketed with a Response Code, find the Response Code in Table A-4 in Section A.7.3.

**Table A-3. Directory of Commenters**

Last Name	First Name	Organization/Entity	CIN
Benson	David		<a href="#">0009</a>
Blair	Greg	American Electric Power	<a href="#">0010</a>
Blanco	Arturo	USEPA, Region 6, Office of Communities, Tribes, and Environmental Assessment	<a href="#">0011</a>
Bowman-Slope Soil Conservation District		Bowman-Slope Soil Conservation District	<a href="#">0001</a>
Derby	Michael	Canyon Lake Resort, South Dakota	<a href="#">0025</a>
Duhamel	Helene	South Dakota State Senator	<a href="#">0022</a>
Gass	Rob		<a href="#">0012</a>
Green	Don	Abilene Regional Airport	<a href="#">0013</a>
Hoffman	Karen		<a href="#">0002</a>
Jungclaus	Karl		<a href="#">0003</a>
Lewis	Kyle	Aircraft Owners and Pilots Association	<a href="#">0014</a>
Maass	Charmaine B.		<a href="#">0004</a>
Martin	Joan	Pennington County Board of Commissioners	<a href="#">0005</a>
Meggors	Roger	Baker Air Service, Montana	<a href="#">0026</a>
Mollet	Ralph		<a href="#">0006</a>
Nichols	Sam		<a href="#">0015</a>
Peters	Douglas	CEO Abilene Chamber of Commerce	<a href="#">0020</a>
Romano	Richard		<a href="#">0007</a>
Schaaf	Rodney	Airport Board of Directors for Bowman, ND airport	<a href="#">0024</a>
Senter	Scott		<a href="#">0016</a>
Thune, Rounds and Johnson	John, M. Michael, and Dusty	South Dakota Congressional Delegation	<a href="#">0017</a>
Vivion	Michael	Montana Pilots Association	<a href="#">0023</a>
Walsh	Brian	South Dakota Department of Environment and Natural Resources	<a href="#">0008</a>
Williams	Anthony	Mayor of Abilene	<a href="#">0021</a>
Williams	Dwight		<a href="#">0018*</a>
Williams	Randy	Taylor County Commissioner for Precinct #1	<a href="#">0019</a>

Notes:

CIN = Commenter Identification Number; Org = Organization

\*Comment document submitted was blank. Commenter was contacted on 11/11/2020, no response was received.

## A.7.2 Comment Letters and Verbal Testimony Received During the Public Comment Period (September 25, 2020 through November 9, 2020)

### A.7.2.1 Comments Received via Project Website [CINs 0001 – 0008]

CINs 0001–0003; Response Code [AS-1](#)

<b>0001-0003</b>	
CIN	Comment
0001	<p>Bowman-Slope Soil Conservation District Comments regarding the USAF, EIS for the B-21 Main Operating Base 1. The Bowman-Slope Soil Conservation District (BSSCD) appreciates the opportunity to comment on the EIS for the B-21 Main Operating Base 1 and the assessment of the potential environmental consequences of the proposal. The BSSCD and Bowman and Slope Counties recently completed a Natural Resources Policy Plan, which can be viewed, in detail at <a href="http://www.bowmanslopescd.com">www.bowmanslopescd.com</a>. This plan explains in detail the history, natural resources base, economy, populations of Bowman and Slope Counties in North Dakota and specifically states adopted policies by local government entities. The following are key Policy Statements from this plan that the BSSCD recommends to be consistent in the findings of the EIS for the B-21 MOB 1 project and plan: 2.2.1 i. Require the inclusion of quantitative data that meets credible data criteria, even if the data were not produced by a federal agency. ii. Support the use of credible scientific data. Credible scientific data is defined as rigorously reviewed, scientifically valid chemical, physical and/or biological monitoring data, collected in a timely manner under an accepted sampling and analysis plan; including quality control and assurance procedures and available historical data. 5.1.1 ii. Support managing for multiple uses on public lands to maintain and enhance desired plant communities that benefit watersheds, water quality, recreations, and sustainable livestock grazing that are critical to the economic health of Bowman and Slope Counties. 15.1.1 x. Support consistent, appropriate reclamation of all surface resource disturbances as soon as feasible after impacts have been created. "As feasible" means restoring at the time and season that seed establishment methods are most likely to succeed and are appropriate for the site. The BSSCD recognizes the importance of military training and developments. We appreciate the USAF's thorough consideration of natural resources impacts during this process.</p>
0002	<p>My husband, Wayne Hoffman, and I are writing to express our whole-hearted support for the beddown of the B-21 Raider Main Operating Base 1 at Ellsworth AFB. Ellsworth AFB (EAFB) is a perfect fit for the B-21. I am a retired civil servant of EAFB having worked in the 28th Civil Engineering Housing Office for 13 years, the Civil Engineering Real Estate Office for 14 years and the last three years were served as its Realty Officer. I had the privilege to participate in the beddown of the B-1B bomber and its nuclear weapons. Ellsworth AFB performed flawlessly in bringing in this very welcomed aircraft. My job in the Real Estate Office required me to negotiate with quite a few landowners next to the base and there were no dissenting voices other than maybe one. Another positive aspect of beddown at Ellsworth is the proximity of the Powder River Training Complex to the base. I worked intimately with the landowners involved with the bomb scoring sites in South Dakota, North Dakota, Montana, and Wyoming. Those landowners, too, expressed no concerns with the aircraft. The communities of Box Elder, Rapid City and the Black Hills in general will certainly welcome and support the personnel that will be associated with this aircraft. We are looking forward to supporting the Air Force in this exciting endeavor!</p>
0003	<p>I transit the Powder River MOA regularly. My opinion is that the greatest improvement would be for participating military aircraft to become ADSB compliant and if the exercise required ADSB to be off, a real time NOTAM issued for that fact detailing type, altitudes, time and specific MOA being used. Often, communication with the appropriate center is not available for GA aircraft due to low altitude and limited communication coverage. But information is available via tablet/cell usage. So disseminating the NOTAM/MOA use in real time via that technology would enhance awareness significantly.</p>

} AS-1

CINs 0004–0008; Response Codes [PH-1](#), [AQ-1](#)

0004-0008

CIN	Comment
0004	Hello. This is Charmaine B. Maass. I am a retired military wife and have lived in Rapid City for 15 years. Speaking from personal experience, I want to say that raising a family in the Rapid City/Black Hills area could not have been any better. Also, whenever my late husband, SGM (retired) Charles Maass, and I needed support from Ellsworth Air Force Base, we were always impressed with the professionalism displayed by the airmen. I want to let you know that I think Ellsworth would be a perfect fit for the bed down of the B-21 Military Operating Base 1 especially since I understand there is a huge training airspace just short distance from Ellsworth which would be a huge savings in jet fuel and travel for the pilots. I have been following the story in the Rapid City Journal and really hope that Ellsworth will be selected for this bed down. In my years of living in Rapid City, I found much support for the Base and the airmen and their families. I truly hope the B-21 Raider Base 1 will be at Ellsworth Air Force Base. Thank you!
0005	To whom it may concern,The Pennington County Board of Commissioners strongly recommend the selection of Ellsworth AFB, South Dakota as the B-21 Main Operating Base I beddown .Ellsworth is a top-notch permanently manned and well protected base used to support the Global Strike Command B-1 Bomber mission. Ellsworth is uniquely positioned to host the next generation B-21 Raider Bomber and its critical role in national defense.The Air Force needs to base the B-21 in an "appropriate geographic location" that can support operations, training, facilities, and airspace for the bomber mission. Ellsworth AFB is that location.The first Main Operations Base, or MOB 1, will include two operational squadrons, a formal training unit, and a weapons generation facility.Basing B-21 s at Ellsworth will meet the goals of minimizing current mission impact, maximize facility re-use, minimize cost, and reduce overhead, and leverage the strengths of each base to optimize the bed down strategy,We are confident that many of the factors being considered during this environmental impact study will highlight the benefits of solidifying Ellsworth AFB as MOB 1 for the B-21 Raider Bomber.~Airspace use will show the efficiencies for training and cost management placing the B-21 Training mission with convenient access to the Powder River Training Complex.~Land use around Ellsworth AFB maintains almost complete compatibility with all accident potential and noise zoning.~Socioeconomic factors such as rich culture, community emphasis on quality of life initiatives, employment opportunities for military families, quality schools, and a growing housing market make Ellsworth a solid choice for MOB 1.The Pennington County Board of Commissioners strongly recommend the selection of Ellsworth AFB, South Dakota as the B-21 Main Operating Base 1 beddown for the reasons contained within.Respectfully submitted,The Pennington County Board of CommissionerCommissioner Deb Hadcock, ChairCommissioner Gary Drewes, Vice ChairCommissioner Mark DiSantoCommissioner Lloyd LaCroixCommissioner Ron Rossknecht
0006	Dyess has been an outstanding base, with outstanding community support for decades. How well the bed down of the B-1B went shows what a great choice Dyess would be for the B-21.
0007	Please discuss plans for the Air Force to protect the creek beds and wetlands at Ellsworth Air Force Base.
0008	1) Ellsworth Air Force Base currently has a minor air quality permit with potential emissions based upon fuel usage limitations for natural gas and propane. If the proposed construction would exceed that limitation, the facility would need to submit an application to modify the current air quality operating permit. The facility would need to submit an air quality construction permit for any new stationary sources that will emit to the ambient air. 2) Plans and specifications for any new or modifications to any existing wastewater collection and treatment system or water distribution and treatment system may need approval from the South Dakota Department of Environment and Natural Resources prior to starting construction.

PH-1  
AQ-1



## A.7.2.2 Comment Letters Received via Project Website or Email [CINs 0009 – 0019]

CIN 0009; Response Codes [PA-1](#), [PA-2](#)

0009

25 October, 2020

Leidos  
Attn: B-21 EIS  
1456 Woodlawn Way  
Gulf Breeze, Florida 33563

RE: B-21 Environmental Impact Statement

Leidos,

Thank you for the opportunity to comment. I am a former commander of the 7<sup>th</sup> Bomb Wing, 509<sup>th</sup> Operations Group, and Deputy Commander of the 509<sup>th</sup> Mission Support Group. As such, I have the unique experience of having commanded Dyess, nuclear operations at Whiteman, and support to nuclear operations at Whiteman. The support to nuclear operations at Whiteman included the security and environment support to this strategic mission, providing me a unique perspective from both the operational and support side. And, while I find your draft EIS to be fairly thorough, I do have a couple of comment for consideration as you finalize it.

Without getting into specifics on the internal operations of a Weapons Generation Facility (WGF), there is increased risk to having two WGF facilities and a separate operational area that is not taken into consideration. From an EIS standpoint, the biggest risk added is the increased safety and security risk as munitions are required to move between the facilities and operational area. Because of these increased risks, these movements are well orchestrated, but also very time consuming and personnel draining. They also halt most base operations during movements. Because of these factors, we tried to limit these as much as possible at Whiteman. A single security area for one WGF and operational area greatly reduces these risks.

PA-1

Operationally, two WGF facilities and a physically separate operations area will increase personnel and duplicate equipment requirements not required by a single, dedicated area for both the WGF and operations area. And, while there was an increased emphasis on 100% manning when I retired in 2017, historically security manning levels hover around 90% or less, further increasing risk if extra manning is required.

My third comment has to do with the comment on your website that “The Powder River Training Complex would be the primary training area for aircraft operations for either basing location.” When we first started B-2 operations at Whiteman, we also thought current Military Operating Areas (MOAs) and Restricted Areas would be the primary areas. However, we soon noticed the higher operational altitudes and wartime simulation capabilities inherent in the B-2 removed the requirement for these type areas except for actual weapons releases and larger force training. Consequently approximately 80% of the training was done outside MOAs and restricted areas. Knowing the training simulation capabilities of the F-22 and F-35, I can only assume the B-21 will be even better, and the importance of areas these areas in the beddown will be further reduced.

PA-2

0009

Thank you for allowing my input and for all you are doing to support the B-21 and our nation. If you have any questions, please feel free to contact me at [REDACTED].

Sincerely,

David M. Benson, Col (Ret), USAF

CIN 0010

0010



AEP Texas  
910 Energy Dr.  
Ablene, TX 79602

November 4, 2020

Leidos  
ATTN: B-21 EIS  
1456 Woodlawn Way  
Gulf Breeze, FL 32563

To Whom It May Concern:

AEP Texas is part of the American Electric Power system, one of the largest electric utilities in the United States, delivering electricity to more than 5 million customers in 11 states. AEP ranks among the nation's largest generators of electricity, owning nearly 32,000 megawatts of generating capacity in the U.S. AEP also owns the nation's largest electricity transmission system, a nearly 39,000-mile network that includes more 765 kilovolt extra-high voltage transmission lines than all other U.S. transmission systems combined. AEP's transmission system directly or indirectly serves about 10 percent of the electricity demand in the Eastern Interconnection, the interconnected transmission system that covers 38 eastern and central U.S. states and eastern Canada, and approximately 11 percent of the electricity demand in ERCOT, the transmission system that covers much of Texas.

In 1999, Texas adopted legislation restructuring the electric utility industry to provide competition in the retail supply of electricity. The retail electric market was opened to competition on January 1, 2002; however, the transmission and distribution of electric power is still regulated by the Public Utility Commission of Texas. As an energy delivery (wires) company, AEP Texas delivers electricity safely and reliably to homes, businesses and industry across its nearly 100,000 square mile service territory in south and west Texas.

AEP Texas has provided electric utility service to Dyess AFB since the base opened. The longstanding working relationship between AEP Texas employees and Dyess AFB has proven on many occasions that, in both normal operations and emergency situations, Dyess AFB can call on AEP Texas for exceptional response and expert assistance. AEP Texas has an outstanding record of providing reliable power and serves Dyess from three different substations (Dyess 1, 2 and 3) with multiple transmission lines feeding the stations. The transmission lines and substations have ample capacity to serve current and future loads at the base.

AEP Texas takes great pride in serving Dyess AFB. While the past century has brought changes and challenges, our focus on customers and spirit of innovation continue to guide how we serve our communities.

Sincerely,

Greg Blair  
AEP Texas  
Manager Community Affairs and Customer Service

MARCH 2021

CIN 0011; Response Code [HZ-1](#)

0011



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 6  
1201 ELM STREET, SUITE 500  
DALLAS, TEXAS 75270-2102

October 28, 2020

Major General James C. Dawkins  
Commander, Eighth Air Force  
Joint-Global Strike Operations Center  
ATTN: Woodlawn Way  
Gulf Breeze, FL 32563

Dear General Dawkins:

The Region 6 office of the U.S. Environmental Protection Agency (EPA) has reviewed the U.S. Air Force (USAF) Operational Beddown Draft Environmental Impact Statement (EIS) CEQ Number 20200190. The Draft EIS was reviewed pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations (40 CFR Parts 1500 – 1508), and by our NEPA review authority under Section 309 of the Clean Air Act.

The Department of Defense (DoD) is developing a new bomber aircraft, the B-21 “Raider,” which will eventually replace existing B-1 and B-2 bomber aircraft. The beddown of the B-21 will take place through a series of three Main Operating Bases (MOBs), referred to as MOB 1, MOB 2, and MOB 3. Through the USAF’s Strategic Basing Process, the USAF determined the MOB 1 locations would be either Dyess Air Force Base (AFB) in Texas or Ellsworth AFB in South Dakota. This DEIS, evaluates the proposed MOB 1 beddown of the B-21, which includes B-21 Operational Squadrons, a B-21 Formal Training Unit (FTU), and a Weapons Generation Facility (WGF). Decision-making associated with MOBs 2 and 3 will occur after a decision is made regarding MOB 1 and will be the subject to separate environmental impact analysis in accordance with NEPA.

The following comments are offered for your consideration:

**Air and Radionuclide**

According to the Draft EIS, two alternative locations for the Weapons Generation Facility (WGF) at Ellsworth AFB have been identified that would meet the USAF’s purpose and need. Of the two locations, the proposed North WGF site is directly adjacent to an existing low-level radioactive waste burial site at the base. The Draft EIS should provide information on any analysis of potential risks associated with construction and operation at this site. Depending on the nature of the waste burial site, it may be necessary to take extra precautions to maintain containment of radionuclides and minimize exposures during construction and operation should the North WGF site be selected.

EPA recommends that the Final EIS include further information on existing radiological conditions around the North WGF site. The Final EIS should explain whether there is any existing known radiological waste migration in the area; how any radioactive contamination would be identified during construction; and how such waste would be managed if

HZ-1

CIN 0011; Response Codes [HZ-1](#), [HZ-2](#), [HZ-3](#)

0011

encountered. Additionally, EPA asks that the Final EIS explain how radionuclide emissions and exposure would be prevented or minimized during construction and whether the storage or use of munitions near the burial site would affect the risk for unintentional release from the burial site. If there are any considerations that have a similar importance for the South WGF site, we recommend a similar approach be taken to outline those considerations to assist USAF with their decision.

HZ-1

**Operational Concerns**

EPA asks that the Final EIS discuss potential environmental impacts and contamination associated with increased B-21 flight training exercises using live ordinance on the training range. Although the Draft EIS states that there are no known environmental consequences of B-21 flight training, training that includes live munitions could increase the potential for environmental impacts and contamination on the range. The Final EIS should discuss the use of munitions for B-21 training operations and include information on the potential increase of environmental impacts and contamination to the range.

HZ-2

**Resource Conservation and Recovery Act Concerns**

The Draft EIS does not discuss the operations lifecycle of B-21 munitions; specifically, how the munitions designated and stored for the B-21 will be managed after their operational lifespan. Expired, non-utilized munitions must be demilitarized in some manner. Existing variations of demilitarizing operations also have different potentials for contamination based on the method chosen. We recommend that the Final EIS include analysis of options for end-of-life disposal and demilitarization of expired and non-utilized munitions.

HZ-3

We appreciate the opportunity to review this Draft EIS. We look forward to reviewing the Final EIS related to this project. If you have any questions, please contact Michael Jansky, the project review lead, at 214-665-7451 or [jansky.michael@epa.gov](mailto:jansky.michael@epa.gov).

Sincerely,

**ARTURO  
BLANCO** Digitally signed by ARTURO BLANCO  
DN: c=US, o=U.S. Government,  
ou=Environmental Protection Agency,  
cn=ARTURO BLANCO,  
0.9.2342.32.200000.100.1.1-68002003  
651777  
Date: 2021.10.28 13:48:11 -0500

Arturo J. Blanco  
Director  
Office of Communities, Tribes and  
Environmental assessment

cc: Philip S. Strobel  
Chief, NEPA Branch  
US EPA - Region 8 (ORA-N)  
1595 Wynkoop St.  
Denver, CO 80202  
[strobel.philip@epa.gov](mailto:strobel.philip@epa.gov)

0012

Robert Gass – Colonel, USAF (Ret.)

Thanks for the chance to help inform Air Force decisions on the basing for the B-21. My perspective is shaped by 29 years of active duty service in the USAF as a bomber pilot and senior leader. During that time, I've flown over 4100 hours of total military flight time (mostly B-1 and B-52) and over 690 combat hours in the B-1. Significantly, I served over 12 years at Dyess AFB, including duty as Operations Officer/instructor pilot in 28<sup>th</sup> Bomb Squadron (the training squadron or "B-1 Schoolhouse"); Commander of the 9<sup>th</sup> Bomb Squadron (combat squadron); and Commander of the 7<sup>th</sup> Bomb Wing. I retired in as the Vice Commander of Eighth Air Force, overseeing bomber operations across the Air Force. I know bombers and I know Dyess AFB.

West Texas is a great place to fly bombers. I have flown well over two thousand bomber hours training the both the newest aircrew members with the B-1 Schoolhouse and most experienced aviators in the combat squadron in West Texas skies. The airspace near Dyess AFB is particularly conducive to the type of flight training all types of bombers need today. Beyond some of the best flying weather in the US, West Texas offers some first-class airspace optimized over 30 years for bomber operations. Specifically, Bronco 3&4 Operating Areas (MOA) and Pecos MOA provide the mission geometry for very efficient air refueling and bombing training. Lancer Military MOA adds "back door" access to state-of-the-art ground based defensive training systems. Additionally, routine cooperation with Abilene Regional Airport makes instrument training efficient with increased diversity in approach procedure training. Taken together, the weather and airspace makes Dyess AFB the best bomber base in the USAF for basing bombers and conducting demanding flying training.

B-1 and B-21 flight operations are likely compatible at Dyess. Today, access to local MOAs is shared by multiple aircraft, both from 7<sup>th</sup> Bomb Wing B-1s and from units from across the Air Force. That cooperative approach should readily apply to new B-21 training. In fact, today B-1s and C-130 aircraft, with significantly different air speed regimes, share the same home base and local air traffic pattern with great success.

Overall, Dyess is a superb base for bomber training. It is the best of our five bomber bases. It has the right combination of weather and airspace with a proven performance in integrating diverse sets of aircraft and USAF training requirements. It would provide an outstanding home for all B-21 flight operations, from initial training to advanced combat training. I'm optimistic the B-21 would fit seamlessly into the military flying environment in West Texas to maximize the natural advantages and airspace optimized to bomber operations.

CIN 0013

0013



## MEMORANDUM

**TO: Leidos – B-21 EIS**

**FROM: Don Green, A.A.E., Director of Transportation Services**

**DATE: October 29, 2020**

**SUBJECT: ABI Traffic Accommodation Statement**

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Abilene Regional Airport (ABI) is a Class I FAR Part 139 Certificated airport supporting the civil and military aviation needs of the Abilene area, including Dyess Air Force Base. ABI is served by American Airlines and United Airlines with daily scheduled commercial air service. General Aviation and Military Aviation are frequent users of ABI on a daily basis. ABI has an FAA Air Traffic Control Tower with TRACON that is staffed 24/7.

ABI has two offset parallel runways each at 7,200' x 150'. This layout maximizes the simultaneous use of each runway so that often aircraft making full-stop landings use one runway, while Military and General Aviation aircraft use the other for multiple practice approaches and touch-and-go's without interfering with each other. This allows C-130s based at Dyess to perform approach/departure training at ABI, as well as primary and advanced USAF and USN aircraft, which greatly reduces pattern congestion at Dyess so that B-1s, and eventually B-21s, can do higher speed pattern work.

ABI has multiple approaches to its runways, including a Non-Directional Beacon (NDB) approach that is critical to C-130 pilot training. Below are the approaches available:

ILS or LOC RWY 35R  
RNAV (GPS) RWY 17L  
RNAV (GPS) RWY 35R  
LOC RWY 17R  
VOR or GPS-A  
Radar (ASR-11) Approaches to RWYs 17R, 35L, 35R

ABI is sufficiently distanced east of Dyess so that its traffic patterns and FAR Part 77 Surfaces do not overfly or conflict with any part of Dyess'; however, positioned close enough that transitioning back and forth is extremely easy.

0014



November 9<sup>th</sup>, 2020

**Leidos**

ATTN: B-21 EIS  
1456 Woodlawn Way  
Gulf Breeze, FL 32563

RE: Public Comments Provided by Aircraft Owners and Pilots Association – B21 Beddown and MOB Selection Draft EIS

The Aircraft Owners and Pilots Association (AOPA), a not-for-profit individual membership organization, is the world's largest aviation membership association, representing the general aviation interests of our members nationwide. AOPA's mission is to effectively serve the interests and needs of its members as aircraft owners and pilots and to establish, maintain, and articulate positions of leadership to promote the economy, safety, security, utility, and popularity of general aviation.

AOPA appreciates the opportunity to comment with regards to the B-21 Beddown and MOB Selection Draft EIS. The comments made below are on behalf of the 5,200 members and 580 based aircraft operators at more than 15 public use airports inside or near the operational boundaries of the Powder River Training Complex (PRTC), which encompasses four states – North Dakota, South Dakota, Wyoming, and Montana. They are also on behalf of the countless other pilots from across the nation who transit the PRTC each year for business or recreation in general aviation aircraft.

- Comment 1 - Reference Page 3 – ES.3.1.3 / Airspace Range and Utilization / Lines 15,16
  - Based on the note that PRTC and Brownwood MOA would be “supplemental” for Dyess-based aircraft, AOPA is concerned that the increase in PRTC utilization, as a supplement to Dyess-based aircraft, may have a negative impact on civil VFR and IFR operations within PRTC. There is no data given in the EIS that divulges any forecast utilization of this scenario. A survey conducted in 2018 by AOPA, provided information that casts a significant economic impact to both personal and business operators that operate within or near PRTC.

AS-4


- Comment 2 - Reference Page 25 – ES.4.2.2.3 / Lines 9-18
  - With regard to the percentage increases of PRTC utilization forecast, 41 percent is a dramatic increase in operations, showing more need for active deconfliction (ADSB, VHF comm upgrades, radar services, etc.) within the PRTC. The

AS-5

421 Aviation Way, Frederick, Maryland 21701 | t: 301.695.2000 | f: 301.695.2375 | [aopa.org](http://aopa.org)



CIN 0014; Response Codes [AS-5](#), [AS-2](#)



0014

infrastructure required for safe mitigation and deconfliction of civil vs military aircraft has been less-than-satisfactory for operators since the activation of PRTC in 2015. AOPA would like to see active resolution for these previously-identified issues before the B-21 becomes active in PRTC. } AS-5

- Comment 3 - Reference Page 25 – ES.4.2.2.3 / Lines 18-22
  - AOPA is concerned that, while the B-21’s are expected to operate at higher altitudes, the other descriptors of “Dyess-based aircraft” utilizing PRTC in the future, indicate that the nature of forecast operations may still be unknown. AOPA agrees with other comments submitted by local stakeholders that “high altitude bands” is a poor descriptor of the B-21’s operating capabilities. AOPA recommends language that clarifies the high-altitude operations and to what extent the impacts would be minimized for civil aircraft operating below 18,000’ MSL (FL180). } AS-2

AOPA appreciates the opportunity to make these comments and looks forward to working with the United States Air Force to ensure the productive mutual use of the airspace surrounding the PRTC.

Sincerely,



Kyle Lewis  
Regional Manager, Government Affairs and Airport Advocacy, Great Lakes Region AOPA

The Aircraft Owners and Pilots Association (AOPA) is a not-for-profit individual membership organization of General Aviation and UAS Pilots and Aircraft Owners. AOPA’s mission is to effectively serve the interests of its members and establish, maintain and articulate positions of leadership to promote the economy, safety, utility, and popularity of flight in General Aviation aircraft and UAS. Representing two-thirds of all pilots in the United States including several thousand UAS operators, AOPA is the largest civil aviation organization in the world.

421 Aviation Way, Frederick, Maryland 21701 | t: 301.695.2000 | f: 301.695.2375 | [aopa.org](http://aopa.org)

0015



October 29, 2020

Ledios  
Att. B-21 EIS  
1456 Woodlawn Way  
Gulf Breeze, Florida 33563

I grew up in Abilene, Texas and have spent most of my adult life in West Texas. I am currently a member of the Military Affairs Committee of the Abilene Chamber of Commerce and I served for several years as an Honorary Wing Commander for the 317 Operations Support Squadron at Dyess Air Force Base.

My wife, Sandy, manages the privatized housing for Dyess at Quail Hollow Family Housing. She has been at Quail Hollow since its construction twenty years ago. She is currently serving as an Honorary Wing Commander for the 7<sup>th</sup> Maintenance Group comprised of approximately 1,500 members at Dyess.

As you can probably imagine, we are both invested in the men and women of Team Dyess and their mission. I am the Chief Meteorologist at KTAB-TV, the CBS affiliate in Abilene, and have been forecasting weather in Abilene for twenty years.

Professionally and personally, I believe strongly that Dyess Air Force Base is the best place for the B-21 Main Operating Base 1. The relationship between the City of Abilene and Dyess is well documented with a long history of a partnership unmatched anywhere. No community supports and embraces military members and their families like Abilene.

I feel that the weather is an important consideration when establishing the B-21 Main Operating Base 1. Professionally, I believe the meteorological comparisons between Dyess and Ellsworth show a distinct advantage for Dyess. I have submitted for your review several comparisons of various elements related to weather and climate.

0015

Based at Dyess, the B-21 program would be able to take advantage of more average monthly sunshine and more days with clear to partly cloudy skies. During winter months, the advantage for Dyess is even more pronounced with warmer temperatures and significantly less snow; Abilene averaging 4.70" annually while Rapid City averages 26.00" of snow annually.

As you review the material I am submitting, please do not hesitate to contact me with any questions.

Sincerely,



Sam Nichols  
Chief Meteorologist  
KTAB-TV



# ABILENE, TEXAS

WEATHER VS

# RAPID CITY, S.D.

### Winter in Abilene vs Winter in Rapid City

	High Temp	Low Temp	Rain	Snow
<b>JANUARY:</b>				
Abilene	54	33	1.02"	1.50"
Rapid City	34	11	.30"	4.40"
<b>FEBRUARY:</b>				
Abilene	49	37	1.36"	.08"
Rapid City	27	15	.44"	5.80"
<b>MARCH:</b>				
Abilene	45	33	1.74"	.30"
Rapid City	47	23	.93"	8.70"

	Average Annual Precipitation	Average Annual Snowfall
Abilene	25.00"	4.70"
Rapid City	18.35"	26.00"

### Average Number of Clear to Partly Cloudy Skies (20 yr. average)


	Sunny	Partly Cloudy	Total Days With Sun
Abilene	149	95	244
Rapid City	111	115	226


  


### Average Monthly Percent of Sunshine

	Jan.	March	Aug.	Dec.
Abilene	62%	70%	78%	72%
Rapid City	55%	48%	72%	55%

### STATISTICAL FACTS ABOUT ABILENE

350 Visual Flight Rule (VFR) flying days 

 The annual Best Places Comfort Index for Abilene is 7.6 out of 10

Abilene averages 4.70 inches of snow per year. The US average is 28 inches of snow per year. 

These are averages gathered from the following sources: National Weather Service, Weatherspark.com, Currentresults.com, USclimatedata.com

0015

Abilene, TX v. Rapid City, SD

Average (F)	High Temp	Low Temp	Rain	Snow
<u>January Ave.</u>				
Abilene	54	33	1.02"	1.50"
Rapid City	34	11	0.30"	4.40"
<u>February Ave.</u>				
Abilene	49	37	1.36"	0.08"
Rapid City	27	15	0.44"	5.80"
<u>March Ave.</u>				
Abilene	45	33	1.74"	0.30"
Rapid City	47	23	0.93"	8.70"
<u>June Ave.</u>				
Abilene	80	69	3.56"	0
Rapid City	77	52	2.53"	0
<u>August Ave.</u>				
Abilene	83	72	2.59"	0
Rapid City	86	56	1.56"	0
<u>October Ave.</u>				
Abilene	83	72	2.98"	0

0015

Rapid City	86	56	1.56"	0
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December Ave.

Abilene	57	34	1.23"	1.10"
---------	----	----	-------	-------

Rapid City	37	13	0.42"	5.40"
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## Average Annual Precipitation

## Average Annual Snowfall

Abilene	25.00"	4.70"
---------	--------	-------

Rapid City	18.35"	26.00"
------------	--------	--------

## Average Number of Clear to Partly Cloudy Skies (20 yr. average)

<u>January Ave.</u>	Sunny	Partly Cloudy	Total Days with Sun
---------------------	-------	---------------	---------------------

Abilene	149	95	244
---------	-----	----	-----

Rapid City	111	115	226
------------	-----	-----	-----

## Average Monthly Percent of Sunshine

January Ave.

Abilene	62%
---------	-----

Rapid City	55%
------------	-----

February Ave.

Abilene	64%
---------	-----

Rapid City	56%
------------	-----

March Ave.

0015

Abilene 70%  
Rapid City 48%

June Ave.  
Abilene 78%  
Rapid City 62%

August Ave.  
Abilene 78%  
Rapid City 72%

October Ave.  
Abilene 72%  
Rapid City 62%

December Ave.  
Abilene 72%  
Rapid City 55%

Annual Average wind speed  
Abilene: 11.9 mph

Rapid City: 9.0 mph

Average monthly Wind Speed

January Ave.  
Abilene 12 mph  
Rapid City 10 mph

0015

February Ave.

Abilene 13 mph

Rapid City 10 mph

March Ave.

Abilene 14 mph

Rapid City 10 mph

June Ave.

Abilene 12 mph

Rapid City 9 mph

August Ave.

Abilene 10 mph

Rapid City 9 mph

October Ave.

Abilene 11 mph

Rapid City 9 mph

December Ave.

Abilene 12 mph

Rapid City 10 mph

Sources: National Weather Service, Weatherspark.com, Currentresults.com, USclimatedata.com



CIN 0016

0016

SCOTT SENTER

October 27<sup>th</sup>, 2020

To: Leidos  
ATTN: B-21 EIS  
1456 Woodlawn Way  
Gulf Breeze, FL 32563

My name is Scott Senter. In 1980 I received both my Texas Real Estate sales license and BBA in Business Management from Texas Tech University in Lubbock, Texas. I grew up around the real estate business my entire life as my father William "Bill" Senter started our full service family Insurance and Real Estate business in 1957, the year I was born.

I started in residential sales and earned the designation of Graduate of REALTORS Institute (GRI) in October 1981. The following year I started the pursuit of the coveted designation Certified Commercial Investment Member (CCIM). This was a rigorous multi-year educational training on Property analysis, Tax law, Demography, Development and Investment Analysis earning designation # 2043 in May 1984 as one of the youngest ever to receive this designation.

My career was now handling all facets of Commercial Real Estate, involving me in Commercial properties, Residential development, Multifamily housing, Retail, Office and Raw Land Transition through present day activities that still include all these areas.

Over my forty years in the business: I have been President of Senter, REALTORS since 1996, served my local association of REALTORS as President in 1991, the city of Abilene in late 1980's as a Board of Adjustments member, The Texas Association of REALTORS in many capacities namely as Chairman of Commercial Real Estate Division in 2002 and 2014, traveling in this position nationwide, Member of the Abilene Industrial Foundation (AIF) for two decades and Board Member of the Development Corporation of Abilene (DCOA) from January 2009 – March 2015

Our local Chamber of Commerce nominated me as a member Military Affairs committee in 1982 serving our men and women of Dyess, AFB and their families. This opportunity offered me the chance to visit many of our Military institutions all across the country, during my last two decades on this committee as an Honorary Commander to the leadership team of the 317<sup>th</sup> Airlift Wing. While serving our men and women, Air Mobility Commands Four Star General selected me to serve on their Civic Leader Advisory Council, two 3 yr. terms and an additional year to further transitional alignment continuity.

I understand Military Bases housing needs, community interaction with our service members along with the support needed from the local community supporting their families back home, while they serve to protect others from harm and protecting our Freedoms.

From all these experiences and involvement I have the attached comments and information on the housing of the B-21 Bomber wing and School House.

Comparison information on Dyess, AFB –Abilene TX Vs Ellsworth AFB – Rapid  
City, SD

Both communities support their local base well and offer many similar things the local Military population needs to thrive. However considering the general age brackets of our service men and women that will be involved with the B-21 program I recognize some important differences of one area over the other. Dyess AFB - Abilene, TX is the clearer choice when all the following is considered.

Dyess AFB – Abilene, TX

Dominant Tapestry Segment is Traditional Living, with a median age of 33.9 out of a total population of 125,248, supporting 5,071 local businesses and median home values of \$129,864 well below the national average of \$204,900. With a conservative steady growth rate of 0.4% housing and rent prices stay steady and do not inflate much and are very affordable to our Military Families.

The average house size is 2.5 inhabitants indicative of our younger population that our Dyess service personal age's range. They can live well here on their incomes with the local general population having Per Capita Median income of just under \$25,949 and a Median Household Income of \$46,279.

There is plenty of entertainment, shopping and cultural opportunities to support the wide and diverse Interest of our service women and men along with their families. The costs of these are substantially lower than these same expenses in the Ellsworth area when you review the Key Spending Facts of the Executive Summary – Call Outs attached behind this page and the one following Rapid City

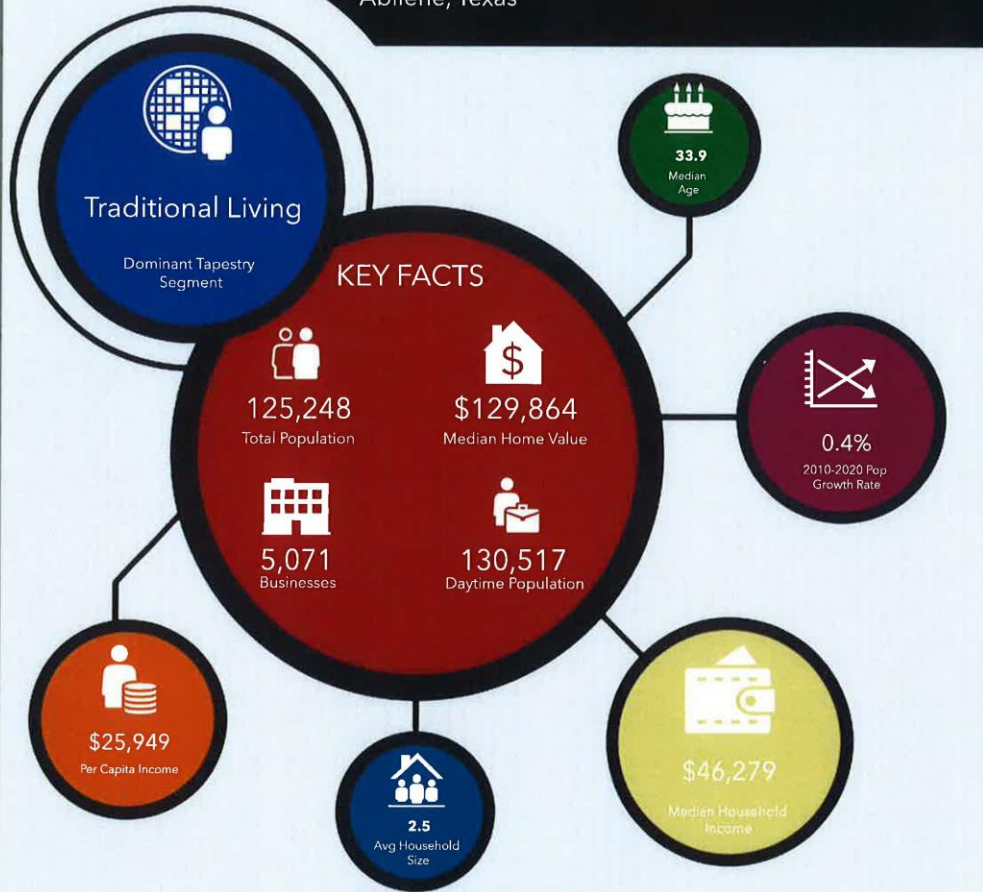
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Executive Summary - Call Outs

Abilene, Texas (9 miles)  
Abilene, Texas  
Ring of 9 miles

Prepared by Esri  
Latitude: 32.44917  
Longitude: -99.74142

Abilene, Texas



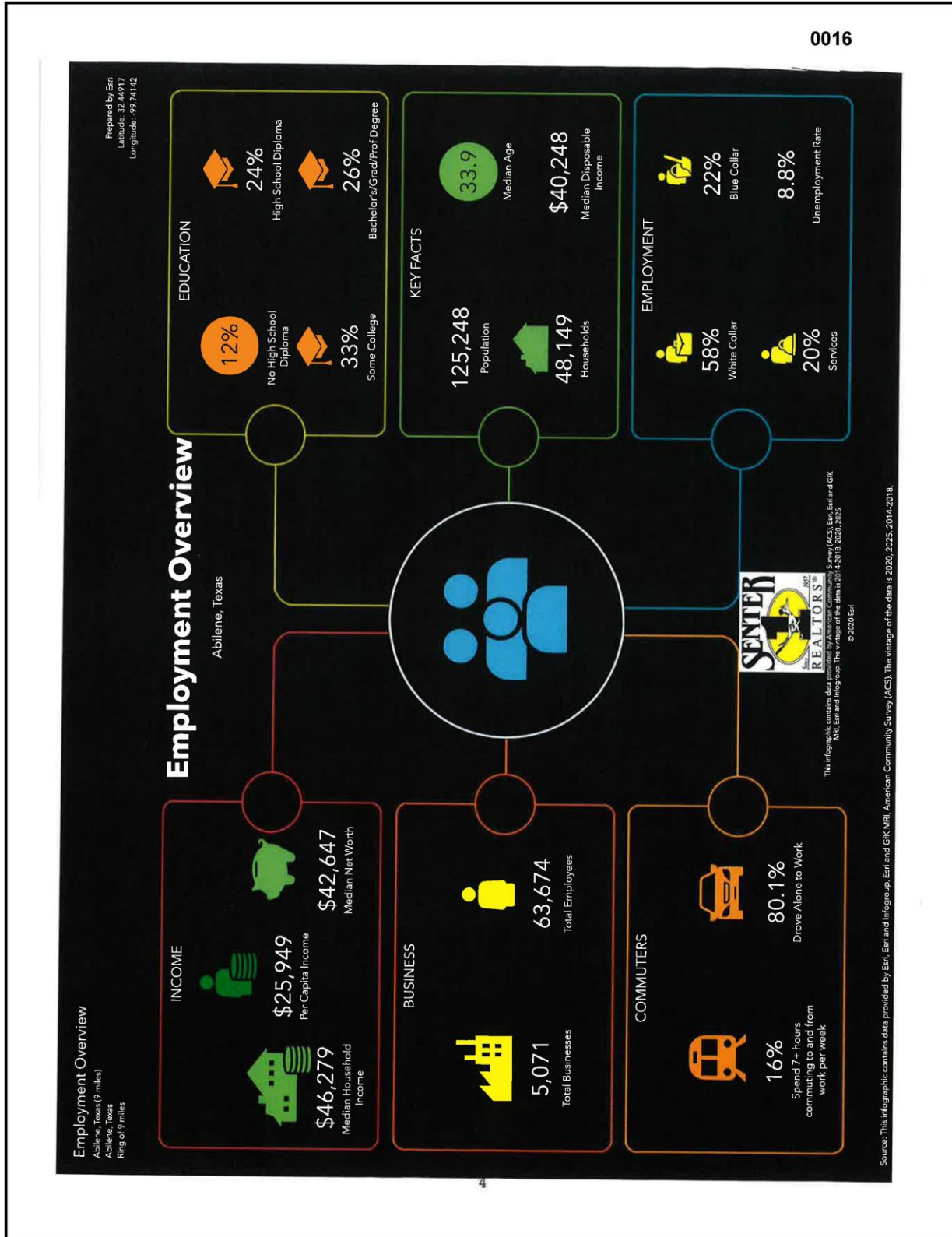
KEY SPENDING FACTS




This infographic contains data provided by Esri, Esri and Bureau of Labor Statistics, Esri and Infigroup. The vintage of the data is 2020, 2025.

© 2020 Esri

Spending facts are average annual dollars per household





**QuickFacts**  
**Abilene city, Texas**

QuickFacts provides statistics for all states and counties, and for cities and towns with a **population of 5,000 or more.**

Population estimates, July 1, 2019, (V2019)

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**PEOPLE**

**Population**

**Population estimates, July 1, 2019, (V2019)** **123,420**

Population estimates base, April 1, 2010, (V2019) 117,514

Population, percent change - April 1, 2010 (estimates base) to July 1, 2019, (V2019) 5.0%

Population, Census, April 1, 2010 117,063

**Age and Sex**

Persons under 5 years, percent ▲ 7.4%

Persons under 18 years, percent ▲ 23.1%

Persons 65 years and over, percent ▲ 12.8%

Female persons, percent ▲ 48.4%

---

**Race and Hispanic Origin**

White alone, percent ▲ 71.6%

Black or African American alone, percent (a) ▲ 10.4%

American Indian and Alaska Native alone, percent (a) ▲ 1.0%

Asian alone, percent (a) ▲ 2.4%

Native Hawaiian and Other Pacific Islander alone, percent (a) ▲ 0.0%

Two or More Races, percent ▲ 3.3%

Hispanic or Latino, percent (b) ▲ 26.7%

IS LESS

White alone, not Hispanic or Latino, percent	Ab
58.3%	Te:
<b>Population Characteristics</b>	
Veterans, 2014-2018	6.4%
Foreign born persons, percent, 2014-2018	
<b>Housing</b>	
Housing units, July 1, 2019, (V2019)	X
Owner-occupied housing unit rate, 2014-2018	54.1%
Median value of owner-occupied housing units, 2014-2018	\$114,000
Median selected monthly owner costs -with a mortgage, 2014-2018	\$1,233
Median selected monthly owner costs -without a mortgage, 2014-2018	\$445
Median gross rent, 2014-2018	\$912
Building permits, 2019	X
<b>Families &amp; Living Arrangements</b>	
Households, 2014-2018	42,327
Persons per household, 2014-2018	2.60
Living in same house 1 year ago, percent of persons age 1 year+, 2014-2018	74.4%
Language other than English spoken at home, percent of persons age 5 years+, 2014-2018	19.1%
<b>Computer and Internet Use</b>	
Households with a computer, percent, 2014-2018	89.0%
Households with a broadband Internet subscription, percent, 2014-2018	75.0%
<b>Education</b>	
High school graduate or higher, percent of persons age 25 years+, 2014-2018	86.2%
Bachelor's degree or higher, percent of persons age 25 years+, 2014-2018	22.5%
<b>Health</b>	
With a disability, under age 65 years, percent, 2014-2018	10.8%
Persons without health insurance, under age 65 years, percent	15.7%
<b>Economy</b>	
In civilian labor force, total, percent of population age 16 years+, 2014-2018	57.3%
In civilian labor force, female, percent of population age 16 years+, 2014-2018	58.5%
Total accommodation and food services sales, 2012 (\$1,000) (c)	D
Total health care and social assistance receipts/revenue, 2012 (\$1,000) (c)	D
Total manufacturers shipments, 2012 (\$1,000) (c)	898,344

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Total merchant wholesaler sales, 2012 (\$1,000) (c)	1,861,865	Abi
Total retail sales, 2012 (\$1,000) (e)	2,087,352	Tex
Total retail sales per capita, 2017: Population estimates, July 1, 2019, (V2019)		
<b>Transportation</b>		
Mean travel time to work (minutes), workers age 16 years+, 2014-2018	15.6	
<b>Income &amp; Poverty</b>		
Median household income (in 2018 dollars), 2014-2018	\$47,689	
Per capita income in past 12 months (in 2018 dollars), 2014-2018	\$23,756	
Persons in poverty, percent	▲ 17.0%	
<b>BUSINESSES</b>		
<b>Businesses</b>		
Total employer establishments, 2018	X	
Total employment, 2018	X	
Total annual payroll, 2018 (\$1,000)	X	
Total employment, percent change, 2017-2018	X	
Total nonemployer establishments, 2018	X	
All firms, 2012	9,823	
Men-owned firms, 2012	5,551	
Women-owned firms, 2012	2,991	
Minority-owned firms, 2012	2,212	
Nonminority-owned firms, 2012	7,035	
Veteran-owned firms, 2012	1,262	
Nonveteran-owned firms, 2012	7,685	
<b>GEOGRAPHY</b>		
<b>Geography</b>		
Population per square mile, 2010	1,096.2	
Land area in square miles, 2010	106.79	
FIPS Code	4801000	

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Ellsworth AFB – Rapid City, SD

Dominant Tapestry Segment is Old and some New Comers. The Median age is nearly 37 out of A total population of 75,443, supporting 4,236 local business's trending toward the higher end of the average age spectrum of our service men and women involved in flying operations in our Air Force. With Median Home Values being \$190,086 only 7% below the National Average of \$204,900 makes Home purchasing more challenging for our younger Military segment of the population.

Higher home prices in many cases have higher down payment requirements along with typically property taxes and maintenance. The steady Growth rate of 1.1% points to the fact that the area is more inflationary pushing Rental rates along with all other Pricing higher at faster paces. The average house size of 2.3 inhabitants is indicative of the slightly older population and the younger military in the area.

With average Per Capita Income of nearly \$30,000 and the Median House hold Income of \$52,600, the pressure on expenses is much higher in this area, which would be straining on the budgets of the military families involved in the B-21 mission. Higher incomes have to pay more income taxes out of their earnings.

The availability of Entertainment, Shopping and Cultural Activities seems adequate but are all at a substantially higher cost when you compare the two areas Key Spending Facts in the attached Executive Summary – Call Outs attached behind this page



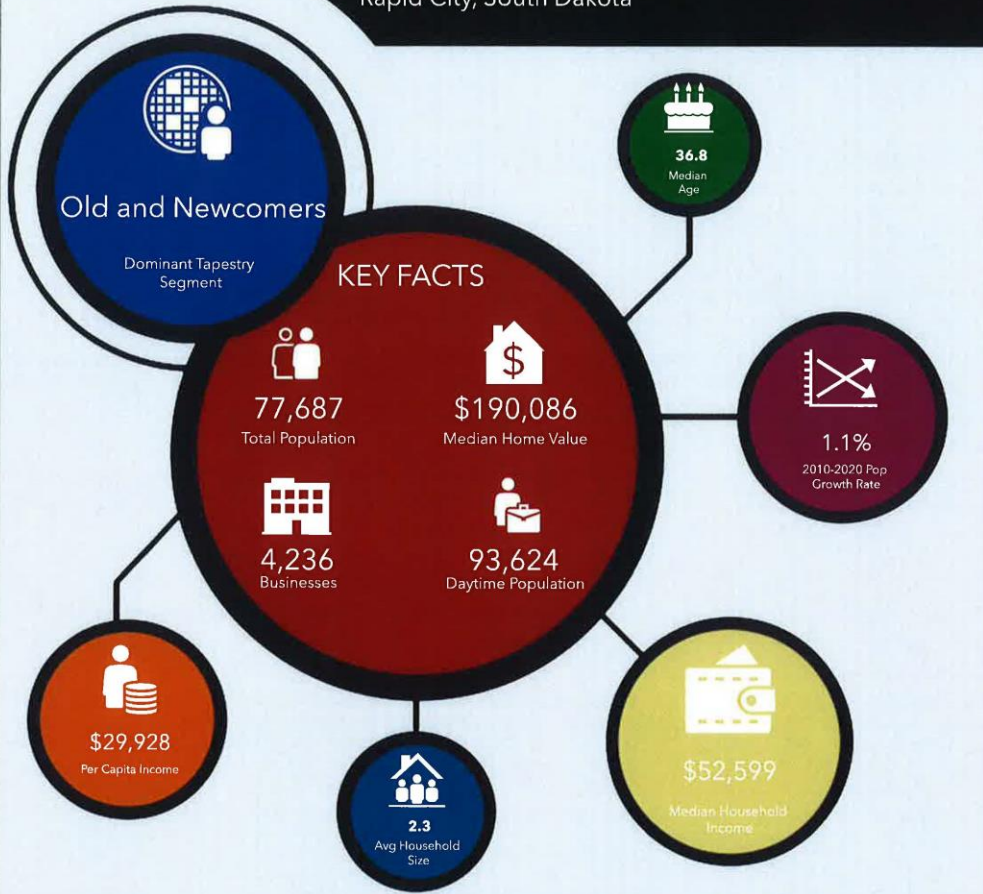
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**Executive Summary - Call Outs**

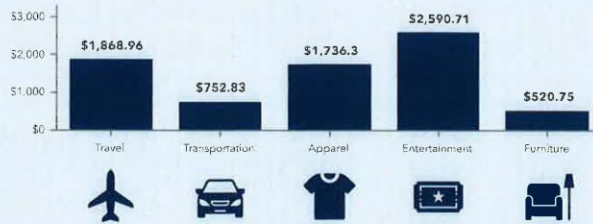
Rapid City, South Dakota (4.6 miles)  
 Rapid City, South Dakota  
 Ring of 4.6 miles

Prepared by Esri  
 Latitude: 44.08146  
 Longitude: -103.23080

**Rapid City, South Dakota**



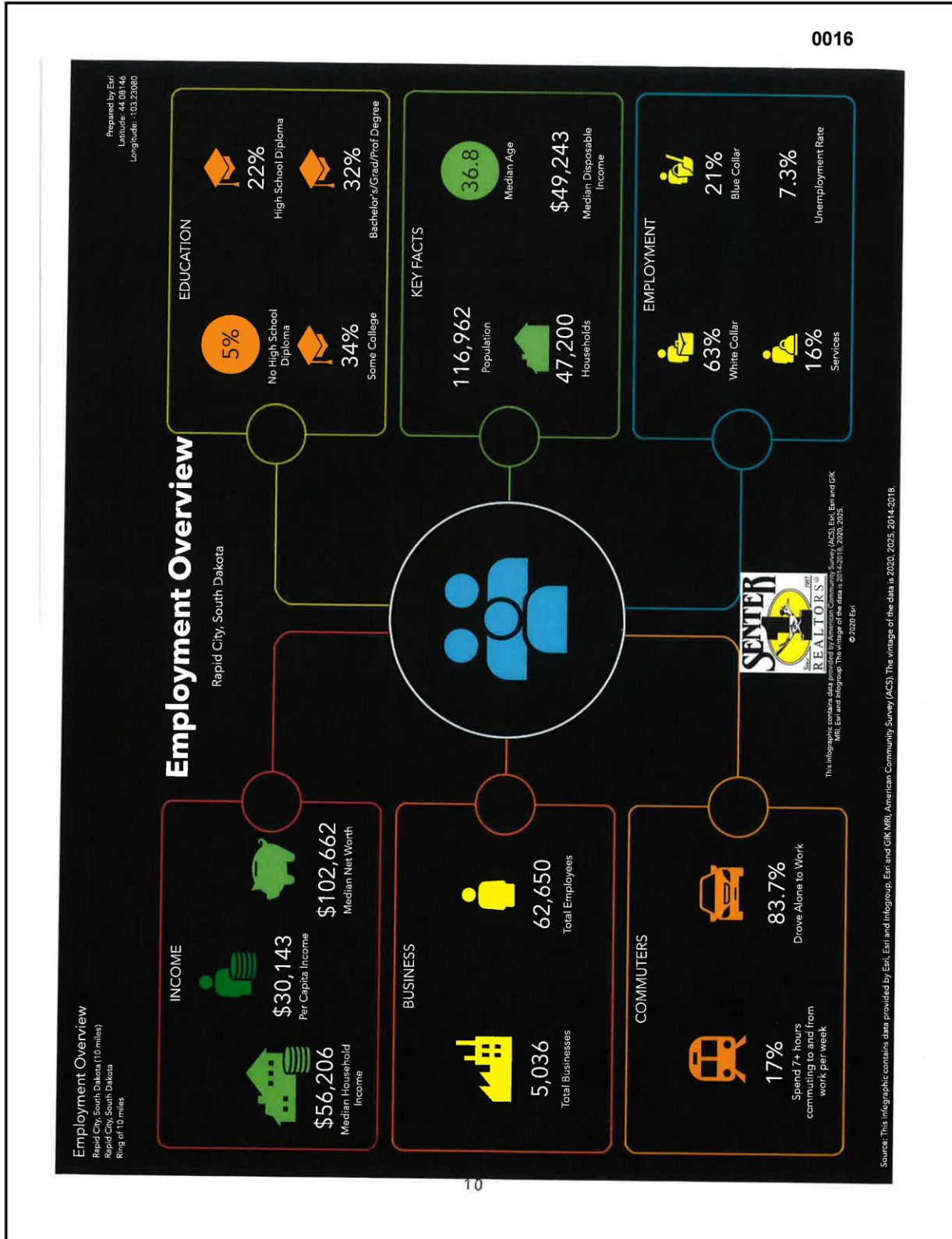
**KEY SPENDING FACTS**



This infographic contains data provided by Esri, Esri and Bureau of Labor Statistics, Esri and infogroup. The vintage of the data is 2020, 2025.

© 2020 Esri

Spending facts are average annual dollars per household





### QuickFacts

#### Rapid City city, South Dakota

QuickFacts provides statistics for all states and counties, and for cities and towns with a **population of 5,000 or more**.

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All Topics

Rapid City city,  
South Dakota

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Population estimates, July 1, 2019, (V2019)

77,503

PEOPLE

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Population

Population estimates, July 1, 2019, (V2019)

77,503

Population estimates base, April 1, 2010, (V2019)

68,994

Population, percent change - April 1, 2010 (estimates base) to July 1, 2019, (V2019)

12.3%

Population, Census, April 1, 2010

67,956

Age and Sex

GREW TO FAST  
INFRASTRUCTURE BEHIND

Persons under 5 years, percent

▲ 6.6%

Persons under 18 years, percent

▲ 23.3%

Persons 65 years and over, percent

▲ 17.6%

Female persons, percent

▲ 50.2%

Race and Hispanic Origin

OLDER POPULATION

White alone, percent

▲ 79.4%

Black or African American alone, percent (a)

▲ 1.2%

American Indian and Alaska Native alone, percent (a)

▲ 11.3%

Asian alone, percent (a)

▲ 1.7%

Native Hawaiian and Other Pacific Islander alone, percent (a)

▲ 0.0%

Two or More Races, percent

▲ 5.7%

Hispanic or Latino, percent (b)

▲ 5.3%

White alone, not Hispanic or Latino, percent

▲ 76.8%

		<b>0016</b>
<b>Population Characteristics</b>		
Veterans, 2014-2018		7,097
Foreign born persons, percent, 2014-2018		2.7%
<b>Housing</b>		X
Housing units, July 1, 2019, (V2019)		62.2%
Owner-occupied housing unit rate, 2014-2018		\$175,400
Median value of owner-occupied housing units, 2014-2018		\$1,362
Median selected monthly owner costs -with a mortgage, 2014-2018		\$508
Median selected monthly owner costs -without a mortgage, 2014-2018		\$816
Median gross rent, 2014-2018		X
Building permits, 2019		
<b>Families &amp; Living Arrangements</b>		
Households, 2014-2018		29,942
Persons per household, 2014-2018		2.34
Living in same house 1 year ago, percent of persons age 1 year+, 2014-2018		79.9%
Language other than English spoken at home, percent of persons age 5 years+, 2014-2018		4.8%
<b>Computer and Internet Use</b>		
Households with a computer, percent, 2014-2018		88.6%
Households with a broadband Internet subscription, percent, 2014-2018		80.5%
<b>Education</b>		
High school graduate or higher, percent of persons age 25 years+, 2014-2018		93.2%
Bachelor's degree or higher, percent of persons age 25 years+, 2014-2018		32.0%
<b>Health</b>		
With a disability, under age 65 years, percent, 2014-2018		9.8%
Persons without health insurance, under age 65 years, percent		▲ 14.7%
<b>Economy</b>		
In civilian labor force, total, percent of population age 16 years+, 2014-2018		64.5%
In civilian labor force, female, percent of population age 16 years+, 2014-2018		61.7%
Total accommodation and food services sales, 2012 (\$1,000) (c)		296,820
Total health care and social assistance receipts/revenue, 2012 (\$1,000) (c)		1,030,442
Total manufacturers shipments, 2012 (\$1,000) (c)		D
Total merchant wholesaler sales, 2012 (\$1,000) (c)		1,109,949



Total retail sales, 2012 (\$1,000) (c)	2,110,441
Total retail sales per capita, 2012 (c)	\$30,212
<b>Transportation</b>	
Mean travel time to work (minutes), workers age 16 years+, 2014-2018	15.9
<b>Income &amp; Poverty</b>	
Median household income (in 2018 dollars), 2014-2018	\$50,742
Per capita income in past 12 months (in 2018 dollars), 2014-2018	\$30,077
Persons in poverty, percent	▲ 16.0%
<b>BUSINESSES</b>	
<b>Businesses</b>	
Total employer establishments, 2018	X
Total employment, 2018	X
Total annual payroll, 2018 (\$1,000)	X
Total employment, percent change, 2017-2018	X
Total nonemployer establishments, 2018	X
All firms, 2012	7,495
Men-owned firms, 2012	4,031
Women-owned firms, 2012	2,192
Minority-owned firms, 2012	373
Nonminority-owned firms, 2012	6,699
Veteran-owned firms, 2012	855
Nonveteran-owned firms, 2012	5,828
<b>GEOGRAPHY</b>	
<b>Geography</b>	
Population per square mile, 2010	1,226.5
Land area in square miles, 2010	55.41
FIPS Code	4652980

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Thursday October 22, 2020, I called and visited with Brad Stone, city Planner with decades of experience in the Dyess AFB, Abilene TX area. I wanted to visit with him on the trends of Residential development and the housing availability in the next 5-10 years. His first comment Was, "There has always seemed to be plenty of Investors / Developers to create the new Subdivisions to continue to have an adequate supply of residential lots and multifamily housing", I concur with his observation.

Dyess AFB, Abilene is experiencing above average development of new residential subdivisions At the present time with 1,800 – 2,300 lots either nearing completion or have filed preliminary Plats with the city planning and development office. In our market where we typically have new housing starts of 250-300 per year this giving the projection our area will have ample supply for the next 7-10 years. One of these new areas called "the Harvest" will have over 540 lots developed through 3 phases with blended attractive commercial at its main entry point. (Preliminary plat is attached)

Mr. Stone commented that the city of Abilene administration is aggressively pursuing ways to Improve infrastructure in areas of town that have not had adequate water and sewer capacity in growth paths by upgrading present capacity or designing lift stations and building other models to open these areas up for future developments. These moves will increase the tax base and be catalyst for the growth needed to support Dyess AFB and its missions as well.

This is good news for future affordable housing over the next decade and beyond. Abilene area apartment homes occupancy's have been in the 90% range the last year. There are two new apartment communities nearing completion this year and two planned to be constructed in 2021-2022, that are all projected to add approximately over 800 units to our market area. There are several hundred apartment units available each month and there are over 130 rent houses, duplexes & town homes available in our market monthly (See attached list 10-23-20) plus units available by owner. Our military and other young families should have a great selection of affordable housing available to them for the next decade.

The Abilene area MLS housing inventory in normal years was around 500 or more listings a healthy 3-4 month supply, with the Covid issue across the country listing inventory is down in the 348 total properties for sale, families just staying in place. (Statistics attached Sept. 2020) We are a mobile society and people will start moving again to new opportunities when a Covid vaccine is available.

Abilene started a work group last month to produce a new Comprehensive Plan by Spring 2022 and they have great starting foundation from the Dyess AFB and Abilene Joint Land use Study completed in 2016 to protect the parties from Encroachment uses. (see copy attached )

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City of Abilene

# Abilene Housing Report

September 2020



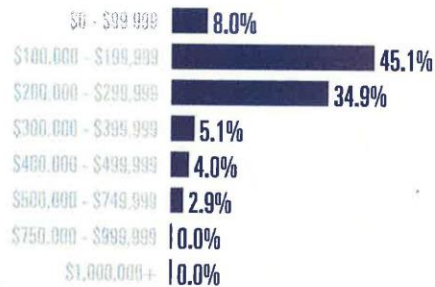
Median price

\$190,000

Up **10.1%**

Compared to September 2019

## Price Distribution



Active listings

Down **20.7%**

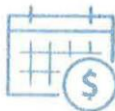
348 in September 2020



Closed sales

Up **17.1%**

178 in September 2020



Days on market

Days on market	39
Days to close	38
<b>Total</b>	<b>77</b>

8 days less than September 2019



Months of inventory

**2.2**

Compared to 3.0 in September 2019

**About the data used in this report**

Data used in this report come from the Texas REALTOR® Data Relevance Project, a partnership among the Texas Association of REALTORS® and local REALTOR® associations throughout the state. Analysis is provided through a research agreement with the Real Estate Center at Texas A&M University.



RENT HOUSE LIST  
OCTOBER 30, 2020

NO	DIR.	STREET	CITY	BEDS	BATHS	AVAILABLE	LEASE TYPE	PETS	LIST PRICE	DEPOSIT	SCHOOL DISTRICT	LIST OFFICE NAME	OFFICE PHONE
3560	N	9th	Abilene	3	1.1	10/11/2020	1 Year Plus, Yearly		\$1,250	\$1,000	Abilene ISD	solite Real Estate Management	(325) 307-5697
3826		Georgetown	Abilene	3	2	9/17/2020	1 Year Plus, Yearly		\$1,350	\$1,200	Wylie ISD, Taylor Co.	solite Real Estate Management	(325) 307-5697
143		Carriage Hills	Abilene	3	2	11/10/2020	1 Year Plus, Yearly		\$1,700	\$1,500	Abilene ISD	solite Real Estate Management	(325) 307-5697
7314		Connor	Abilene	4	2		1 Year Plus, Yearly		\$1,800	\$1,500	Abilene ISD	solite Real Estate Management	(325) 307-5697
534	E	North 7th	Abilene	2	1		Other, Yearly		\$675	\$700	Abilene ISD	ACE Property Solutions	(325) 232-6554
750		Kirkwood	Abilene	2	1		1 Year Plus		\$695	\$695	Abilene ISD	ACE Property Solutions	(325) 232-6554
310	S	Mockingbird	Abilene	2	1		Other, Yearly		\$900	\$900	Abilene ISD	ACE Property Solutions	(325) 232-6554
1333		Graham	Abilene	3	1		Yearly		\$955	\$745	Abilene ISD	ACE Property Solutions	(325) 232-6554
600		Westwood	Abilene	2	2		Other, Yearly		\$1,100	\$850	Abilene ISD	ACE Property Solutions	(325) 232-6554
1126	S	Bowie	Abilene	3	1		Other, Yearly		\$1,200	\$950	Abilene ISD	ACE Property Solutions	(325) 232-6554
1361	S	Jefferson	Abilene	3	2		Other, Yearly		\$1,295	\$1,295	Abilene ISD	ACE Property Solutions	(325) 232-6554
1458		Rosewood	Abilene	3	2		1 Year Plus		\$1,495	\$1,495	Abilene ISD	ACE Property Solutions	(325) 232-6554
534		En 21st	Abilene	4	3		Other, Yearly		\$1,500	\$1,500	Abilene ISD	ACE Property Solutions	(325) 232-6554
13		Mission	Abilene	4	2	12/1/2020	1 Year Plus		\$2,200	\$2,200	Wylie ISD, Taylor Co.	Pro Investment Management	(325) 690-4000
1517		Cedar Crest	Abilene	3	2		Yearly		\$1,200	\$600	Abilene ISD	Arnold-REALTORS	(325) 692-3274
701		Cherry	Merkel	2	1	7/10/2020	Yearly		\$525	\$300	Merkel ISD	Augusta, REALTORS	(325) 829-5375
305		Oak	Merkel	2	1	10/23/2020	Yearly		\$550	\$400	Merkel ISD	Augusta, REALTORS	(325) 829-5375
649	E	North 18th	Abilene	1	1	7/17/2020	Yearly		\$595	\$400	Abilene ISD	Augusta, REALTORS	(325) 829-5375
1705	S	3rd	Abilene	2	1	8/10/2020	Yearly		\$595	\$300	Abilene ISD	Augusta, REALTORS	(325) 829-5375
1717	N	6th	Abilene	1	1		Yearly	Yes	\$625	\$300	Abilene ISD	Augusta, REALTORS	(325) 829-5375
2400		Buffalo Gap	Abilene	1	1	5/1/2017	Yearly	Yes	\$625	\$300	Abilene ISD	Augusta, REALTORS	(325) 829-5375
2232		Lowden	Abilene	2	1	11/14/2020	Yearly		\$650	\$400	Abilene ISD	Augusta, REALTORS	(325) 829-5375
2231		Lowden	Abilene	2	1	1/10/2021	Yearly		\$695	\$500	Abilene ISD	Augusta, REALTORS	(325) 829-5375
1126		Cedar	Abilene	2	1	10/16/2020	Yearly	Yes	\$695	\$300	Abilene ISD	Augusta, REALTORS	(325) 829-5375
2400		Buffalo Gap	Abilene	2	1	3/5/2017	Yearly		\$725	\$500	Merkel ISD	Augusta, REALTORS	(325) 829-5375
302		High Cotton	Merkel	2	2	10/2/2020	Yearly		\$745	\$350	Abilene ISD	Augusta, REALTORS	(325) 829-5375
2400		Buffalo Gap	Abilene	2	1.1	11/20/2018	Yearly	Yes	\$775	\$300	Abilene ISD	Augusta, REALTORS	(325) 829-5375
565		Main	Lawr	2	1	11/10/2020	Yearly		\$800	\$800	Jim Neel Cont ISD	Augusta, REALTORS	(325) 829-5375
2400		Buffalo Gap	Abilene	3	2	5/1/2017	Yearly	Yes	\$875	\$400	Abilene ISD	Augusta, REALTORS	(325) 829-5375
2872		Buffalo Gap	Abilene	2	2	12/10/2020	Yearly		\$895	\$700	Abilene ISD	Augusta, REALTORS	(325) 829-5375
2800		Sayles	Abilene	3	2	11/1/2016	Yearly	Yes	\$945	\$400	Abilene ISD	Augusta, REALTORS	(325) 829-5375
1642		Poplar	Abilene	3	2	9/18/2020	Yearly		\$980	\$700	Abilene ISD	Augusta, REALTORS	(325) 829-5375
56		Tamarisk	Abilene	3	3	9/10/2020	Yearly		\$1,850	\$1,850	Wylie ISD, Taylor Co.	Augusta, REALTORS	(325) 829-5375
1150		Palm	Abilene	1	1		Yearly		\$550	\$250	Abilene ISD	Barnett & Hill	(325) 677-3500
1317		Amarillo	Abilene	1	1		Yearly		\$595	\$250	Abilene ISD	Barnett & Hill	(325) 677-3500
2401		State	Abilene	3	1		Yearly		\$875	\$500	Abilene ISD	Barnett & Hill	(325) 677-3500
2371		Moore	Abilene	3	1		Yearly		\$1,025	\$700	Abilene ISD	Barnett & Hill	(325) 677-3500
3094		Purdue	Abilene	3	2		Yearly		\$1,295	\$700	Wylie ISD, Taylor Co.	Barnett & Hill	(325) 677-3500
2218		Independence	Abilene	3	2		Yearly		\$1,300	\$500	Abilene ISD	Barnett & Hill	(325) 677-3500
1785	N	11th	Abilene	3	2	7/1/2020	Yearly		\$1,350	\$1,000	Abilene ISD	Beall & Company, REALTORS	(325) 698-4659
718		Vine	Abilene	3	1		Yearly		\$1,000	\$925	Abilene ISD	Caterero, REALTORS	(325) 232-8876
4106		Russell	Abilene	3	1		Yearly		\$750	\$500	Abilene ISD	Beall & Company, REALTORS	(325) 698-3820
801	S	Pioneer	Abilene	3	2	9/11/2020	Yearly		\$875	\$650	Abilene ISD	Beall & Company, REALTORS	(325) 698-3820
1750	N	5th	Abilene	1	1		Yearly		\$495	\$400	Abilene ISD	Dalzell, REALTORS	(325) 677-2246
1942		State	Abilene	2	1		Yearly		\$525	\$400	Abilene ISD	Dalzell, REALTORS	(325) 677-2246
6		Teakwood	Abilene	1	1		Yearly		\$650	\$650	Abilene ISD	Dalzell, REALTORS	(325) 677-2246
65		Teakwood	Abilene	1	1		Yearly		\$650	\$650	Abilene ISD	Dalzell, REALTORS	(325) 677-2246



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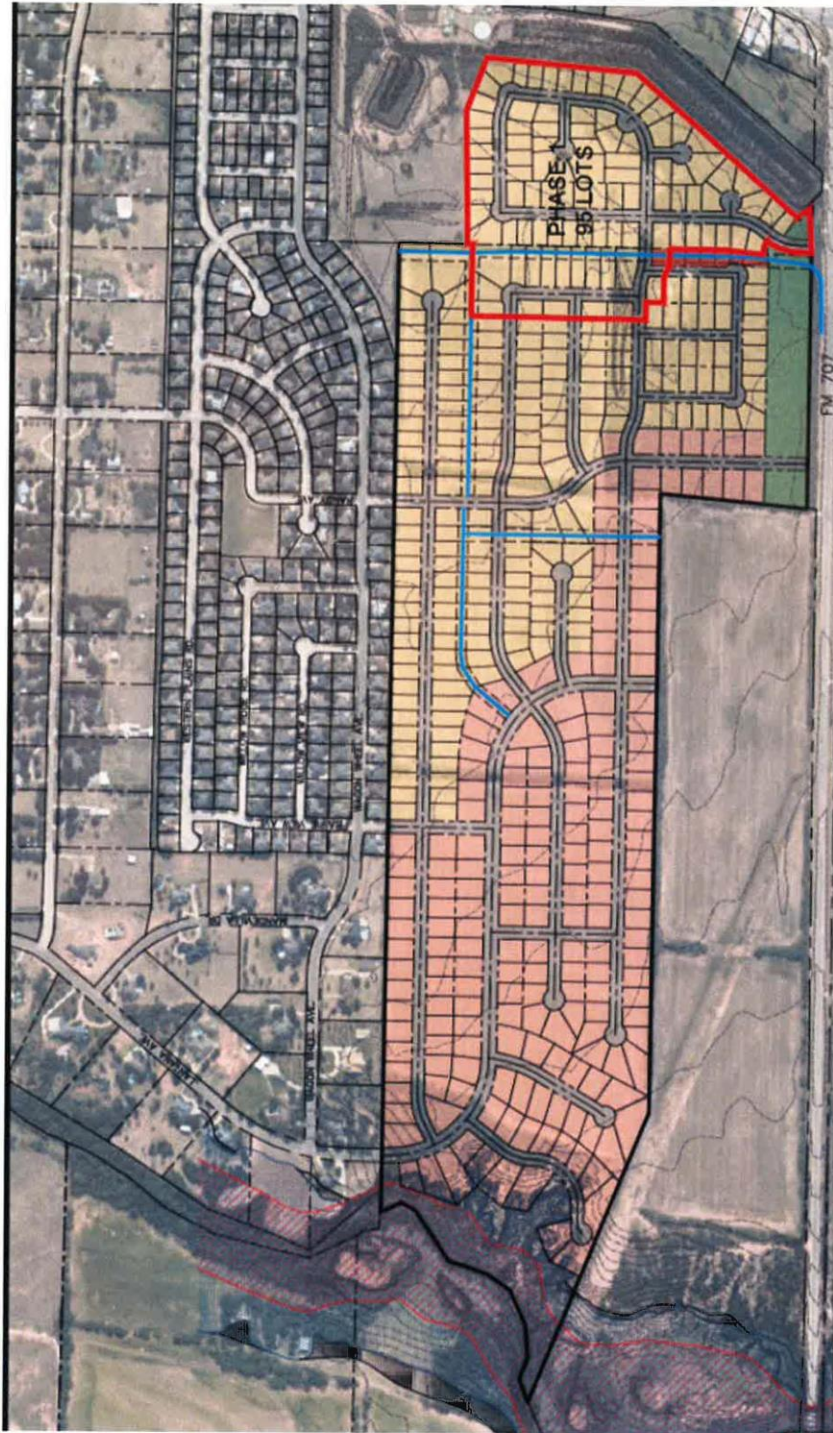
OCTOBER 30, 2020

NO	DIR.	STREET	CITY	BEDS	BATHS	AVAILABLE	Lease Type	PETS	List Price	DEPOSIT	School District	List Office Name	Office Phone
1717		Briarwood	Abilene	2	1		Yearly		\$695	\$500	Abilene ISD	Daizell, REALTORS	(325) 677-2246
5325		Pueblo	Abilene	2	1		Yearly		\$725	\$600	Abilene ISD	Daizell, REALTORS	(325) 677-2246
121		Pack Saddie	Abilene	1	1		Yearly		\$750	\$750	Wylie ISD, Taylor Co.	Daizell, REALTORS	(325) 677-2246
1141		Palm	Abilene	3	1		Yearly		\$750	\$500	Abilene ISD	Daizell, REALTORS	(325) 677-2246
11		Teakwood	Abilene	2	1		Yearly		\$850	\$700	Abilene ISD	Daizell, REALTORS	(325) 677-2246
1633	S	15th	Abilene	3	2		Yearly		\$895	\$750	Abilene ISD	Daizell, REALTORS	(325) 677-2246
2803	S	20th	Abilene	3	1.1		Yearly		\$950	\$800	Abilene ISD	Daizell, REALTORS	(325) 677-2246
665		EN 23rd	Abilene	3	2		Yearly		\$975	\$800	Abilene ISD	Daizell, REALTORS	(325) 677-2246
5356		Fairmont	Abilene	3	2		Yearly		\$1,100	\$800	Abilene ISD	Daizell, REALTORS	(325) 677-2246
3242		Whitewing	Abilene	4	2		Yearly		\$1,450	\$1,000	Wylie ISD, Taylor Co.	Daizell, REALTORS	(325) 677-2246
4041		Esman	Abilene	4	2		Yearly		\$1,895	\$1,000	Wylie ISD, Taylor Co.	Daizell, REALTORS	(325) 677-2246
2812		Russell	Abilene	2	1	11/4/2020	Yearly		\$595	\$500	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
1146		Palm	Abilene	1	1	10/26/2020	Yearly		\$595	\$500	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
940		Cedar	Abilene	1	1	11/8/2020	Yearly		\$595	\$500	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
1102		Blair	Abilene	2	1	10/19/2020	Yearly		\$695	\$600	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
1209	N	10th	Abilene	2	1	10/20/2020	Yearly		\$750	\$700	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
1325		Marshall	Abilene	2	1	10/6/2020	Yearly		\$735	\$700	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
4909	S	6th	Abilene	2	2	11/26/2020	Yearly		\$895	\$800	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
351		Somerset	Abilene	2	2	11/20/2020	Yearly		\$895	\$800	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
2603	S	27th	Abilene	3	1	10/22/2020	Yearly		\$950	\$900	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
50		Teakwood	Abilene	2	1	10/28/2020	Yearly		\$950	\$900	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
942		Cedar	Abilene	2	1.1	10/20/2020	Yearly		\$950	\$900	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
1142		Palm	Abilene	3	1	10/23/2020	Yearly		\$955	\$900	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
3166		Chimney	Abilene	2	1.1	11/27/2020	Yearly		\$955	\$900	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
5234		Foxmoor	Abilene	3	2	11/8/2020	Yearly		\$1,195	\$1,000	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
4008	N	10th	Abilene	3	2	12/7/2020	Yearly		\$1,195	\$1,100	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
2926	S	22nd	Abilene	3	1.1	9/15/2020	Yearly		\$1,395	\$1,300	Wylie ISD, Taylor Co.	Gerard Real Estate, LLC	(325) 690-1020
3950		Trinity	Abilene	3	2	11/30/2020	Yearly		\$1,395	\$1,300	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
2729		Caton	Abilene	3	2.1	12/7/2020	Yearly		\$1,395	\$1,300	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
5509		Castle	Abilene	3	2	9/12/2020	Yearly		\$1,695	\$1,600	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
3574		Firedog	Abilene	3	2	11/6/2020	Yearly		\$1,695	\$1,600	Abilene ISD	Gerard Real Estate, LLC	(325) 690-1020
173		White Tail	Tuscola	3	2	11/2/2020	Yearly		\$1,895	\$1,800	Wylie ISD, Taylor Co.	Gerard Real Estate, LLC	(325) 690-1020
1665		Chachalaca	Abilene	3	1.1	11/1/2020	Other		\$1,100	\$1,000	Abilene ISD	Homefinders Realty	(325) 690-0222
3933		MIMOSA	Abilene	4	1		Yearly		\$1,150	\$950	Abilene ISD	Homefinders Realty	(325) 690-0222
3933		Janice	Abilene	4	2	11/1/2020	Yearly		\$1,295	\$1,200	Abilene ISD	Homefinders Realty	(325) 690-0222
3826	S	20th	Abilene	3	2		Yearly		\$1,495	\$1,395	Abilene ISD	Homefinders Realty	(325) 690-0222
509	S	8th	Merkl	3	2	11/5/2020	1 Year Plus		\$1,750	\$1,250	Merkl ISD	& K REALTORS AND ASSO. LLC	(325) 268-4848
1625		Partridge	Abilene	3	2	10/15/2020	1 Year Plus		\$1,150	\$1,250	Abilene ISD	& K REALTORS AND ASSO. LLC	(325) 268-4848
5818		Quail Run	Abilene	3	2	10/26/2020	1 Year Plus		\$1,350	\$1,350	Abilene ISD	& K REALTORS AND ASSO. LLC	(325) 268-4848
810		Swift Water	Abilene	3	2	12/1/2020	1 Year Plus		\$1,550	\$1,550	Abilene ISD	& K REALTORS AND ASSO. LLC	(325) 268-4848
3101		Button Willow	Abilene	3	2	11/6/2020	Yearly		\$1,000	\$1,000	Wylie ISD, Taylor Co.	Keller Williams Realty	(325) 692-4488
702		Graham st	Tuscola	1	1.1		Other, Six Month, Yearly		\$1,400	\$1,000	Abilene ISD	Keller Williams Realty	(325) 692-4488
3815		KALA	Abilene	3	2	1/1/2021	Yearly		\$599	\$1,595	Abilene ISD	Keller Williams Realty	(325) 692-4488
657		Ruidosa	Abilene	1	1	11/15/2020	Yearly		\$599	\$300	Abilene ISD	roperty Management & Real	(325) 690-0123
5450	S	7th	Abilene	1	1	10/15/2020	Yearly		\$599	\$500	Abilene ISD	roperty Management & Real	(325) 690-0123
5451		Laguna	Abilene	1	1	10/15/2020	Yearly		\$599	\$500	Abilene ISD	roperty Management & Real	(325) 690-0123
200	N	Jefferson	Abilene	2	1	11/15/2020	Yearly		\$649	\$590	Abilene ISD	roperty Management & Real	(325) 690-0123
400	N	Jefferson	Abilene	2	1	11/15/2020	Yearly		\$649	\$590	Abilene ISD	roperty Management & Real	(325) 690-0123

OCTOBER 30, 2020

NO	DIR.	STREET	City	BEDS	BATHS	AVAILABLE	Lease Type	PETS	List Price	DEPOSIT	School District	List Office Name	Office Phone
5401		LAGUNA	Ablene	2	1	8/24/2020	Yearly		\$689	\$350	Ablene ISD	roperty Management & Real	(325) 690-0123
161	S	Pioneer	Ablene	3	2	9/15/2020	Yearly		\$690	\$350	Ablene ISD	roperty Management & Real	(325) 690-0123
5401		LAGUNA	Ablene	2	1	12/15/2020	Yearly		\$749	\$350	Ablene ISD	roperty Management & Real	(325) 690-0123
5401		LAGUNA	Ablene	2	2	10/15/2020	Yearly		\$749	\$350	Ablene ISD	roperty Management & Real	(325) 690-0123
5402	S	7th	Ablene	2	2.1	9/17/2020	Yearly		\$749	\$350	Ablene ISD	roperty Management & Real	(325) 690-0123
657		Ruidosa	Ablene	2	2	9/15/2020	Yearly		\$749	\$350	Ablene ISD	roperty Management & Real	(325) 690-0123
657		Ruidosa	Ablene	2	2	7/15/2020	Yearly		\$749	\$350	Ablene ISD	roperty Management & Real	(325) 690-0123
657		Ruidosa	Ablene	2	2	6/24/2020	Yearly		\$749	\$350	Ablene ISD	roperty Management & Real	(325) 690-0123
5131		Encino	Ablene	3	1	9/30/2020	Yearly		\$899	\$350	Ablene ISD	roperty Management & Real	(325) 690-0123
702		Mulberry	Ablene	3	1.1		1 Year Plus		\$795	\$350	Ablene ISD	RE/MAX OF ABILENE	(325) 695-3730
4710		State	Ablene	3	1		1 Year Plus		\$1,050	\$800	Ablene ISD	RE/MAX OF ABILENE	(325) 695-3730
4954		Greenslope	Ablene	3	2	9/17/2020	1 Year Plus, Monthly		\$1,065	\$800	Ablene ISD	RE/MAX OF ABILENE	(325) 695-3730
2650		Madison	Ablene	2	1		1 Year Plus		\$1,095	\$1,095	Ablene ISD	RE/MAX OF ABILENE	(325) 695-3730
3758		Radcliff	Ablene	3	1.1	11/1/2020	1 Year Plus		\$1,200	\$800	Wylie ISD, Taylor Co.	RE/MAX OF ABILENE	(325) 695-3730
1442	N	Willis	Ablene	4	2		1 Year Plus		\$1,375	\$1,450	Ablene ISD	RE/MAX OF ABILENE	(325) 695-3730
1702		Belmont	Ablene	3	2	10/1/2020	Yearly		\$1,400	\$1,400	Ablene ISD	RE/MAX OF ABILENE	(325) 695-3730
1142		Washington	Ablene	3	2	8/5/2020	1 Year Plus		\$1,400	\$1,000	Ablene ISD	RE/MAX OF ABILENE	(325) 695-3730
526	N	La Salle	Ablene	3	2	11/1/2020	1 Year Plus	Lease Purchase Option, Yearly	\$3,450	\$1,000	Ablene ISD	Red Apple, REALTORS	(325) 437-6029
1309		Yeomans	Ablene	2	1	11/1/2020	1 Year Plus		\$825	\$625	Ablene ISD	Red Apple, REALTORS	(325) 437-6029
2789		Beech	Ablene	3	2	10/28/2020	1 Year Plus		\$1,095	\$895	Ablene ISD	Red Apple, REALTORS	(325) 437-6029
2702		Bennett	Ablene	3	1.1	10/22/2020	1 Year Plus		\$1,095	\$895	Ablene ISD	Red Apple, REALTORS	(325) 437-6029
3618		Georgetown	Ablene	3	1	11/1/2020	1 Year Plus		\$1,095	\$895	Wylie ISD, Taylor Co.	Red Apple, REALTORS	(325) 437-6029
4417		Somerset	Ablene	3	2	9/1/2020	Yearly		\$1,195	\$1,195	Ablene ISD	Red Apple, REALTORS	(325) 437-6029
6001		Michael	Ablene	3	2	12/1/2020	1 Year Plus		\$1,365	\$1,195	Ablene ISD	Red Apple, REALTORS	(325) 437-6029
3017		Stoncrest	Ablene	3	2	11/10/2020	1 Year Plus		\$1,365	\$1,195	Ablene ISD	Red Apple, REALTORS	(325) 437-6029
1417		Griffith	Ablene	1	1	10/22/2020	1 Year Plus, Yearly		\$1,595	\$1,595	Ablene ISD	Red Apple, REALTORS	(325) 437-6029
262		Bella	Ablene	3	2	11/1/2020	1 Year Plus		\$1,795	\$1,595	Ablene ISD	Red Apple, REALTORS	(325) 437-6029
5334		Taos	Ablene	3	1	10/28/2020	Yearly		\$650	\$550	Ablene ISD	Redman Realtors	(325) 698-3211
3818		Westchester	Ablene	3	2.1	9/9/2020	1 Year Plus		\$1,525	\$800	Ablene ISD	Senter, REALTORS	(325) 695-8000
4953		Greenslope	Ablene	3	2	9/15/2020	Yearly		\$1,099	\$800	Ablene ISD	Stovall Property Management	
310		Meander	Ablene	3	2	11/1/2020	Yearly		\$1,150	\$500	Ablene ISD	Stovall Property Management	
3825		Kala	Ablene	3	2		Yearly		\$1,585	\$1,595	Ablene ISD	Tonya Harbin Real Estate	
3823		Kala	Ablene	3	2	1/1/2021	Yearly		\$1,585	\$1,595	Ablene ISD	Tonya Harbin Real Estate	

(20200922) Lot Layout for Phase 1 of The Harvest.pdf



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# DYESS AFB

## JOINT LAND USE STUDY



### Project Overview / Compatibility Factors

### Fact Sheet #1

#### What Is a Joint Land Use Study?

A Joint Land Use Study (JLUS) is a cooperative planning effort conducted as a joint venture between an active military installation, surrounding jurisdictions, state and federal agencies, and other affected stakeholders to address compatibility around military installations. The Dyess Air Force Base (AFB) JLUS is funded by a grant from the Department of Defense Office of Economic Adjustment (OEA) and contributions by the JLUS sponsor, City of Abilene, Texas. The JLUS effort can directly benefit both Dyess AFB and the surrounding region by:

- *Protecting the health and safety of surrounding residents and workers;*
- *Preserving long-term land use compatibility between Dyess AFB and the surrounding communities;*
- *Promoting community planning that addresses compatibility issues;*
- *Enhancing cooperation between Dyess AFB and community officials; and*
- *Integrating surrounding local jurisdiction growth policy plans with the installation's plans.*

#### What Are the Goal and Objectives of a JLUS?

The goal of a JLUS is to reduce potential conflicts between military installations and surrounding areas while accommodating new growth and economic development, sustaining economic vitality, protecting public health and safety, and protecting the operational missions of Dyess AFB. JLUS programs have three core objectives:

**UNDERSTANDING.** Increase communication between the military, local jurisdictions, and other stakeholders to promote an understanding of the strong economic and physical relationship between Dyess AFB and its neighbors.

**COLLABORATION.** Promote collaborative planning between the military, local jurisdictions, and other stakeholders in order to ensure a consistent approach in addressing compatibility issues.

**ACTIONS.** Develop and implement strategies for reducing the impacts of existing and future incompatible activities on the community and military operations.

#### Who Will Guide the JLUS Development?

Two committees (comprising the City of Abilene, City of Tye, Taylor County, military, and other stakeholders), together with the public, will guide the development of the JLUS. Each group has an important role to play.

**POLICY COMMITTEE (PC).** This committee contains elected officials representing jurisdictions in the JLUS Study Area, federal and state agency officials, and military leadership. The PC is responsible for direction of the JLUS and monitoring the implementation and adoption of policies and strategies.

**TECHNICAL ADVISORY COMMITTEE (TAC).** This committee contains representatives from local jurisdictions, agencies, and other stakeholders with expertise in one or more of the 25 compatibility factors identified on pages 2 and 3. The TAC identifies and addresses technical issues, provides feedback on report development, and assists in the development and evaluation of implementation strategies.

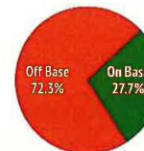
**PUBLIC.** The public will be involved in the development of the JLUS by providing input to the process, informing the representatives of the PC of their concerns and recommendations, submitting comments and feedback online at [www.dyessjlus.com](http://www.dyessjlus.com), and participating in the JLUS public workshops.

#### Why Is It Important to Partner with Dyess Air Force Base?

Dyess AFB is a strategic asset in the United States Air Force and is home to the 7th Bomb Wing. According to the Economic Impact Statement for fiscal year 2014, Dyess AFB has a population made up of military personnel and their dependents, civilian personnel, and retired personnel totaling over 13,800 people, of which about 72% live off base and are dependent on the community housing inventory. Dyess AFB is the largest employer for the City of Abilene and provides 4,911 base jobs and creates 1,518 indirect jobs. Based on payroll, contracts, and secondary job creation, the base's total annual economic impact on the region was nearly \$433 million in 2014.

#### MILITARY PERSONNEL LIVING ON & OFF BASE by %

Dyess Air Force Base, Texas  
Fiscal Year 2014



#### What Is Compatibility?

Compatibility, in relation to military readiness, can be defined as the balance and / or compromise between community and military needs and interests. The goal of compatibility planning is to promote an environment where both entities can coexist successfully. Study Area data on existing conditions obtained from the PC, TAC, and public workshops will be analyzed to identify current and future compatibility issues. This analysis will also identify the influence of regulatory measures on land use decisions and will consider existing and projected development trends within the Study Area. The JLUS will assess a set of 25 compatibility factors to identify all pertinent issues. **A description and acronym for each of the 25 compatibility factors can be found on pages 2 and 3 of this fact sheet.**

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## 25 Compatibility Factors

**AQ Air Quality**  
 Air quality is defined by numerous components that are regulated at the federal and state level. For compatibility, the primary concerns are pollutants that limit visibility (such as particulates, ozone, etc.) and potential non-attainment of air quality standards that may limit future changes in operations at the installation or in the area.

**AT Anti-Terrorism / Force Protection**  
 Anti-Terrorism / Force Protection (AT / FP) relates to the safety of personnel, facilities, and information on an installation from outside threats. Methods to protect the installation and its supportive facilities can impact off-installation uses.

**BIO Biological Resources**  
 Biological resources include federal and state listed species (threatened and endangered species) and the habitats they live in or utilize. These resources may also include areas such as wetlands and migratory corridors that support these species. The presence of sensitive biological resources may require special development considerations and should be included early in the planning process.

**CA Climate Adaptation**  
 Climate adaptation is the effort to prepare for future climate changes resulting from natural factors and human activities that influence long-term atmospheric conditions. The effects may include fluctuations in sea levels, storm and tidal surges, and changes in flood potential, which can present operational and planning challenges for the military and communities.

**COM Communication/ Coordination**  
 Communication / coordination relates to the level of interaction on compatibility issues among military installations, jurisdictions, land and resource management agencies, and conservation authorities.

**CR Cultural Resources**  
 Cultural resources may prevent development, apply development constraints, or require special access by Native American tribes, other groups, or governmental regulatory authorities.

**DSS Dust / Smoke / Steam**  
 Dust results from the suspension of particulate matter in the air. Dust (and smoke) can be created by fire (controlled burns, agricultural burning, and artillery exercises), ground disturbance (agricultural activities, military operations, grading), industrial activities, or other similar processes. Dust, smoke, and steam are compatibility issues if sufficient in quantity to impact flight operations (such as reduced visibility or cause equipment damage).

**ED Energy Development**  
 Development of energy sources, including alternative energy sources (such as solar, wind, or biofuels) could pose compatibility issues related to glare (solar energy), vertical obstruction (wind generation), or water quality / quantity.



**FSC Frequency Spectrum Capacity**  
 In a defined area, the frequency spectrum is limited. Frequency spectrum capacity is critical for maintaining existing and future missions and communications on installations. This is also addressed from the standpoint of consumer electronics.

**FSI Frequency Spectrum Impedance / Interference**  
 Frequency spectrum impedance and interference refers to the interruption of electronic signals by a structure or object (impedance) or the inability to distribute / receive a particular frequency because of similar frequency competition (interference).

**HA Housing Availability**  
 Housing availability addresses the supply and demand for housing in the region. It also identifies the competition for shelter that may result from changes in the number of military personnel and the supply of military family housing provided by the installation.



**IE Infrastructure Extensions**  
 This factor covers the extension or provision of infrastructure (roads, sewer, water, etc.) in the vicinity of the installation. Infrastructure can enhance the operations of the installation by providing needed services, such as sanitary sewer treatment capacity and transportation systems. However, enhanced or expanded infrastructure could also encourage growth into areas near the installation that might not be compatible with current or future missions.

**LAS Land / Air Space Competition**  
 The military manages or uses land and air space to accomplish testing, training, and operational missions. These resources must be available and of sufficient size, cohesiveness, and quality to accommodate effective training and testing. Military and civilian air operations can compete for limited air space, especially when the airfields are in close proximity to each other. Use of this shared resource can impact future growth in operations for all users.

**LU Land Use**

The basis of land use planning relates to the government's role in protecting the public's health, safety, and welfare. County and local jurisdictions' growth policy / general plans and zoning ordinances can be the most effective tools for avoiding or resolving land use compatibility issues. These tools ensure the separation of land uses that differ significantly in character. Land use separation also applies to properties where the use of one property may impact the use of another. For instance, industrial uses are often separated from residential uses to avoid impacts related to noise, odors, and lighting.

**LEG Legislative Initiatives**

Legislative initiatives are federal, state, or local laws and regulations that may have a direct or indirect effect on a military installation to conduct its current or future mission. They can also constrain development potential in areas surrounding the installation.

**LG Light and Glare**

This factor refers to man-made lighting (street lights, airfield lighting, building lights) and glare (direct or reflected light) that disrupts vision. Light sources from commercial, industrial, recreational, and residential uses at night can cause excessive glare and illumination, impacting the use of military night vision devices and air operations. Conversely, high intensity light sources generated from a military area (such as ramp lighting) may have a negative impact on the adjacent community.

**MAR Marine Environments**

Regulatory or permit requirements protecting marine and ocean resources can cumulatively affect the military's ability to conduct operations, training exercises, or testing in a water-based environment.

**NOI Noise**

From a technical perspective, sound is the mechanical energy transmitted by pressure waves in a compressible medium such as air. More simply stated, sound is what we hear. As sound reaches unwanted levels, this is referred to as noise. The central issue of noise is the impact, or perceived impact, on people, animals (wild and domestic), and general land use compatibility. Exposure to high noise levels can have a significant impact on human or animal activity, health, and safety.

**PT Public Trespassing**

This factor addresses public trespassing, either purposeful or unintentional, onto a military installation. The potential for trespassing increases when public use areas are in close proximity to the installation.

**RC Roadway Capacity**

Roadway capacity relates to the ability of existing freeways, highways, arterials, and other local roads to provide adequate mobility and access between military installations and their surrounding communities.

**SA Safety Zones**

Safety zones are areas in which development should be more restrictive due to the higher risks to public safety. Issues to consider include accident potential zones, weapons firing range safety zones, and explosive safety zones.

**SNR Scarce Natural Resources**

Pressure to gain access to valuable natural resources (such as oil, natural gas, minerals, and water resources) located on military installations, within military training areas, or on public lands historically used for military operations can impact land utilization and military operations.

**VO Vertical Obstructions**

Vertical obstructions are created by buildings, trees, structures, or other features that may encroach into the navigable airspace used for military operations (aircraft approach, transitional, inner horizontal, outer horizontal, and conical areas, as well as military training routes). These can present a safety hazard to both the public and military personnel.

**V Vibration**

Vibration is an oscillation or motion that alternates in opposite directions and may occur as a result of an impact, explosion, noise, mechanical operation, or other change in the environment. Vibration may be caused by military and/or civilian activities.

**WQQ Water Quality / Quantity**

Water quality / quantity concerns include the assurance that adequate water supplies of good quality are available for use by the installation and surrounding communities as the area develops. Water supply for agricultural and industrial use is also considered.

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**Fact Sheet #1: Project Overview / Compatibility Factors**

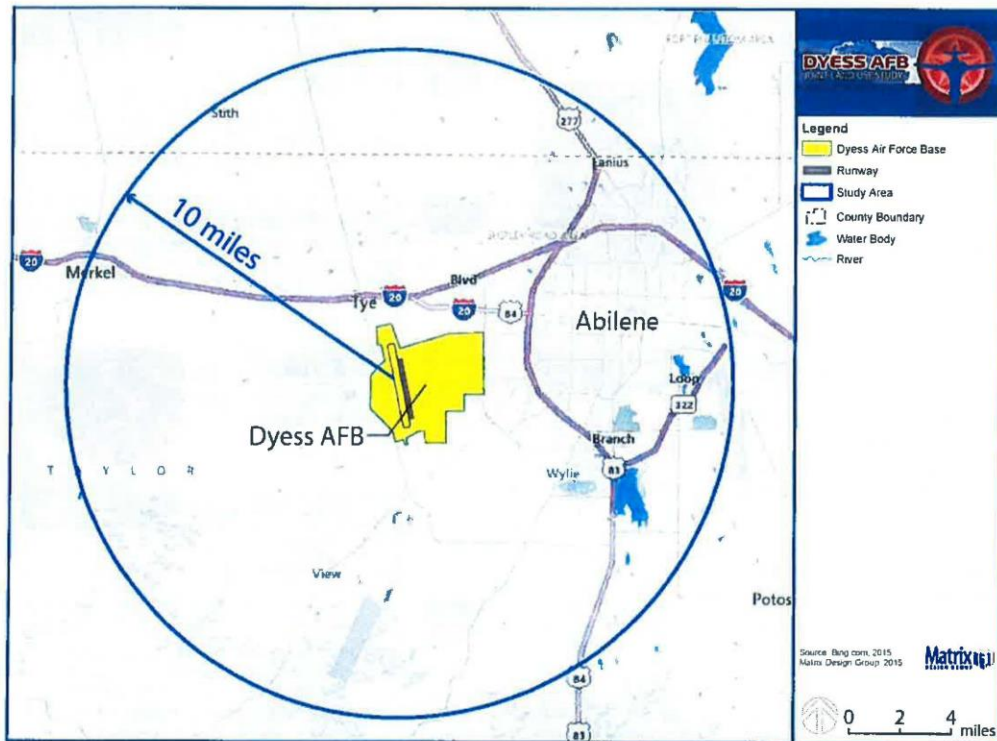
**What Will the Dyess AFB JLUS Provide?**

- The Dyess AFB JLUS will provide stakeholders with:
- A land use assessment for surrounding potential growth areas;
  - A baseline of existing incompatible land uses around the installation;
  - An assessment of regional and local growth trends;
  - A plan to assist surrounding communities in making informed decisions regarding compatibility; and
  - Recommendations and strategies to promote compatible land use planning around Dyess AFB and within the surrounding communities.

**What is the Dyess AFB JLUS Study Area?**

Dyess AFB is located in Taylor County in north-central Texas. The installation is within the city limits of the City of Abilene and is adjacent to the City of Tye. The base is 5,366 acres and has one primary airfield with a runway that is 13,500 feet long by 300 feet wide, a paved Landing Zone Runway, and a semi improved Landing Zone Runway.

The JLUS Study Area encompasses all lands within a 10-mile area around Dyess AFB. The Dyess AFB JLUS Study Area may be further defined as the JLUS process continues. A map of the Study Area is shown below.



*This study was prepared under contract with the City of Abilene with financial support from the Office of Economic Adjustment, Department of Defense. The content reflects the views of the key JLUS partners involved in the development of this study and does not necessarily reflect the views of the Office of Economic Adjustment.*

**For Additional  
Information  
Contact:**



**CITY OF ABILENE**

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Abilene, TX 79602  
(325) 676-6061  
don.green@abilenetx.com



**Matrix  
DESIGN GROUP**

Rev. 2016 01 13a

**Stay up-to-date on the Dyess AFB JLUS at [www.dyessjlus.com](http://www.dyessjlus.com)**

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I called the Rapid City Planning office on Thursday October 22, 2020, I visited with Fletcher Lacock, Planner with the city and Ellsworth area for over 8 years. I wanted his knowledge and thoughts on the Residential development trends and possible new housing locations in the coming years. His first comment was “. They have a short supply of development lots due to limited infrastructure capability and the Terrain issues in the area that presents challenges”.

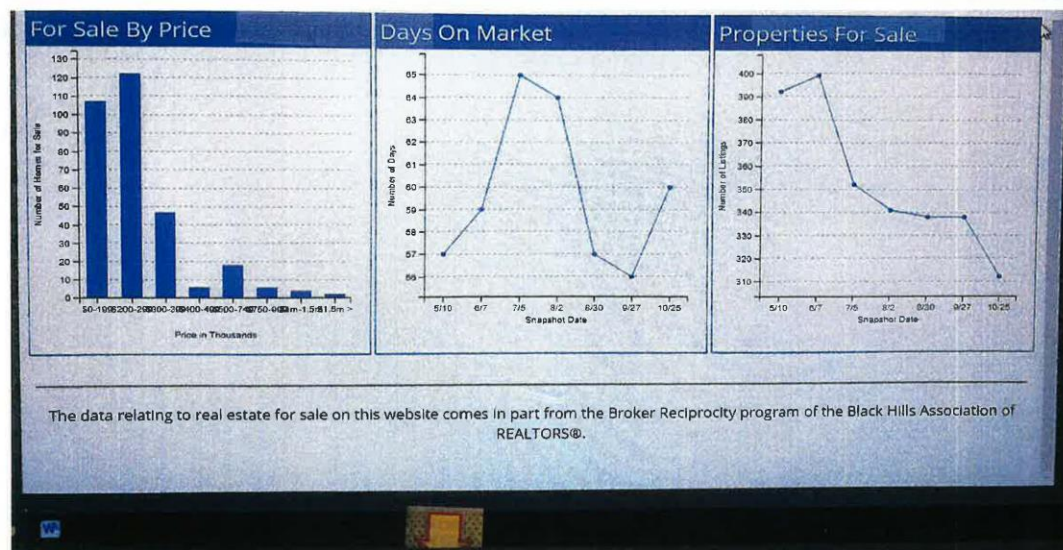
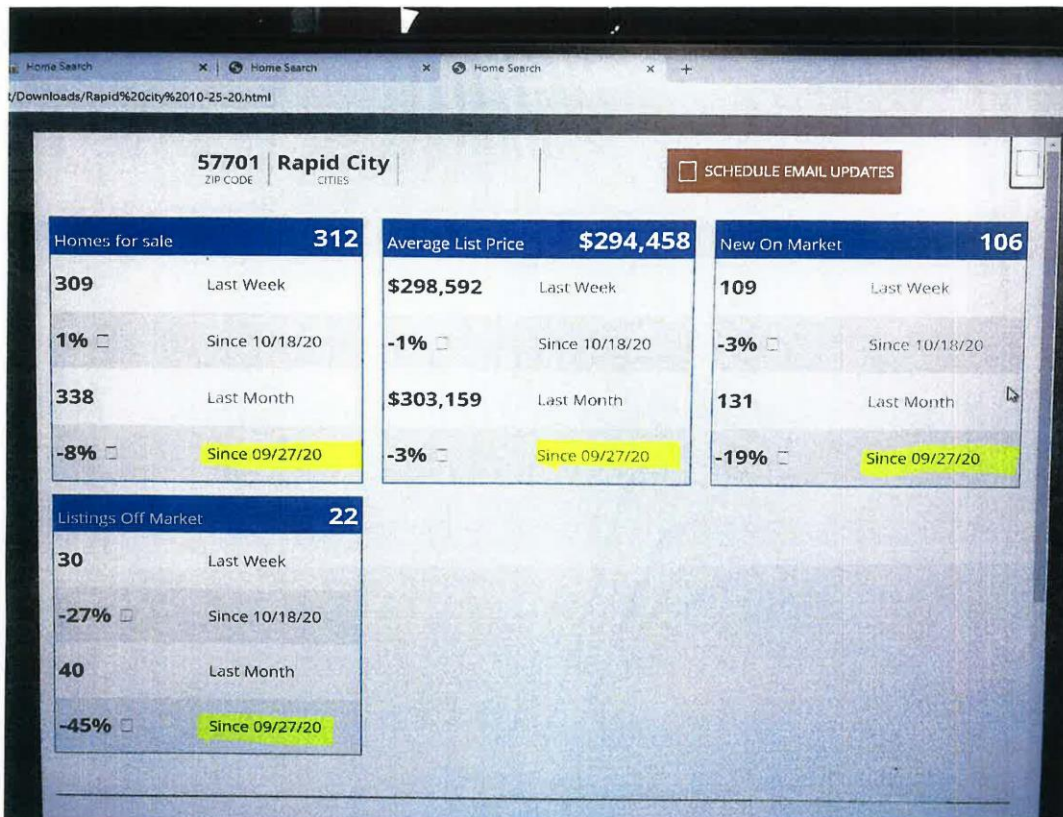
The only new subdivision development of any substance is called Johnson Ranch with 60 lots for affordable housing to be built per their literature (See information attached) With only 312 homes listed for sale in the Rapid City immediate area – per (the attached page) the existing housing available does not support much growth opportunity in the area. There are only 55 rent houses available in the market ( see Attached REALTOR.com )  
New development Land will be difficult to find due to the infrastructure and Terrain issues pointed out by the Planner.

The Box Elder area has some developable areas, but they are in closer vicinity to Ellsworth AFB and could be affected by noise as indicated by The Land use Plan completed in 2014.  
( Page 141 of the plan attached ) These all seem to present some real housing challenges for this area along with over 55 inches of snow that has to be hard on flying training missions.

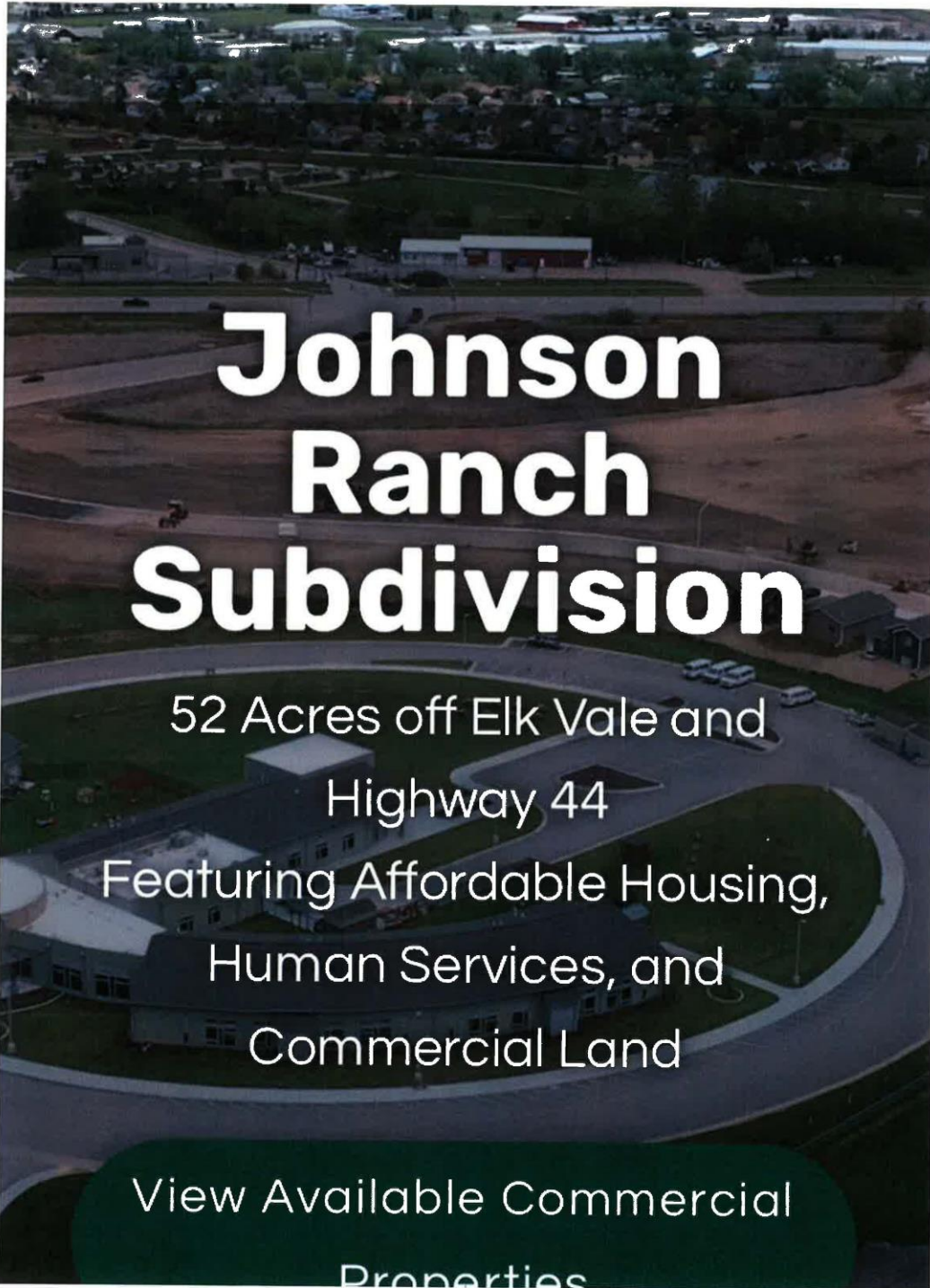
The coming decade will be difficult on this area and its housing needs regardless of any population growth due to the continued rising cost to live in this area. Any increase in military personal that could be added to Ellsworth AFB will strain the infrastructure and prove the area to be less desirable to our Men and Women of the Air Force assigned to this Base. Without large investment by the community in the upgrade of Infrastructure issues or new specialized technology that makes the existing water and sewer capacity expandable and useable for new Development this area could face some tough times and decisions



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# Johnson Ranch Subdivision

52 Acres off Elk Vale and Highway 44  
Featuring Affordable Housing, Human Services, and Commercial Land

View Available Commercial Properties

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The Johnson Ranch Subdivision off Elk Vale and Highway 44 in Southeast Rapid City features over 60 affordable homes, non-profits and essential services, and 15 acres of commercial land.

With direct access off East Saint Patrick Street, Johnson Ranch sees nearly 50,000 cars per day, making it an ideal location for your business.

**ELLSWORTH NEIGHBORHOOD AREA (EW-NA)**

**DESCRIPTION**

The Ellsworth Neighborhood Area surrounds Ellsworth Air Force Base and is bounded by North Haines Avenue and Elk Vale Road on the west, approximately Cheyenne Boulevard extending eastward to the south, Elk Creek to the North, and approximately 156th Avenue to the east. The entire Neighborhood Area is located outside of the Rapid City limits in unincorporated Meade and Pennington Counties, and also includes the majority of the City of Box Elder.

**ISSUES AND OPPORTUNITIES**

The Ellsworth Air Force Base is one of the primary employers in the Rapid City region. Aircraft operations on the Base, as well as at nearby Rapid City Regional Airport to the south, mean that much of the Neighborhood Area is already or potentially impacted by air traffic and noise. Minimal new development in the area surrounding the Air Force Base will help limit conflicts between Base operations and other land uses. In addition to planning for the ongoing operation of the Base, Rapid City and its regional partners also need to prepare for the possibility of Base closure, should it occur at some point in the future. Diversification of the economy in other portions of the community is a key part of the strategy to minimize the potential impacts of Base closure, as is proactive coordination and cooperation with Ellsworth Air

Force Base and Ellsworth Economic Development Authority. Additional information regarding the role of Ellsworth Air Force Base and its impact on the area economy is provided in the Community Profile located in the Appendix of this Plan. (See Economy, page 11.)

South of Ellsworth Air Force Base, the community of Box Elder has a growing presence in the region. Coordination with Box Elder is necessary to ensure compatible land uses and an attractive corridor as motorists enter Rapid City from the east along Interstate 90. Moreover, improved communication and dialogues about annexation strategies and the provision of urban services in the areas between the two communities are necessary to ensure that future development enhances the overall region.

**GOALS AND POLICIES**

**Goal EW-NA1.1: Support the operation of Ellsworth Air Force base and enhance coordination with Box Elder to proactively plan for the area’s future.**

**EW-NA1.1A: ELLSWORTH ACTIVITY**

Support Ellsworth Air Force Base as one of the region’s key Employment areas. Discourage development that could conflict with aircraft or other military operations in areas surrounding the Base.

**EW-NA1.1B: ENTRANCE CORRIDOR**

Recognize Interstate 90 as an important Entrance Corridor into

11. Neighborhood Area Policies

Rapid City, and work with Box Elder to encourage coordinated signage, landscaping, and development planning to enhance the corridor’s appearance. Apply Design Principles for Gateways and Entrance Corridors in the review of future development along the corridor. (See page 110.)

**EW-NA1.1C: ANNEXATION**

Require the annexation of contiguous properties within the City’s Urban Services Boundary when development occurs, and coordinate with Box Elder to establish annexation strategies and agreements for unincorporated pockets between the two communities.

**EW-NA1.1E: URBAN SERVICES**

Allow the extension of City infrastructure within the Urban Services Boundary to serve new and existing development.

**EW-NA1.1F: FLOODPLAIN AND GREENWAYS**

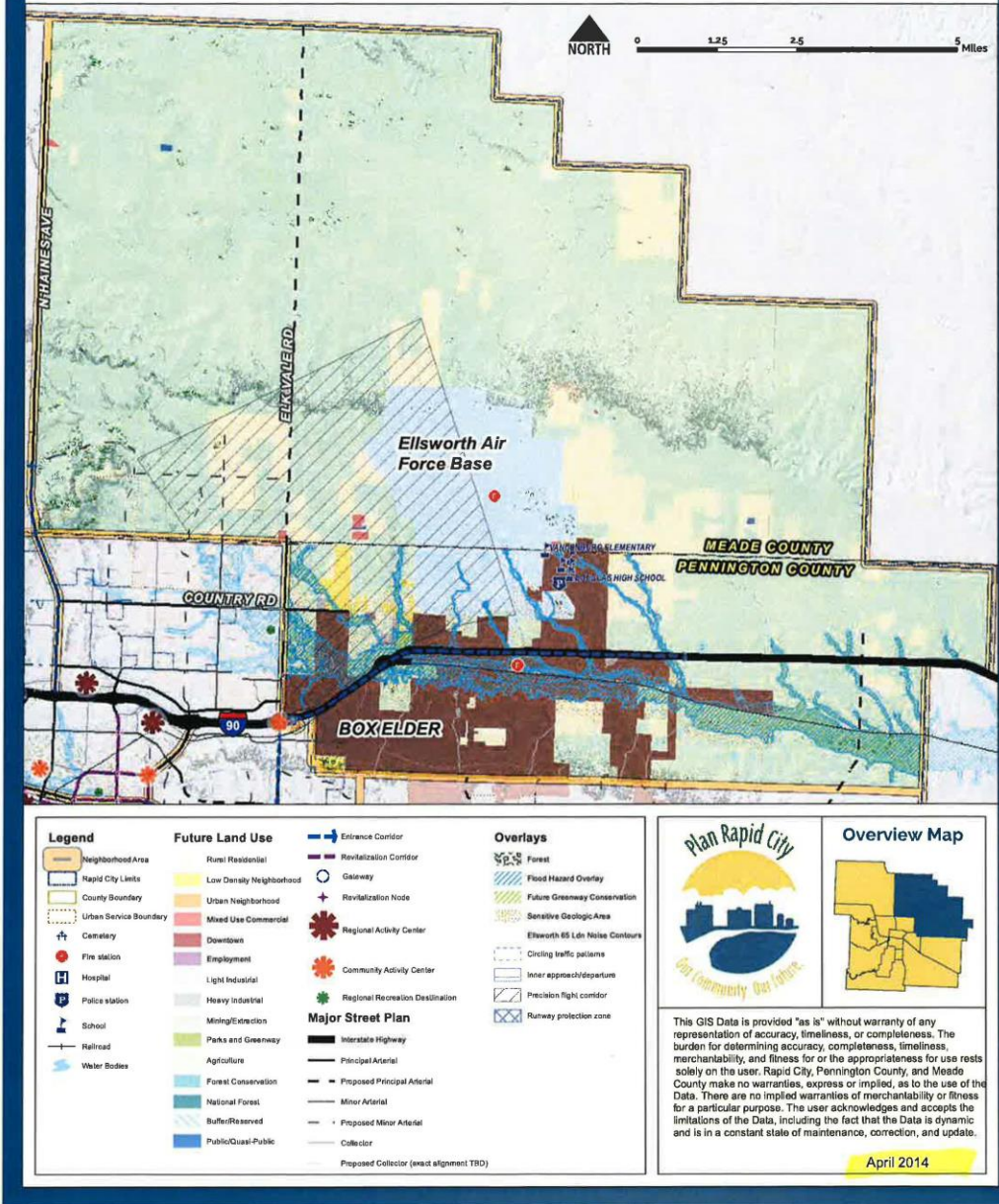
Pursue the detailed mapping and studying of the Box Elder floodplain and encourage conservation of these areas as greenways for natural, safety, and recreation purposes.

**EW-NA1.1F: INTERJURISDICTIONAL COORDINATION**

Coordinate planning and development review activities with the City of Box Elder, Pennington County, Ellsworth Air Force Base, and the Ellsworth Economic Development Authority.

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# Future Land Use Plan Ellsworth Neighborhood Area



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55 Rentals Sort by Recently Added/Updated

Including apartment communities from Apartments.com

**Condo for rent**  
**\$950 /month**

1 bed 1 bath 953 sqft Pets OK  
3600 Sheridan Lake Rd Apt 333,  
Rapid City, SD 57702

Contact property

**Apartment for rent**  
**\$1,005+ /month**

2 bed 1 bath 800 sqft  
1117 Saint Joseph St,  
Rapid City, SD 57701

Contact property

30

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CIN 0017

0017

**Congress of the United States**  
Washington, DC 20510

November 9, 2020

Leidos  
ATTN: B-21 EIS  
1456 Woodlawn Way  
Gulf Breeze, FL 32563

To whom it may concern:

We write to enthusiastically endorse the Air Force's efforts to modernize America's bomber fleet and bolster the next generation of great power deterrence through the development and procurement of the B-21 Raider, to include Ellsworth AFB's March 2019 designation as the "preferred location for the first operational B-21 Raider bomber and the formal training unit."<sup>1</sup> In support of the Air Force's efforts to strengthen our nuclear triad, we submit this comment to attest that we, the South Dakota congressional delegation, will do our utmost to support the B-21 mission at Ellsworth AFB. This commitment includes helping to remedy any unforeseen matters concerning the base or mission that may arise during completion of the Environmental Impact Statement (EIS), in carrying out the Main Operating Base 1 (MOB 1) beddown, or while executing the future bomber mission. Such efforts will also include working to maintain the nearby Powder River Training Complex as a premier training airspace and supporting congressional authorization and appropriations underpinning the B-21 mission.

As detailed in the Draft EIS and acknowledged by other commenters, the selection of Ellsworth AFB for MOB 1 will provide the B-21 enterprise with sufficient space and the necessary reusable facilities to accommodate concurrent missions for the lowest cost. Moreover, the base will continue to enjoy unparalleled community and civic support, to which we readily associate. We look forward to extending our assistance toward the success of the B-21 MOB 1 at Ellsworth AFB.

Sincerely,


  
JOHN THUNE  
United States Senator

  
M. MICHAEL ROUNDS  
United States Senator

  
DUSTY JOHNSON  
Member of Congress

<sup>1</sup> <https://www.af.mil/News/Article-Display/Article/1797946/air-force-announces-ellsworth-afb-as-first-b-21-base/>

0018  
**Leidos**



### Personal Communication Reference Form

**Party 1 Information**

Name: Williams Dwight  
*Last First M.I.*

Title: N/A

Company: N/A

**Party 2 Information**

Name: Amy Sands

Title: Deputy Project Manager Phone: \_\_\_\_\_

Company: Leidos

**Reference Comments**

Method of Communication: Telephone  In Person  Other

Date: November 11, 2020

Summary of the subject matter:

Mr. Williams submitted a comment document in MS Word format to the B-21 project website on November 5, 2020. Upon review, the comment document was blank. Ms. Sands emailed Mr. Williams on November 11, 2020 notifying him of the issue and to please resubmit the document by either replying to the email or via the project website. No response was received nor was there a resubmission via the project website.



CIN 0019

0019

Randy Williams  
Taylor County Commissioner for Precinct #1

Precinct #1 is the area which Dyess AFB is located. I have been commissioner since 2008, it has been my privilege to work with staff at Dyess, Public Officials from local municipalities, and Property Owners who reside around the base in what is referred to as the Extra Territorial Jurisdiction (ETJ). In the last twelve years, together we have crafted an Airport Zoning Ordinance for the City of Abilene and, more recently, completed a Joint Land Use Study. The level of support and involvement by those who live around the base has been extraordinary. We have worked very hard to improve communication with property owners, government officials, and Dyess staff in ways that are designed to protect the military mission of Dyess from developmental encroachment and, at the same time, protect the property rights of those outside the base's fences. Throughout these collaborative efforts, both Dyess staff and public officials have expressed concern regarding the potential negative impact that noise would have on residents. In every concern raised relative to noise, the property owners, without exception, have stated that they "were there before the base was built, know the base is there, and have no concern about the noise". One property owner remarked, "To me, that noise is just the sweet sound of freedom". This attitude should be no surprise to anyone as the Taylor County area has long been recognized for its support of Dyess AFB and its mission. We have continued to work on improving communication with the base through regular, periodic meetings with the base Commander and his staff. I am proud and honored to be part of a community that is supportive of Dyess and continues to come together to assure they can freely operate and carry out their mission.

### A.7.2.3 Comments Received During Public Hearings [CINs 0020 – 0026]

Please note that for ease of the reader, verbal comments were extracted from the transcripts. All verbal comments are shown in their entirety and copies of the full transcripts are provided in the Administrative Record.

CIN 0020

	<b>0020</b>
	Atkinson Baker, Inc. www.depo.com
1	DRAFT ENVIRONMENTAL IMPACT STATEMENT
2	<b>CERTIFIED COPY</b>
3	
4	Public Hearing in the Matter of: )
5	The B-21 Main Operating Base, 1 Beddown. )
6	)
7	
8	
9	CORRECTED TRANSCRIPT
10	11-20-2020
11	Transcript of proceedings
12	Abilene, Texas
13	Tuesday, October 13, 2020
14	
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16	
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19	
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21	
22	ATKINSON-BAKER, INC.
23	(800) 288-3376
24	www.depo.com
25	Reported by: EILEEN ELDRIDGE, Hearing Reporter
	File No.: AE06A76
	Transcript of Proceedings October 13, 2020
	1

0020

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1 Jennifer Piggott, before we begin, please advise,  
2 based on the number of speakers we have preregistered and  
3 registered during this meeting the time limit per commenter.

4 MS. PIGGOTT: Thank you, Lieutenant Colonel Thomas.  
5 Based on the total registration tonight, we can allow each  
6 commenter to speak for three minutes.

7 LT COL THOMAS: Thank you, Jennifer. Ladies and  
8 gentlemen, each commenter will have three minutes to speak.

9 Jennifer, over to you to call on and unmute our  
10 speakers.

11 MS. PIGGOTT: Thank you, Lieutenant Colonel Thomas.  
12 Our first speaker this evening is Douglas Peters.  
13 Mr. Peters, I'm going to ask you to unmute.

14 MR. PETERS: Thank you, Jennifer.

15 MS. PIGGOTT: Okay. We can hear you. Go ahead.  
16 You have three minutes.

17 MR. PETERS: Very good. Thank you very much. Good  
18 afternoon, and thank you for hosting this webinar. Thank  
19 you for the opportunity to weigh in and to speak on behalf  
20 of the Dyess Air Force Base.

21 My name is Doug Peters, D-o-u-g; P-e-t-e-r-s, and  
22 I'm the President and Chief Executive Officer of Abilene  
23 Chamber of Commerce, home to the 65-year-old Military  
24 Affairs Committee here in our community.

25 We have a long united relationship and support of

Transcript of Proceedings  
October 13, 2020

26

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1 our Dyess Air Force Base, this mission, our airmen and their  
2 families. Dyess Air Force Base has been exhibited in your  
3 presentation tonight is uniquely qualified to support the  
4 B-21 Raider and become the main operating base, and we speak  
5 tonight in favor of that.

6 I do want to point out that many of the reasons  
7 that we believe Dyess is a good fit, in fact, the best fit  
8 for this particular MOB, is because of the same reasons that  
9 have caused it to be home of the B-1 and other predecessor  
10 missions that have been here in our community and on our  
11 beloved base for generations.

12 We do know that Dyess Air Force Base has the  
13 capacity to facilitate the addition of two B-21 operational  
14 squadrons; and, of course, the B-21 Formal Training Unit.  
15 We feel strongly, too, that the WGF, the Weapons Generations  
16 Facility, would be a great fit here in Abilene, Texas, at  
17 Dyess Air Force Base.

18 I do want to mention a couple of the notable  
19 differences between Dyess and Ellsworth. One is our acreage  
20 here to facilitate this growth. It's contiguous 35 acre  
21 site versus multiple sites. And there are no historical  
22 properties on the -- in consideration in Dyess that we  
23 believe can help the facility a faster, less cumbersome  
24 process. We also believe very strongly that Dyess is not  
25 only uniquely qualified, but it will fit hand and glove with

0020

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1 the existing --

2 PIGGOTT: 30 seconds remaining.

3 MR. PETERS: Thank you. It would fit perfectly  
4 with any existing mission. Dyess does not currently fly  
5 often at night. This would not interfere with the current  
6 flight schedules.

7 So on behalf of our community, on behalf of our  
8 love and historic history for Dyess Air Force Base, we  
9 simply ask that you look very favorably at the differences  
10 between the two installations and give positive  
11 consideration to this addition to Dyess Air Force Base here  
12 in West Texas.

13 We do know, too, finally, that construction is a  
14 lot simpler in West Texas than what you may find in  
15 South Dakota.

16 So thank you so much for your time. Thank you for  
17 what you're doing. And Dyess and the community supports the  
18 Air Force and we're here to support you in any way we can.

19 MS. PIGGOTT: Thank you for you comments. Our next  
20 registered speaker is Timothy Buckland. Mr. Buckland, I'm  
21 not seeing you on the Zoom webinar, but you may be a call-in  
22 user. If so, please push star 9 to raise your hand, so I  
23 can identify you. Again, our next registered speaker is  
24 Timothy Buckland. If you are on the line, please press  
25 star 9 to raise your hand.

Transcript of Proceedings  
October 13, 2020

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DRAFT ENVIRONMENTAL IMPACT STATEMENT

**CERTIFIED COPY**

Public Hearing in the Matter of: )  
The B-21 Main Operating Base, 1 Beddown. )

CORRECTED TRANSCRIPT

11-20-2020

Transcript of proceedings

Abilene, Texas

Thursday, October 15, 2020

ATKINSON-BAKER, INC.  
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Reported by: EILEEN ELDRIDGE, Hearing Reporter

File No.: AE06A77

0021

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1 Jennifer Piggott, before we begin, please advise,  
2 based on the number of speakers we have preregistered and  
3 registered during this meeting the time limit per commenter.

4 MS. PIGGOTT: Thank you, Lieutenant Colonel Thomas.  
5 Based on the total registration tonight, we can allow each  
6 commenter to speak for three minutes.

7 LT COL THOMAS: Thank you, Jennifer. Ladies and  
8 gentlemen, each commenter will have three minutes to speak.  
9 Jennifer, over to you to call on and unmute our speakers.

10 MS. PIGGOTT: Thank you, Lieutenant  
11 Colonel Thomas. Our first speaker this evening is  
12 Anthony Williams. Mr. Williams, I will ask to unmute your  
13 line.

14 MR. WILLIAMS: Well, good evening. My name  
15 is Anthony Williams. I'm the Mayor of the City Abilene, and  
16 appreciate the opportunity to speak tonight in strong  
17 support of the selection of Dyess Air Force Base to be the  
18 home of the Air Force's B-21 Raider.

19 Abilene is proud to have Dyess Air Force Base as an  
20 integral part of our community. Dyess has served the nation  
21 as a bomber since the 1950s, and has served as a B-1 since  
22 1985 when the first B-1s arrived. The reasons that support  
23 the selection of Dyess to be a B-1 base in 1980s, support  
24 the selection of Dyess to be a B-21 base today.

25 Dyess clearly has the capacity to support the

Transcript of Proceedings  
October 15, 2020

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1 B-21's. For example, at one point, Dyess had a tanker  
2 squadron in addition to its current two B-1 squadrons and  
3 two C-130 squadrons. With the B-1s expected to be phased  
4 out as the B-21s arrive.

5           The base will clearly have ample space for the B-21  
6 Raider. Dyess benefits from Abilene's region's excellent  
7 year-round flying weather, which has 350 days of VFR weather  
8 annually. This exceptional asset will be particularly  
9 critical in providing valuable B-21 flying opportunities  
10 throughout the year.

11           Dyess also has the necessary airspace for the B-21,  
12 and the nearby Lancer multi-operating area has served as an  
13 excellent range for the B-1 and can do so for the new B-21s.  
14 In addition, the Pecos 1. "

15           Military operating area is also available for the  
16 B-21s. Dyess also is interested in having a virtual no  
17 encroachment concerns.

18           Most importantly, Abilene is a wonderful place to  
19 live. Abilene cares deeply about the Air Force's mission  
20 and Dyess, and the fine men and woman who serve at the base  
21 and their families. In fact, our community support for our  
22 Air Force, personnel and their families is evidenced by the  
23 fact that Abilene won the Air Mobility Command Community  
24 Support award so often that it is now called the Abilene  
25 trophy.



0021

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1           In addition, even though the B-1 Fleet was  
2 transferred to Global Strike Command only a few years ago,  
3 Abilene has already won a Global Strike Command Community  
4 Support award.

5           In summary, Dyess has the necessary assets to host  
6 the B-21 Raider. There would be no significant  
7 environmental impact in having Dyess be a B-21 base and  
8 Abilene is the perfect community for the fine men and woman  
9 who will be serving at Dyess and for their families.

10           Thank you, again, for the opportunity to speak in  
11 support of Dyess and the Abilene community.

12           MS. PIGGOTT: Thank you for your comment.

13           Lieutenant Colonel Thomas, there are no other  
14 registered speakers, nor has anyone raised their hand.

15           LT COL THOMAS: Very good, Jennifer. Thank you.

16           As previously mentioned, the hearing is scheduled  
17 to end at 7:30 p.m. We've heard from everyone who requested  
18 to speak and still have some time left. For those using the  
19 Zoom webinar feed, please raise your hand if you have not  
20 already provided a verbal comment and would like to provide  
21 a verbal comment this evening.

22           For our call-in only users tonight, please select  
23 star 9 if you would like to provide a verbal comment and the  
24 meeting host will call on you.

25           Ladies and gentlemen, is there anyone who has

Transcript of Proceedings  
October 15, 2020

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DRAFT ENVIRONMENTAL IMPACT STATEMENT

**CERTIFIED COPY**

Public Hearing in the Matter of: )  
The B-21 Main Operating Base, 1 Beddown. )

CORRECTED TRANSCRIPT

11-20-2020

Transcript of proceedings

Rapid City, South Dakota

Tuesday, October 20, 2020

ATKINSON-BAKER, INC.  
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Reported by: EILEEN ELDRIDGE, Hearing Reporter

File No.: AE06A78

0022

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1 Jennifer Piggott, before we begin, please advise  
2 based on the total number of speakers we have preregistered  
3 and registered during this meeting, the time limit per  
4 commenter.

5 MS. PIGGOTT: Thank you, Lieutenant Colonel Thomas.  
6 Based on the total registration tonight, we can allow each  
7 commenter to speak for three minutes.

8 LT COL THOMAS: Thank you, Jennifer. Ladies and  
9 gentlemen, each commenter will have three minutes to speak.

10 Jennifer, over to you to call on and unmute our  
11 speakers.

12 MS. PIGGOTT: Thank you, Lieutenant Colonel Thomas.  
13 Our first speaker this evening is Senator Helene  
14 Duhamel.

15 MS. DUHAMEL: Hello.

16 MS. PIGGOTT: Senator Duhamel, are you with us?

17 MS. DUHAMEL: Yes. Can you hear me?

18 MS. PIGGOTT: Yes, we can. Go ahead. You have  
19 three minutes.

20 MS. DUHAMEL: Okay. Thank you so much. My name is  
21 Helene, H-e-l-e-n-e; last name, Duhamel; D-u-h-a-m-e-l. I'm  
22 a South Dakota State Senator for District 32 in nearby Rapid  
23 City close to Ellsworth Air Force Base.

24 I am delighted that Ellsworth was named the main  
25 operating base of the B-21 training Measure, First

Transcript of Proceedings  
October 20, 2020

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1 Operations Squadron and Weapons Generation Facility. As a  
2 South Dakota State Senator in District 32 in Rapid City, I  
3 vow to work hard to meet the continuing needs of the Air  
4 Force.

5 We gladly welcome the military personnel, the  
6 contractor independent and offer unprecedented support in  
7 whatever is needed. We recognize and will meet the local  
8 need for facilities, housing, employment connections and  
9 K-12 education.

10 Our community has implemented programs and enhanced  
11 the quality of life for military families stationed at  
12 Ellsworth Air Force Base. Spouses can continue to grow in  
13 their profession. In the legislature, we've passed many  
14 laws allowing professionals to seamlessly work in the great  
15 State of South Dakota without additional burdens, education  
16 or licensing.

17 The State of South Dakota, Pennington and Meade  
18 Counties, Rapid City and Box Elder have put years of  
19 investment to prepare for this golden opportunity that will  
20 bring 360 million dollars of economic impact to our state.  
21 We have the nearby Powder River Training Complex. We have a  
22 proven history of innovation and partnerships that support  
23 the mission of Ellsworth Air Force Base.

24 We are an active partner, capitalizing on local  
25 resources to offset costs and increase operational capacity

0022

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1 for the base. We stand ready to work with the governor's  
2 administration and congressional members to address any  
3 hurdles that may arise.

4 Personally, I have a long history with Ellsworth.  
5 Back in 1988, as a TV news anchor, I was invited to fly  
6 in the pilots chair in the B-1 Bomber as the first female  
7 civilian. I flew in the F-16 Thunderbird. I was twice an  
8 honorary commander in Ellsworth of the 27th Bomb Squad and  
9 the Maintenance Squadron.

10 I am so proud of Ellsworth. We are a pro-military,  
11 patriotic community and we will proudly stand by you now and  
12 well into the future.

13 Thank you so much for your time.

14 MS. PIGGOTT: Thank you for your comment. And my  
15 apologies for mispronouncing your name.

16 Our next speaker this evening is Kyle Lewis.

17 MR. LEWIS: Good evening. Actually, we would just  
18 prefer to make written comments. Kyle Lewis, K-y-l-e;  
19 L-e-w-i-s. And I represent the Aircraft Owners and Pilots  
20 Association. We'll be making formal comments, written.  
21 Thank you.

22 MS. PIGGOTT: Thank you, Mr. Lewis.

23 Our next speaker this evening is Michael Vivion,  
24 V-i-v-i-o-n. I am not seeing Michael listed in the  
25 participants. Michael, if you're on, please raise your

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1 hand, or if you're a call-in only user, please press --  
2 there you are.

3 MR. VIVION: Michael Vivion, V-i-v-i-o-n. The  
4 current president of the Montana's Pilot's Association. And  
5 we would like a little bit more information on what the Air  
6 Force means by stating that the B-21 will operate in higher  
7 airspace bands. That's not a typical airspace kind of  
8 description.

AS-2

9 Our concern is that the EIS states that the  
10 utilization of the Powder River MOA airspace will increase  
11 by something around 50 percent, if this action goes through.  
12 And -- but most of that activity will be associated with the  
13 B-21, which will operate at higher airspace bands.

14 My question is: What does that mean? That means  
15 that the B-21 will operate in high MOAs, and; therefore,  
16 leave the low MOAs of the elbow to civilian traffic and I  
17 doubt that NPA will have much problem with the proposal.  
18 But it's a little bit of a mystery as to what this "higher  
19 airspace band" term means.

AS-3

20 If indeed the activation of the low MOAs will  
21 increase by 50 percent as well, that will definitely impair  
22 IFR, Instrument Flight Rules, operations in the low MOAs  
23 throughout Eastern Montana and could be devastating to some  
24 communities for things like medevacs and other important  
25 kinds of operations that occur at those lower altitudes.

CIN 0024; Response Code [AS-2](#)

0024

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1 Thank you.

2 MS. PIGGOTT: Thank you for your comments.

3 Our next speaker this evening is Ardie Smith,  
4 A-r-d-i-e, Smith. If you're on, please raise your hand or  
5 if you're a call-in user, press star 9 to raise your hand.  
6 Ardie Smith? Okay.

7 Our next speaker this evening is Rodney Schaaf,  
8 S-c-h-a-a-f. Rodney Schaaf, if you're on, please raise your  
9 hand. I see you.

10 MR. SCHAAF: Hello?

11 MS. PIGGOTT: Go ahead. You have three minutes.

12 MR. SCHAAF: Yes. Good evening. Rodney Schaaf,  
13 R-o-d-n-e-y; S-c-h-a-a-f, Minot Regional Airport, Board  
14 Chairman, Minot, North Dakota. Our airport is directly  
15 underneath Powder River Number 3.

16 And I have two concerns. The first one has been  
17 addressed, which is the higher altitude band listed in the  
18 EIS. We would like clarification on that. And the second  
19 one is, in our neck of the woods, we have a number of wind  
20 farms, wind turbines. And the concern there is we have some  
21 active ones that are up 450 foot at the top of the blade,  
22 and proposed wind farms coming down the pike. You're  
23 talking a 700 foot top of the blade.

24 So this is going to effect a low level operations  
25 definitely for the B-1. And we're just wondering if there's

AS-2

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October 20, 2020

30

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1 some clarifications? It's probably too early yet from what  
2 the MOA level mission of the B-2 or the B-21 would be.

3 Thank you.

4 MS. PIGGOTT: Thank you for your comment.

5 Before I move on to ask you if there are any other  
6 speakers, again, Ardie Smith, A-r-d-i-e, Smith. If you're  
7 on, please raise your hand or press star 9 to raise your  
8 hand and I will unmute you. Okay. I'm not seeing  
9 Ardie Smith.

10 Ladies and gentlemen, that concludes the list of  
11 folks that preregistered to speak this evening. If anyone  
12 else would like to make a comment, please send a chat  
13 message or raise your hand. Again, for our call-in users,  
14 you can press star 9 to raise your hand to make a formal  
15 verbal comment.

16 Seeing none, Lieutenant Colonel Thomas, back over  
17 to you.

18 LT COL THOMAS: Thank you, Jennifer. As previously  
19 mentioned, the hearing is scheduled to end at 7:30 p.m.  
20 We've heard from everyone who requested to speak and still  
21 have some time left. For those using the Zoom webinar feed,  
22 please raise your hand if you have not already provided a  
23 verbal comment and would like to provide a verbal comment  
24 this evening.

25 For our call-in only users tonight, please select



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DRAFT ENVIRONMENTAL IMPACT STATEMENT

**CERTIFIED COPY**

Public Hearing in the Matter of: )  
The B-21 Main Operating Base, 1 Beddown. )

CORRECTED TRANSCRIPT

11-20-2020

Transcript of proceedings

Rapid City, South Dakota

Thursday, October 22, 2020

ATKINSON-BAKER, INC.  
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Reported by: EILEEN ELDRIDGE, Hearing Reporter

File No.: AE06A79

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1 based on the number of speakers we have preregistered and  
2 registered during this meeting the time limit per commenter.

3 MS. PIGGOTT: Thank you, Lieutenant Colonel Thomas.  
4 Based on the total registration tonight, we can allow each  
5 commenter to speak for three minutes.

6 LT COL THOMAS: Thank you, Jennifer. Ladies and  
7 gentlemen, each commenter will have three minutes to speak.

8 Jennifer, over to you to call on and unmute our  
9 speakers.

10 MS. PIGGOTT: Thank you, Lieutenant Colonel Thomas.  
11 Our first speaker this evening is Michael Derby.

12 MR. DERBY: Yes. Michael Derby here.

13 MS. PIGGOTT: Okay. Go ahead. You have three  
14 minutes.

15 MR. DERBY: Okay. I'm Mike Derby, private citizen  
16 in Rapid City, South Dakota, which is next to Ellsworth Air  
17 Force Base, and the largest city in Western South Dakota. I  
18 just want to compliment everybody on an outstanding  
19 presentation. I certainly learned a lot from it, and I want  
20 to be on the record as in favor of MOB 1 Beddown at  
21 Ellsworth Air Force Base.

22 I'm a past Honorary Commander at Ellsworth Air  
23 Force Base, served as a Chairman of the Ellsworth Task  
24 Force, Military Affairs Community Chair during the last Base  
25 Realignment and Closure Commission Process. A friend of

0025

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1 mine, Mark Merchant, and I developed enabling legislation  
2 with Governor Daugaard to create the South Dakota Ellsworth  
3 Development Authority, which has worked with numerous issues  
4 in regards to encroachment property issues and a number of  
5 other items to support Ellsworth Air Force Base.

6 I'm a former legislator in Canada for District 34  
7 State Representative. And I believe I'm a tireless advocate  
8 for Ellsworth Air Force Base and will help support and round  
9 up the downtown folks to do whatever we can to make  
10 Ellsworth Air Force Base the MOB 1 Beddown.

11 I believe our Powder River Training complex is  
12 superior in every fashion and has been expanded over the  
13 years, and will be a civil place for training. And as far  
14 as housing, I know there are 1,000 houses that will be  
15 needed. And as in a lot of parts of the country, it's a hot  
16 housing market.

17 But rest assured that we've already had some  
18 public-private partnership initial discussions in how to  
19 take care of the housing. So I just want to go and support  
20 formally for the MOB 1 Beddown at the Ellsworth Air Force  
21 Base.

22 And thank you very much.

23 MS. PIGGOTT: Thank you for your comment.

24 Our next speaker this even is Tim Conway.

25 Mr. Conway, I'm going to ask you to you unmute your line.

Transcript of Proceedings  
October 22, 2020

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1 MR. CONWAY: Hi. This Tim Conway. I would like to  
2 submit written comments.

3 MS. PIGGOTT: Okay. Thank you. Our next speaker  
4 this evening is Roger Meggers.

5 Mr. Meggers, if you called in by phone, please  
6 press star 9 to raise your hand so I can identify which  
7 phone number you are.

8 Again, our next speaker this evening is  
9 Roger Meggers. Mr. Meggers, I know you were having problems  
10 with your mic and you were going to call in. If you can  
11 call in, please press star 9 to raise your hand, so I can  
12 identify you and unmute your line.

13 MR. MEGGERS: Hi, Jennifer. This is Roger Meggers.

14 MS. PIGGOTT: Great. You have three minutes.

15 MR. MEGGERS: Okay. Thank you. I just wanted to,  
16 you know, voice my support for the B-21 B. It's probably a  
17 great airplane, great acquisition and will be very good for  
18 the Air Force.

19 I do have a couple of concerns. The first one is  
20 that in the EIS it says that we'll see up to a 51.3 percent  
21 increase of traffic in the PRTC. And that is a concern for  
22 our airport, because we are in the PRTC area. And that  
23 bomber training complex has been devastating to our little  
24 airport here. It cuts down our traffic. We have a lot of  
25 problems with the VFR transient traffic coming through. And

AS-3

0026

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1 it's impacted us greatly. So I hope that that would be a  
2 level of conversation, and also what we can do to minimize  
3 those impacts.

AS-3

4 The second comment I have is, I guess, I question  
5 the cost effectiveness of Dyess in the PRTC. One major  
6 concern when the PRTC was created, it was to save Ellsworth  
7 Air Force Base travel time to avoid traveling long  
8 distances. Now, we're just doing it in reverse, because  
9 Dyess's use in PRTC.

PA-2

10 Once, again, I want to thank your for your time and  
11 the very professional presentation you made. And I'm very  
12 excited about the B-21 B to be added to our Air Force.

13 MS. PIGGOTT: Thank you for your comments.

14 MR. MEGGERS: Thank you.

15 MS. PIGGOTT: Ladies and gentlemen, those are all  
16 of our registered speakers, and I'm not seeing anyone else  
17 with their hand raised at this time. So, Lieutenant  
18 Colonel Thomas, back over to you.

19 LT COL THOMAS: Thank you, Jennifer. As previously  
20 mentioned, the hearing is scheduled to end at 7:30 p.m.  
21 We've heard from everyone who requested to speak and still  
22 have plenty of time left. For those using the Zoom Webinar  
23 feed, please raise your hand if you have not already  
24 provided a verbal comment and would like to provide a verbal  
25 comment this evening.

### A.7.3 USAF Responses to Comments on the Draft EIS

**Table A-4. USAF Responses to Comments on the Draft EIS**

Category	Response
AQ-1	The analysis indicates that a revision to the current synthetic minor air quality permit is not necessary at this time. However, if the operational constraints already incorporated into the permit were to be changed in the future and would exceed 100 tons of a criteria pollutant, then a revision would be required.
AS-1	<p>Thank you for the comment. The USAF plans to operate under the constraints of the PRTC as stated in Section 2.3.2.1: "There are no plans to modify any of the airspace listed above as a result of the Proposed Action. PRTC-related B-21 air operations would adhere to the legal descriptions for the PRTC MOAs published in the National Flight Data Digest (effective date: September 17, 2015). This airspace was analyzed in the USAF's 2014 Final EIS for the Powder River Training Complex, Ellsworth Air Force Base, and South Dakota (the "2014 PRTC EIS") Record of Decision (ROD) (signed on January 16, 2015) (USAF, 2015) and the FAA ROD (signed on March 24, 2015) (FAA, 2015)."</p> <p>Since this comment applies to current conditions within the airspace, it is suggested that the commenter contact Ellsworth AFB Public Affairs directly (605-385-5056).</p>
AS-2	The USAF is still evaluating the long-term B-21 requirements and will need adequate time to evaluate the aircraft platform's overall capabilities. Operational security concerns preclude the USAF from providing detailed information regarding the airspace utilization. However, as stated in Section 3.1.2.3.2: "...the B-21 would generally operate at higher altitudes than the B-1 operates currently." Therefore, impacts to windfarms, wind turbines, and civil aircraft operating below 18,000 feet mean sea level (MSL) are not anticipated.
AS-3	<p>For current flight concerns that are specific to Montana airspace, it is recommended that AOPA contact Ellsworth AFB Public Affairs Office directly (605-385-5056).</p> <p>Due to operational security, the USAF cannot provide detailed forecast of PRTC utilization. As stated in Section 3.1.2.3.2 for the Ellsworth AFB Alternative: "Although this increase is substantial, because the B-21 would be typically flying at higher altitudes that are currently underutilized, adverse impacts on airspace congestion or scheduling are unlikely." Since flight altitudes of the B-21 would be higher than the B-1, operations are not expected to interfere with the activities that occur at lower altitudes. Please note that the 51.3 percent increase in operations is associated with the snapshot scenario (which includes B-1 and B-21 overlap) and would be temporary. The increase in end-state operations in the PRTC for the Ellsworth AFB Alternative would be approximately 41 percent, and the conclusion for Section 3.1.2.3.2 would still apply.</p>
AS-4	Under the Dyess AFB Alternative, as stated in Section 3.1.2.2.2, it is anticipated that utilization of the PRTC would decrease by 0.65 percent. Therefore, impacts to airspace use, Air Traffic Control, or scheduling are not likely. In addition, since flight altitudes of the B-21 would be higher than the B-1, operations are not expected to interfere with the activities that occur at lower altitudes associated with personal and business operators.
AS-5	The USAF plans to operate under the constraints of the PRTC as stated in Section 2.3.3: "There are no plans to modify any of the airspace listed above as a result of the Proposed Action. PRTC-related B-21 air operations would adhere to the legal descriptions for the PRTC MOAs published in the National Flight Data Digest (effective date: September 17, 2015). This airspace was analyzed in the USAF's 2014 Final EIS for the Powder River Training Complex, Ellsworth Air Force Base, and South Dakota (the "2014 PRTC EIS") Record of Decision (ROD) (signed on January 16, 2015) (USAF, 2015) and the FAA ROD

**Table A-4. USAF Responses to Comments on the Draft EIS**

Category	Response
	(signed on March 24, 2015) (FAA, 2015).” Both of those documents provide actions to reduce de-confliction issues between military and civilian aircraft.
HZ-1	<p>OU-7 (Low-Level Radioactive Waste Burial) covers approximately 65 acres and is currently active. OU-7 consists of five underground storage tanks (USTs) and possibly two trenches that have not been located. The USTs had capacities ranging from 1,000 to 5,000 gallons and are believed to be full or partially-full. The liquid in the USTs was judged safe for discharge in 1972; however, there are no records indicating that this discharge took place. Contents of the trenches may include unidentified waste and two large boxes containing used radioactive clothing and rags (URS, 2017).</p> <p>An investigation (Phase II Study) was conducted by IT Corporation in 1987-89 to characterize potential radioactive contamination at the site. The data collected as part of this program included two soil borings and soil sampling. Data obtained from the soil samples indicated gross alpha concentrations of 5 to 15 pCi/g, gross beta concentrations of 12 to 19 pCi/g and gamma concentrations of 1.21 to 17.50 pCi/g. These values were determined to be at or below background levels of naturally occurring radiological emitters in soil (URS, 2017).</p> <p>A subsequent quantitative human health risk assessment and ecological risk evaluation found the following: no unacceptable chemical risk for future residential exposures to soil, sediment, groundwater, or surface water; no unacceptable radionuclide risk for future residential or construction worker exposure; no unacceptable ecological risk. Based on the minimal risks associated with soil and groundwater at OU-7, the existing land use controls were implemented (i.e., land use is to be limited to industrial development and groundwater use be limited to non-potable only) (URS, 2017).</p> <p>Prior to any work on or near ERP sites (including OU-7), the Environmental Office would be notified. This would include any potential disturbance to existing any remediation infrastructure, such as groundwater monitoring wells. In the case of OU-7, additional investigations (sampling) would be implemented as required to evaluate radioactive hazards and their potential impact on workers. Decisions as to the type of personal protective equipment required, if any, would be made based on the result of these investigations. All construction-related wastes would be characterized to determine the appropriate disposal methods. Placement of closed structures on/near ERP sites may result in the potential for intrusion and concentration of chemical/radiological constituents that could pose a risk to human health and safety. If deemed to be a risk, intrusion would be minimized through proper site and building design that may include implementation of active mitigation measures.</p> <p>The potential presence of hazardous constituents would also be communicated to workers, and properly trained personnel would be on-site during the construction project to identify anything that may require additional sampling and handling and/or personal protective equipment. Site safety briefings that include distribution of material safety data sheets and discussion of safe work practices would be conducted to protect worker health.</p> <p>Reference URS, 2017. Final Fourth (2015) Basewide Five-Year Review – National Priorities List Operable Units Ellsworth Air Force Base, South Dakota. Prepared for U.S. Air Force Civil Engineer Center and Ellsworth, AFB. Prepared by: URS Corporations, Omaha, NE. November</p>
HZ-2	Live munitions will not be used in the PRTC or Lancer, Pecos, and Brownwood MOAs.

**Table A-4. USAF Responses to Comments on the Draft EIS**

Category	Response
HZ-3	Demilitarization of munitions is outside of the scope of the EIS.
PA-1	Although the USAF is evaluating two siting locations at Ellsworth AFB, only one WGF would be constructed at the selected MOB 1 installation.
PA-2	Early in the process, the use of the PRTC as the main training airspace for both Dyess AFB and Ellsworth AFB Alternatives was evaluated. However, after public scoping, this approach changed, with the PRTC becoming the primary training airspace for Ellsworth AFB and a secondary for Dyess AFB. The website has been corrected to address this change, which is reflected in Section 2.3.3 of the EIS: "For any military aircraft flying out of Ellsworth AFB, the Powder River Training Complex (PRTC) airspace is the most cost-effective and convenient training area. Other Class A airspace and Major Range and Test Facility Bases (MRTFBs) would be used on an as-needed basis. For military aircraft flying out of Dyess AFB, the Lancer MOA and the Pecos MOA and all associated ATCAAs are the most cost-effective and convenient training areas to use. Dyess AFB-based aircraft would utilize the PRTC and the Brownwood MOA as supplemental training airspaces."
PH-1	Potential impacts to wetlands and surface waters are discussed in the environmental consequences discussion for physical resources under the Ellsworth AFB Alternative (Section 3.9.2.3 of the EIS). The physical resources analysis also considers topography, soils, floodplains, and groundwater. Where feasible, for construction-related activities, site drainage and placement of new construction projects would be designed to manage the anticipated increased runoff and erosion into surrounding water resources. The USAF would implement various management measures, including best management practices, to minimize effects to downstream water bodies. These control measures include but are not limited to grassed swales, infiltration basins and trenches, rain gardens, and pervious pavements. Stormwater management controls would conform to Section 438 of the Energy Independence and Security Act, which requires agencies to protect water resources by reducing stormwater runoff from any federal development projects. If impacts to wetlands and floodplains cannot be avoided, the USAF would consult with the U.S. Army Corps of Engineers to obtain a permit under Section 404 of the Clean Water Act and would implement any additional management actions or mitigation requirements associated with the permit.



## **APPENDIX B**

### **NOISE ANALYSIS SUPPORTING INFORMATION**

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## ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
ANSI	American National Standards Institute
ASA	Acoustical Society of America
CDNL or $L_{Cdn}$	C-weighted Day-Night Average Sound Level
CHABA	Committee on Hearing, Bioacoustics, and Biomechanics
CSEL	C-weighted Sound Exposure Level, as measured in decibels
dB	decibels
dBA or dB(A)	A-weighted decibels
dB(C)	C-weighted decibels
DLR	German Aerospace Center
DNL	Day-Night Average Sound Level
DoD	Department of Defense
EIS	Environmental Impact Statement
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FICAN	Federal Interagency Committee on Aviation Noise
FICON	Federal Interagency Committee on Noise
FICUN	Federal Interagency Committee on Urban Noise
Hz	hertz
INM	Integrated Noise Model
kHz	kilohertz
$L_{Cdn}$	C-weighted day-night average sound level, as measured in decibels
$L_{dn}$	day-night average sound level, as measured in decibels
$L_{dnmr}$ or $DNL_{mr}$	onset-rate adjusted monthly day-night average sound level
$L_{eq}$	equivalent sound level
$L_{max}$	maximum sound level
$L_{pk}$	peak sound level
MOA	Military Operating Area
NIPTS	Noise-Induced Permanent Threshold Shift
NLR	Noise Level Reduction
OSHA	Occupational Safety and Health Administration
PHL	potential hearing loss
PK <sub>15</sub> (met)	Peak Noise Exceeded by 15 Percent of Firing Events
Psf	pounds per square foot
SEL	Sound Exposure Level
USACHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
USAF	U.S. Air Force
USEPA	U.S. Environmental Protection Agency

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## B. NOISE ANALYSIS SUPPORTING INFORMATION

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### B.1 NOISE IMPACT ASSESSMENT METHODS

Noise impacts can be quantified based on objective effects (such as hearing loss or damage to structures) or subjective judgments (such as community annoyance). Thus, assessment of impacts requires a combination of physical measurement of noise as well as assessment of psycho-acoustic and socio-acoustic effects. Noise is defined subjectively as being any unwanted sound. The following sections discuss how noise is described, the potential effects that noise may have on its receivers, and the methods by which noise levels are predicted.

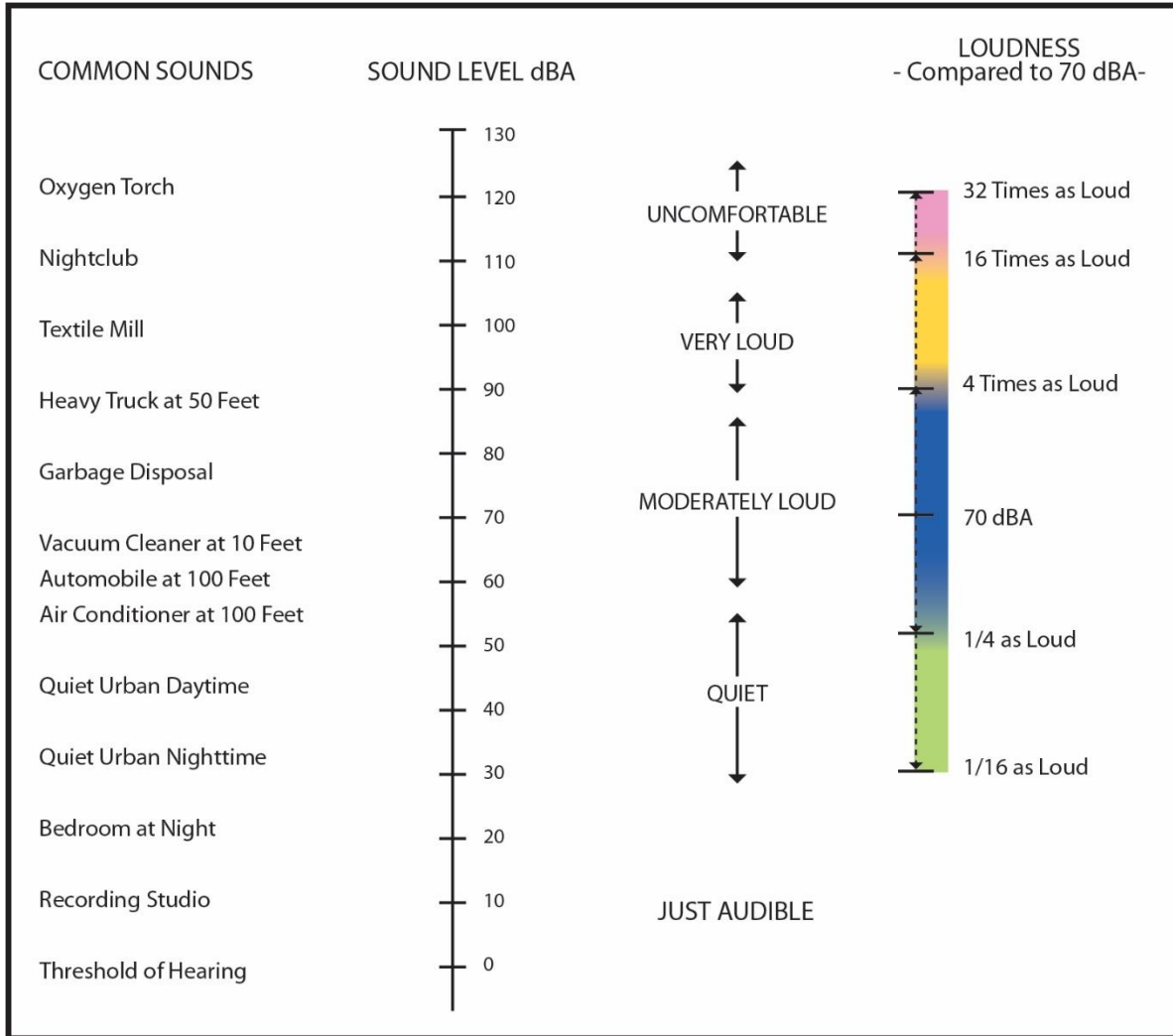
### B.2 CHARACTERISTICS OF SOUND

Sounds can be generally characterized based on three physical characteristics: amplitude, frequency, and duration. Amplitude is a measure of the strength of the sound and is directly measured in terms of the pressure of a sound wave. Frequency, which is perceived as “pitch,” is the number of times per second that sound causes air molecules to vibrate. Duration is simply how long the sound lasts. All three characteristics are critical to determining impacts of a particular sound source and are discussed in more detail below.

**Amplitude.** The loudest sounds that can be comfortably heard by humans have acoustic energy 1 trillion times the acoustic energy of the quietest sounds that humans detect. Because of this vast range in magnitude, attempts to represent sound amplitude by direct expression of sound pressure are unwieldy. In addition, human hearing is proportional rather than absolute (i.e., detecting whether one sound is twice as big as another rather than detecting whether one sound is a given number of pressure units bigger than another). Sound is, therefore, usually represented on a logarithmic scale, reflecting the way in which it is perceived, using a unit called the decibel (dB).

The threshold (level at which an effect starts) of human hearing is approximately 0 dB, and the threshold of discomfort is approximately 120 dB. Under laboratory conditions, differences in sound level of 1 dB can be detected by the human ear. In the community, the smallest change in average noise level that can be detected is about 3 dB. A change in sound level of about 10 dB is usually perceived by the average person as a doubling (or halving) of the sound’s loudness, and this relation holds true for loud sounds and quieter sounds. A decrease in sound level of 10 dB actually represents a 90 percent decrease in sound intensity but only a 50 percent decrease in perceived loudness because of the nonlinear response of the human ear.

Figure B-1 is a chart of A-weighted sound levels from typical sounds. Some sounds (air conditioner, vacuum cleaner) are continuous, and their levels are constant for some time. Other sounds (automobile, heavy truck) are the maximum sound during a vehicle pass-by. Some sounds (urban daytime, urban nighttime) are averages over some extended period.



**Figure B-1. Typical A-Weighted Sound Levels of Common Sounds**

Because of the logarithmic nature of the decibel scale, sound levels do not add and subtract directly and are somewhat cumbersome to handle mathematically. However, some simple rules of thumb are useful in dealing with sound levels. First, if a sound's intensity is doubled, the sound level only increases by 3 dB, regardless of the initial sound level. For example:

60 dB + 60 dB = 63 dB, and

80 dB + 80 dB = 83 dB.

The total sound level produced by two sounds of different levels is usually only slightly more than the higher of the two. For example:

60.0 dB + 70.0 dB = 70.4 dB.

Sound pressure of what is perceived as being continuous sound actually varies greatly over minute increments of time, so it is customary to deal with sound levels that represent



averages over time. Levels presented as instantaneous (i.e., as might be read from the dial of a sound level meter) are based on averages of sound energy over either 1/8 second (fast) or 1 second (slow). This distinction becomes important when discussing sounds whose peak noise level lasts for only a short time, such as sonic booms.

**Frequency.** The normal human ear can hear frequencies from about 20 hertz (Hz) to about 20,000 Hz. It is most sensitive to sounds in the 1,000- to 4,000-Hz range. When measuring community response to noise, it is common to adjust the frequency content of the measured sound to correspond to the frequency sensitivity of the human ear. This adjustment is called A-weighting (ANSI, 1988). Sound levels that have been so adjusted are referred to as A-weighted and may be denoted dBA or dB(A). However, because use of A-weighting to express sound level is so prevalent, it can normally be assumed that dB is equivalent to dBA or dB(A). In the Environmental Impact Statement (EIS), sound levels are reported in dB and are A-weighted unless otherwise specified.

A-weighting is appropriate for sounds that are perceived by the ear. Impulsive sounds, such as sonic booms, thunder, and other sudden “booming” sounds, are perceived by more than just the ear; listeners may *feel* this type of sound as well as hearing it. When experienced indoors, this type of sound may cause rattling of the structure and its contents. Because A-weighting would de-emphasize the intrusive low-frequency component of this type of sound, C-weighting (ANSI, 1988) is applied, which only de-emphasizes frequencies that are outside the range of human hearing (about 20 Hz to 20,000 Hz). In the EIS, and in accordance with standard methodologies, C-weighted sound levels are used for the assessment of sonic booms, blasts from high explosives, and other impulsive sounds. C-weighting is specifically denoted as dBC whenever it is used in the EIS.

**Duration.** Sound varies over time at almost all locations. Sound can be classified into four basic categories that define its basic time pattern:

- **Ambient sound.** Ambient sound is the ever-present collection of background sounds at any given place. Ambient sound can be strictly natural, such as frogs and cicadas in the deep woods; strictly mechanical, such as street noise in a busy city; or a combination of both, like sounds occurring in the suburbs. It is important to consider the existing ambient soundscape because what exists already has much to do with how annoying people will find a new sound. For example, the hum of a generator may be tolerated much better by those already living in an area with high mechanized ambient noise than those living in the far woods.
- **Steady-state sound.** Steady-state sound is of a consistent level and spectral content; examples are sounds originating from ventilation or mechanical systems that operate more or less continuously. From a military perspective, generators and aircraft run-up sounds are the most prominent steady-state sounds, and as a rule, the longer a steady-state sound persists, the more annoyed people will be.
- **Transient sound.** Transient sound has a clearly defined beginning and end, rising above the background and then fading back into it. Transient sounds are typically associated with “moving” sound sources such as an aircraft overflight or a single vehicle driving by, and they usually last for only a few minutes at the most. The

annoyance caused by transient sounds is dependent upon both the maximum sound level and the duration.

---

### B.3 NOISE METRICS

To communicate sound levels, the Department of Defense (DoD) uses three general types of noise-measuring descriptors, or metrics: (1) measuring the highest sound level occurring during a noise event, (2) combining the maximum level of that single event with its duration, and (3) describing the noise environment based on the total noise energy received over a specified length of time. The metrics used in the EIS are described below.

**Maximum sound level.** This metric, denoted as  $L_{max}$ , is the highest sound level measured (using time integration of either 1/8 second or 1 second) during a noise event. For a listener observing an aircraft overflight, the noise level starts at the ambient or background noise level, rises to the maximum level as the aircraft flies closest to the observer, and returns to the background level as the aircraft recedes into the distance.  $L_{max}$  decreases as altitude or distance from the observer increases and varies according to the type of aircraft, airspeed, and power setting.

**Peak sound level.** For impulsive sounds, the true instantaneous peak sound pressure level, which lasts for only a fraction of a second, is important in determining impacts. For sonic booms, this is the peak pressure of the shock wave. This pressure usually is presented in physical units of pounds per square foot (psf). Peak sound levels are not frequency weighted. Sometimes peak sound level is represented on the decibel scale, with the symbol  $L_{pk}$ . Because the amount of sound energy that reaches a receiver from a given noise event varies so much with specific atmospheric conditions, a special metric sometimes is used to account for this variability. The  $PK_{15}(met)$  metric represents the peak sound level that will not be exceeded 85 percent of the time with a given noise event. This metric is useful for expressing, in general terms, how loud an area will get while a particular weapon is firing.

**Sound exposure level.** The sound exposure level (SEL) metric is a single-number representation of a noise energy dose for an entire aircraft overflight. This measure takes into account the effect of both the duration and intensity of a noise event by summing the noise energy from each second in an event that typically lasts several seconds into a single second.

SEL is useful for comparing aircraft that move at different speeds. As an example, fighter aircraft tend to create a high  $L_{max}$ , but their noise level tends to drop off quickly as the plane moves away from the listener at high speed. On the other hand, cargo-type aircraft tend to be quieter but generally take more time to move past the listener and out of earshot. It is important to remember that SEL does not directly represent the sound level heard at any given time, but it provides a measure of the exposure of the entire acoustic event. SEL is useful for predicting several noise impacts, including sleep disturbance and animal escape response. SEL can be computed for C-weighted levels (appropriate for impulsive sounds) and the results denoted as CSEL. SEL for A-weighted sound is sometimes denoted as ASEL. In the EIS, SEL is used for A-weighted sounds and CSEL for C-weighted.

**Onset-rate adjusted sound exposure level.** When an aircraft is flying fast and low to the ground, listeners may experience a very quick rise in noise as it flies overhead. To account for the resulting “surprise effect,” a penalty of up to 11 dB is applied to the SEL value for the overflight. SEL values with this “onset-rate adjustment” are denoted as SEL<sub>r</sub>.

**Equivalent sound level.** To summarize noise levels over longer periods of time, total sound is represented by the equivalent sound level ( $L_{eq}$ ).  $L_{eq}$  is the average sound level over some time period (often an hour or a day, but any explicit time span can be specified), with the averaging being done on the same energy basis as used for SEL. SEL and  $L_{eq}$  are closely related, differing by (1) whether they are applied over a specific time period or over an event and (2) whether the duration of the event is included or divided out. Just as SEL has proven to be a good measure of the noise impact of a single event,  $L_{eq}$  has been established to be a good measure of the impact of a series of events during a given time period. Cumulative noise metrics, such as  $L_{eq}$ , are useful because they represent a complicated set of noise events with a single number.

**Day–night average sound level (DNL or  $L_{dn}$ ).** Noise tends to be more intrusive at night than during the day. This effect is accounted for by applying a 10-dB penalty to events that occur after 10:00 PM and before 7:00 AM. DNL is similar to  $L_{eq}$  except DNL has a nighttime penalty added. DNL is the community noise metric recommended by the U.S. Environmental Protection Agency (USEPA) (USEPA, 1974) and has been adopted by most federal agencies (Federal Interagency Committee on Noise [FICON], 1992). It has been widely accepted that DNL correlates well with community response to noise (Schultz, 1978; Finegold et al., 1994). This correlation is presented in the section below (Noise Impacts on Humans). Furthermore, DNL has also been proven applicable to infrequent events (Fields and Powell, 1985) and to rural populations exposed to sporadic military aircraft noise (Stusnick et al., 1992, 1993).

It was noted earlier that, for impulsive sounds, C-weighting is more appropriate than A-weighting. The DNL can be computed for C-weighted noise and is denoted CDNL or  $L_{Cdn}$ . This procedure has been standardized, and impact interpretive criteria similar to those for DNL have been developed (Committee on Hearing, Bioacoustics and Biomechanics [CHABA], 1981).

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## B.4 ANALYSIS METHODOLOGY

AFI 32-7070, *Air Force Noise Program*, provides the overall framework for computing noise levels associated with aircraft operations within Special Use Airspace and in the vicinity of military airfields (USAF, 2016a).

The primary effect of aircraft noise on exposed communities is one of annoyance, including activity interference, which includes speech interference and sleep disturbance. Noise annoyance is defined by the USEPA as any negative subjective reaction on the part of an individual or group (USEPA, 1974). The best available method for predicting community annoyance response to aircraft noise is the updated Schultz curve (sometimes called the “Air Force Curve”) (Table B-1). The Schultz curve was validated by the Federal Interagency Committee on Noise (FICON) (1992) based on the additional data points collected by the U.S. Air Force (USAF), for use by federal agencies in aircraft

noise-related environmental impact analysis and by the American National Standards Institute (ANSI) as a standard regarding community responses to environmental noise (USAF, 2016a).

**Table B-1. Relationship Between Annoyance and DNL**

Noise Exposure (dB DNL)	Percent of Population Highly Annoyed
<65	<12.29
65–70	12.29–22.10
70–75	22.10–36.47
75–80	36.47–53.74

< = less than; dB = decibels; DNL = day-night average sound level

There are several commonly recognized average noise level thresholds that are based on expected community reaction.

#### **B.4.1 Day-Night Average Sound Level (DNL)**

The first is DNL of 65 dB. This is a level most commonly used for noise planning purposes and represents a compromise between community impact and the need for activities like aviation, which unavoidably result in noise. Areas exposed to DNL above 65 dB generally are not considered suitable for residential use. The second is DNL of 55 dB, which was identified by the USEPA as a level "...requisite to protect public health and welfare with an adequate margin of safety," (USEPA, 1974). From a noise exposure perspective, that would be an ideal selection. However, financial and technical resources are generally not available to achieve that goal. Most agencies have identified DNL of 65 dB as a criterion that protects those most impacted by noise, and that often can be achieved on a practical basis (FICON, 1992). This corresponds to about 12 percent of the exposed population being highly annoyed. The third is DNL of 75 dB. This is the lowest level at which adverse health effects could be credible (USEPA, 1974).

All aircraft noise profiles associated with the Proposed Action are available in the NOISEFILE database and were used by NOISEMAP 7 to predict noise levels under the Proposed Action. Aircraft noise levels in the vicinity of runways were calculated and are presented using the DNL metric.

#### **B.4.2 Potential Hearing Loss (PHL)**

Noise impacts could include annoyance, activity interruption, hearing loss, and potentially nonauditory health effects. Potential hearing loss (PHL) as a noise impact is introduced in this EIS, and details describing PHL are included in this section.

There is very little potential for hearing loss at noise levels below 75 dB DNL (Committee on Hearing, Bioacoustics and Biomechanics [CHABA], 1977). However, there are situations where noise in and around airbases may exceed 75 dB DNL.

The first of these is a result of exposure to occupational noise by individuals working in known high noise exposure locations such as jet engine maintenance facilities or aircraft maintenance hangars. In this case, exposure of workers inside the base boundary area should be considered occupational, and is excluded from the DoD Noise Program by DoD

Instruction 4715.13. This noise exposure should be evaluated using the appropriate DoD component regulations for occupational noise exposure. The DoD, USAF, and the National Institute for Occupational Safety and Health all have established occupational noise exposure damage risk criteria (or “standard”) for hearing loss so as to not exceed 85 dB as an 8-hour time weighted average, with a 3-dB exchange rate in a work environment. (The *exchange rate* is an increment of decibels that requires the halving of exposure time or a decrement of decibels that requires the doubling of exposure time. For example, a 3-dB exchange rate requires that noise exposure time be halved for each 3-dB increase in noise level. Therefore, an individual would achieve the limit for risk criteria at 88 dB for a period of four hours and at 91 dB for a period of two hours.) The standard assumes “quiet” (where an individual remains in an environment with noise levels less than 72 dB) for the balance of the 24-hour period. Also, USAF and Occupational Safety and Health Administration (OSHA) occupational standards prohibit any unprotected worker exposure to continuous (i.e., of a duration greater than one second) noise exceeding a 115-dB sound level. OSHA established this additional standard to reduce the risk of workers developing noise-induced hearing loss.

The second situation where individuals may be exposed to high noise levels is when noise contours resulting from flight operations in and around the installation reach or exceed 80 dB DNL both on- and off-base. To help determine the potential impacts of this situation, DoD published a policy for assessing hearing loss risk (DoD, 2009a). The policy defines the conditions under which assessments are required, references the methodology from a 1982 USEPA report and describes how the assessments are to be calculated; the policy states:

Current and future high performance aircraft create a noise environment in which the current impact analysis based primarily on annoyance may be insufficient to capture the full range of impacts on humans. As part of the noise analysis in all future environmental impact statements, DoD components will use the 80 Day-Night A-Weighted (DNL) noise contour to identify populations at the most risk of potential hearing loss (PHL). DoD components will use as part of the analysis, as appropriate, a calculation of the PHL of the at risk population. The PHL (sometimes referred to as Population Hearing Loss) methodology is defined in [US]EPA Report No. 550/9-82-105, Guidelines for Noise Impact Analysis.

The USEPA *Guidelines for Noise Impact Analysis* (hereafter referred to as “USEPA Guidelines”) specifically address the criteria and procedures for assessing noise-induced hearing loss in terms of the Noise-Induced Permanent Threshold Shift (NIPTS), a quantity that defines the permanent change in hearing level, or threshold, caused by exposure to noise (USEPA, 1982). Numerically, the NIPTS is the change in threshold averaged over the frequencies 0.5, 1, 2, and 4 kilohertz that can be expected from daily exposure to noise over a normal working lifetime of 40 years, with the exposure beginning at an age of 20 years. A grand average of the NIPTS over time (40 years) and hearing sensitivity (10 to 90 percentiles of the exposed population) is termed the *Average NIPTS*. The Average NIPTS attributable to noise exposure for ranges of noise levels in terms of DNL is given in Table B-2.

**Table B-2. Average NIPTS and 10<sup>th</sup> Percentile NIPTS as a Function of DNL<sup>1</sup>**

DNL (dB)	Average NIPTS (dB) <sup>2</sup>	10 <sup>th</sup> Percentile NIPTS (dB) <sup>2</sup>
80–81	3.0	7.0
81–82	3.5	8.0
82–83	4.0	9.0
83–84	4.5	10.0
84–85	5.5	11.0
85–86	6.0	12.0
86–87	7.0	13.5
87–88	7.5	15.0
88–89	8.5	16.5
89–90	9.5	18.0

dB = decibels; DNL = day-night average sound level; NIPTS = Noise-Induced Permanent Threshold Shift

1. Relationships between DNL and NIPTS were derived from CHABA, 1977.

2. NIPTS values rounded to the nearest 0.5 dB.

For a noise exposure within the 80 to 81 dB DNL contour band, the expected lifetime average value of NIPTS (hearing loss) is 3.0 dB. The Average NIPTS is estimated as an average over all of the people included in the at-risk population. The actual value of NIPTS for any given person will depend on their physical sensitivity to noise; some will experience more loss of hearing than others. The USEPA Guidelines provide information on this variation in sensitivity in the form of the NIPTS exceeded by 10 percent of the population, which is included in Table B-2 in the “10th Percentile NIPTS” column. As in the example above, for individuals within the 80 to 81 dB DNL contour band, the most sensitive of the population would be expected to show no more degradation to their hearing than experiencing a 7.0 dB hearing loss. And while the DoD policy requires that hearing loss risk be estimated for the population exposed to 80 dB DNL or greater, this does not preclude populations outside the 80 dB DNL contour, i.e., at lower exposure levels, from being at some degree of risk of hearing loss.

The actual noise exposure for any person living in the at-risk area is determined by the time that person is outdoors and directly exposed to the noise. Many of the people living within the applicable DNL contour will not be present during the daytime hours; they may be at work, at school, or involved in other activities outside the at-risk area. Many will be inside their homes and thereby exposed to lower noise levels, benefiting from the noise attenuation provided by the house structure. The actual activity profile is usually impossible to generalize. For the purposes of this analysis, it was assumed that residents are fully exposed to the DNL level of noise appropriate for their residence location and the Average NIPTS taken from Table B-2.

The quantity to be reported is the number of people living within each 1-dB contour band between 80 to 90 dB DNL who are at risk for hearing loss given by the Average NIPTS for that band. The average nature of Average NIPTS means that it underestimates the magnitude of the PHL for the population most sensitive to noise. Therefore, the information to be reported includes both the Average NIPTS and the 10th percentile NIPTS (Table B-2) for each 1-dB contour band inside the 80 dB DNL contour.

According to the USEPA document titled Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety and Public Health and Welfare Criteria on Noise, changes in hearing level of less than 5 dB

are generally not considered noticeable or significant. There is no known evidence that a NIPTS of less than 5 dB is perceptible or has any practical significance for the individual. Furthermore, the variability in audiometric testing is generally assumed to be  $\pm 5$  dB. The preponderance of available information on hearing loss risk is from the workplace with continuous exposure throughout the day for many years. Clearly, this data is applicable to the adult working population.

According to a report by Ludlow and Sixsmith, there were no significant differences in audiometric test results between military personnel, who as children, had lived in or near stations where jet operations were based, and a similar group who had no such exposure as children (Ludlow and Sixsmith, 1999). Hence, it is assumed that the limited data on hearing loss is applicable to the general population, including children, and provides a conservative estimate of hearing loss.

### B.4.3 Structural Vibration Due to Noise

Aircraft overflights may have the potential to cause structural vibrations in homes and other facilities located near the Dyess AFB and Ellsworth AFB airfields. Noise-induced structural vibrations and secondary vibrations (i.e., rattling of objects within the structure) may occur at noise levels exceeding 110 dB. However, only sounds lasting more than one second above a sound level of 130 dB are potentially damaging to structural components (CHABA, 1977).

### B.4.4 Sound Exposure Level (SEL) at Representative Noise-Sensitive Receptors

In order to give the public a better understanding of noise impacts in the community as a whole, representative points of interest, including schools, daycare, churches, and a prison were selected for special noise analysis. Figure B-2 and Figure B-3 show where each point is located for each respective base, and Table B-3 and Table B-4 provide the latitude and longitude for each location. At each noise-sensitive location, the NOISEMAP model was used to calculate the maximum SEL level, which is a single overflight metric, as well as the time averaged metric of DNL.

**Table B-3. Locations of Representative Points of Interest Near Dyess AFB**

Label	Type	Name	Latitude	Longitude
1	Daycare	Alliance After School at Tye Elementary	-99.87060	32.45404
2	Daycare	Tye Play and Learn	-99.86926	32.45875
3	Nursing Home	Fulwiler House	-99.82019	32.47029
4	School	Dyess Elementary	-99.81414	32.41594
5	School	Bassetti Elementary	-99.79734	32.41246
6	Daycare	Kids of Faith Learning Center	-99.79463	32.41650
7	School	Clack Middle School	-99.79615	32.42715
8	School	St. John's Episcopal School	-99.79184	32.42966
9	School	Reagan Elementary	-99.79206	32.43497
10	Daycare	Small World of Learning	-99.78794	32.42335
11	Nursing Home	Willow Springs Health & Rehab Center	-99.78544	32.44430
12	Daycare	Pioneer Drive Daycare	-99.77902	32.44292

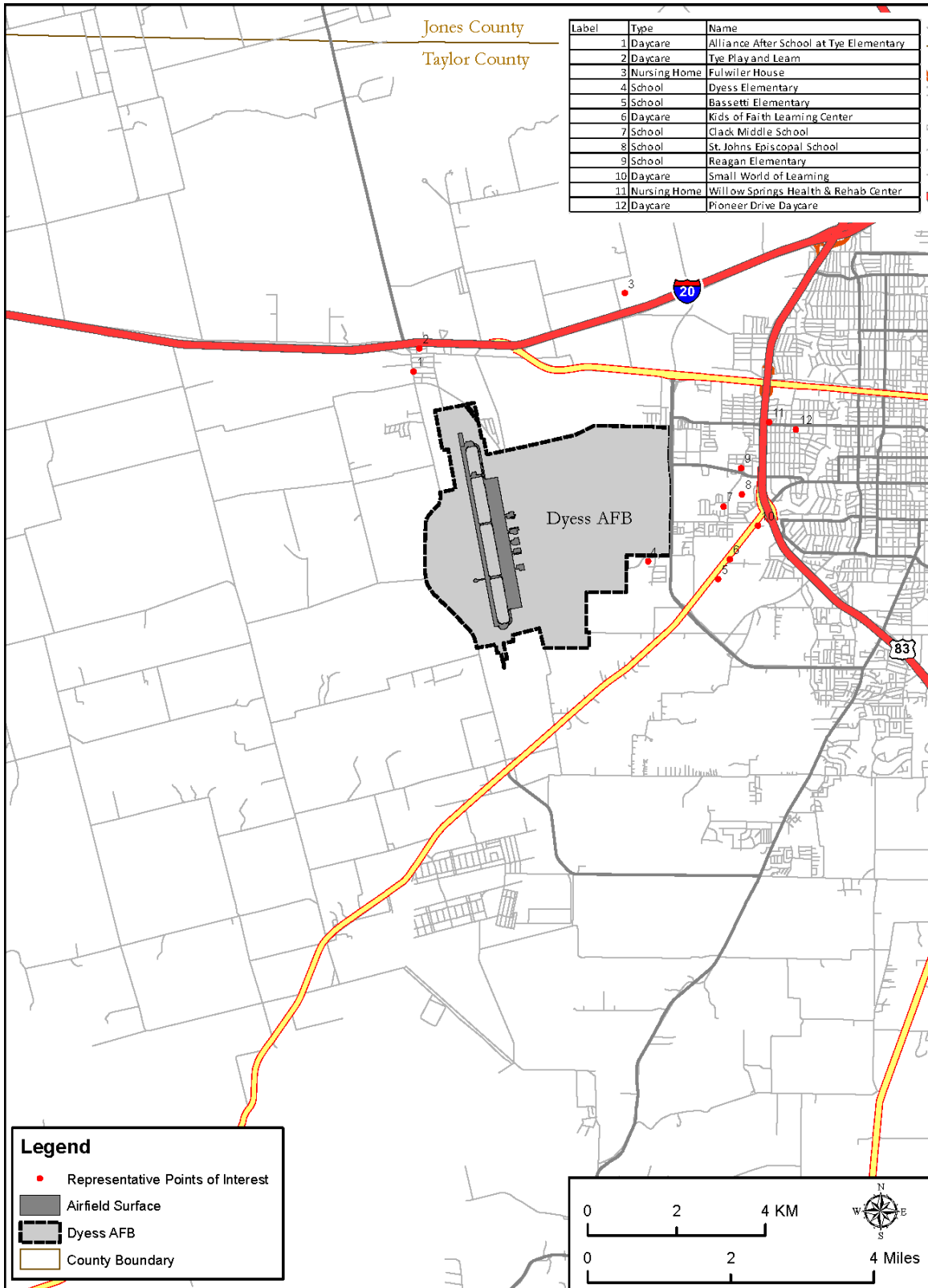


Figure B-2. Location of Representative Points of Interest Near Dyess AFB



**Table B-4. Locations of Representative Points of Interest Near Ellsworth AFB**

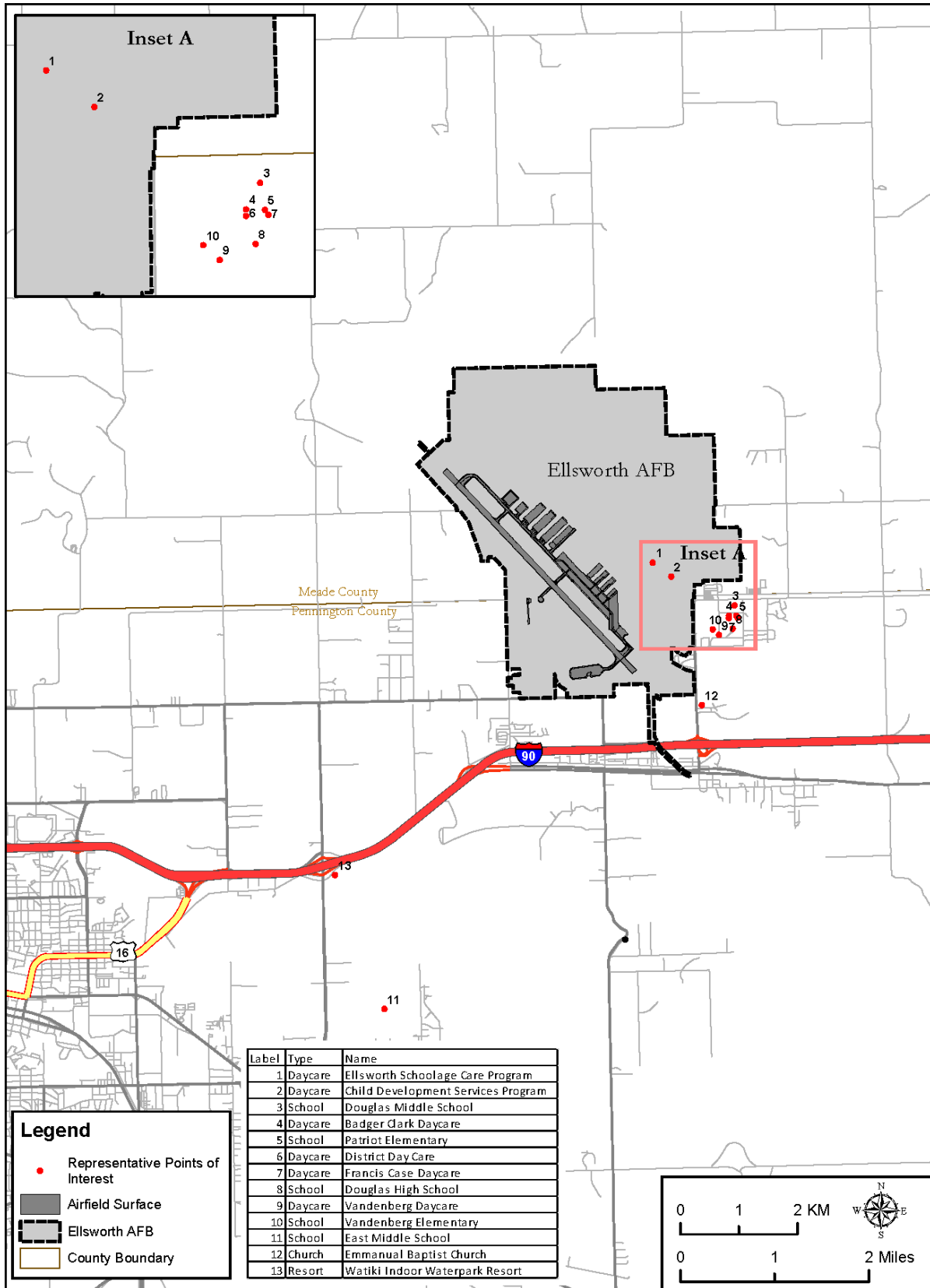
Label	Type	Name	Latitude	Longitude
1	Daycare	Ellsworth Schoolage Care Program	-103.07935	44.145968
2	Daycare	Child Development Services Program	-103.07548	44.143756
3	School	Douglas Middle School	-103.06211	44.13907
4	Daycare	Badger Clark Daycare	-103.06333	44.137542
5	School	Patriot Elementary	-103.06177	44.137486
6	Daycare	District Day Care	-103.06334	44.137164
7	Daycare	Francis Case Daycare	-103.06153	44.1372
8	School	Douglas High School	-103.0626	44.135497
9	Daycare	Vandenberg Daycare	-103.06557	44.134615
10	School	Vandenberg Elementary	-103.06688	44.135498
11	School	East Middle School	-103.13876	44.078331
12	Church	Emmanuel Baptist Church	-103.0696	44.12396
13	Resort	Watiki Indoor Waterpark Resort	-103.14865	44.09911

#### B.4.5 Equivalent Sound Level ( $L_{eq}$ ) at Representative Local Schools

Good acoustical qualities are essential in classrooms in which speech communication is an important part of the learning process. Excessive background noise interferes with speech communication and thus presents an acoustical barrier to learning. The ANSI Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools provides “acoustical performance criteria, design requirements, and design guidelines for new school classrooms and other learning spaces” (ANSI, 2009). While this standard is not a requirement to be followed by school systems, it is applicable as a design guideline to new construction, as well as renovations of existing facilities, and is recommended to achieve a high degree of speech intelligibility in learning spaces. Because this ANSI standard was not finalized until 2009, it should not be expected that all schools constructed or renovated before that date would necessarily meet the recommended criteria.

The ANSI standard identifies an appropriate set of criteria for maximizing speech intelligibility in schools as an indoor equivalent sound level ( $L_{eq}$ ) of 40 dBA (for intermittent noise from transportation sources such as aircraft operations). To compare the outdoor noise levels to indoor recommended values, outdoor noise levels are adjusted to account for the noise level reduction provided by the structure. Typical noise level reduction values are 15 dB with windows open and 25 dB with windows closed, but vary by structure, climate, and noise sources. It is assumed that each of the schools within the ROI maintains a “windows closed” condition and provides approximately 25 dB of noise level reduction.

For those points that are schools, the minimum and maximum indoor 8-hour  $L_{eq}$  was calculated to represent the level of noise disturbance that could be experienced during a typical school day due to aircraft overflights.



**Figure B-3. Location of Representative Points of Interest Near Ellsworth AFB**

### B.4.6 Number of Noise Events Analysis

Speech interference associated with aircraft noise is a primary cause of annoyance for many communities. The disruption of routine indoor activities such as watching television or listening to the radio, using the telephone or conversing gives rise to frustration and irritation. Several research studies since 1984 have concluded that if an aircraft noise event's loudest noise level (i.e., its  $L_{max}$ ) reached no higher than 50 dB, then 90 percent of speech typically would be understood. If the  $L_{max}$  exceeds 50 dB indoors, then activity/speech disruption could occur to some degree.

The analysis of the number of events above an indoor  $L_{max}$  of 50 dB assumed that the average home built to modern building codes, in a "windows-closed" environment, provides 25 dB of attenuation from outdoor noise sources (noise level reduction). The total number of aircraft noise events that exceed the threshold  $L_{max}$  level of 50 dB inside a structure was determined for an average operating day (24-hour period). In this way, the result answers the question of how many aircraft might fly over a given location that may potentially result in some level of interruption of activities such as conversing or listening to television.

## B.5 NOISE IMPACTS ON HUMANS

**Annoyance.** The primary effect of aircraft noise on exposed communities is one of annoyance. Noise annoyance is defined by the USEPA as any negative subjective reaction on the part of an individual or group (USEPA, 1974).

Studies of community annoyance resulting from numerous types of environmental noise show that DNL correlates well with impact. Schultz (1978) showed a consistent relationship between DNL and percentage of the impacted population that was "highly annoyed" (9 or 10 on a scale of 1 to 10, with 10 being the most annoyed). A more recent study reaffirmed and updated this relationship (Finegold et al., 1994) (Table B-5). In general, correlation coefficients of 0.85 to 0.95 are found between the percentages of groups of people highly annoyed and the level of average noise exposure. The correlation coefficients for the annoyance of individuals are relatively low, however, on the order of 0.5 or less. This is not surprising, considering the varying personal factors that influence the manner in which individuals react to noise. Nevertheless, findings substantiate that, as a whole, communities' level of annoyance to aircraft noise is represented fairly reliably using DNL.

**Table B-5. Relationship Between Annoyance and DNL**

Noise Exposure (DNL)	Percent of Population Highly Annoyed
< 65	< 12
65–70	12–21
70–75	22–36
75–80	37–53
80–85	54–70
> 85	> 71

Source: Finegold et al., 1994

It is important to note that DNL does not represent the sound level heard at any particular time but a cumulative sound exposure. DNL accounts for the sound level of individual noise events, the duration of those events, and the number of events. Its use is endorsed by the scientific community and is recognized as the standard methodology by most federal agencies (ANSI, 1980, 1988; USEPA, 1974; Federal Interagency Committee on Urban Noise [FICUN], 1980; FICON, 1992).

There are several commonly recognized average noise level thresholds that are based on expected community reaction. The first is 65 dB DNL. This is a level most commonly used for noise planning purposes and represents a compromise between community impact and the need for activities like aviation, which unavoidably result in noise. Areas exposed to noise levels above 65 dB DNL generally are not considered suitable for residential use. The second threshold is 55 dB DNL, which was identified by the USEPA as a level “. . . requisite to protect public health and welfare with an adequate margin of safety” (USEPA, 1974). From a noise exposure perspective, that would be an ideal selection. However, financial and technical resources are generally not available to achieve that goal. Most agencies have identified 65 dB DNL as a criterion that protects those most impacted by noise and that often can be achieved on a practical basis (FICON, 1992). This corresponds to about 12 percent of the exposed population being highly annoyed. The third threshold is 75 dB DNL. This is the lowest level at which adverse health effects could be credible (USEPA, 1974).

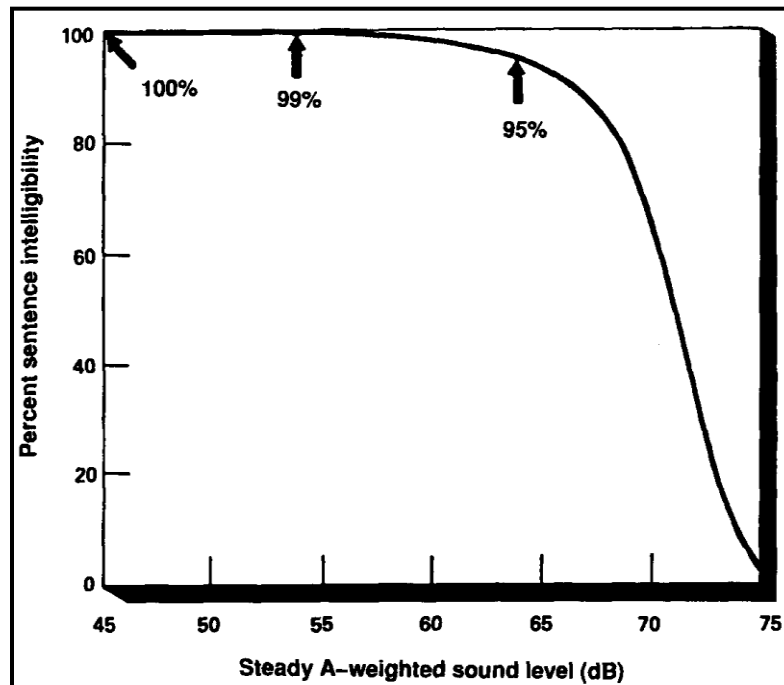
**Speech interference.** Speech interference associated with aircraft noise is a primary cause of annoyance for communities. The disruption of routine activities such as radio or television listening, telephone use, or family conversation gives rise to frustration and irritation. The quality of speech communication is particularly important in classrooms and offices. In industrial settings, it can cause fatigue and vocal strain in those who attempt to communicate over the noise.

The disruption of speech in the classroom is a primary concern, due to the potential for adverse effects on children’s learning ability. There are two aspects to speech comprehension:

- *Word intelligibility* – the percentage of words transmitted and received. This might be important for students in the lower grades who are learning the English language, particularly students for whom English is a second language.
- *Sentence intelligibility* – the percent of sentences transmitted and understood. This might be important for high school students and adults who are familiar with the language and do not necessarily have to understand each word in order to understand sentences.

**Federal criteria for interior noise.** In 1974, the USEPA identified a goal of an indoor 24-hour average sound level  $L_{eq(24)}$  of 45 dB to minimize speech interference based on the intelligibility of sentences in the presence of a steady background noise (USEPA, 1974). Intelligibility pertains to the percentage of speech units correctly understood out of those transmitted, and specifies the type of speech material used, i.e. sentences or words. The curve displayed in Figure B-4 shows the effect of steady indoor background sound levels on sentence intelligibility. For an average adult with normal hearing and

fluency in the language, steady background sound levels indoors of less than 45 dB  $L_{eq}$  are expected to allow 100 percent intelligibility of sentences.



Source: USEPA, 1974

**Figure B-4. Speech Intelligibility Curve**

The curve shows 99 percent sentence intelligibility for background levels at a  $L_{eq}$  of 54 dB, and less than 10 percent intelligibility for background levels above a  $L_{eq}$  of 73 dB. Note that the curve is especially sensitive to changes in sound level between 65 dB and 75 dB—an increase of 1 dB in background sound level from 70 dB to 71 dB results in a 14 percent decrease in sentence intelligibility, whereas a 1-dB increase in background sound level from 60 dB to 61 dB results in less than 1 percent decrease in sentence intelligibility.

**Sleep interference.** The disturbance of sleep is a major concern for communities exposed to nighttime aircraft noise. There have been numerous research studies that have attempted to quantify the complex effects of noise on sleep. This section provides an overview of the major noise-induced sleep disturbance studies that have been conducted, with particular emphasis placed on those studies that have influenced U.S. federal noise policy. The studies have been separated into two groups:

- Initial studies performed in the 1960s and 1970s, where the research was focused on laboratory sleep observations.
- Later studies performed in the 1990s up to the present, where the research was focused on field observations, and correlations to laboratory research were sought.

**Initial studies.** The relationship between noise levels and sleep disturbance is complex and not fully understood. The disturbance depends not only on the depth of sleep but also on the previous exposure to aircraft noise, familiarity with the surroundings, the physiological and psychological condition of the recipient, and a host of other situational

factors. The most readily measurable effect of noise on sleep is the number of arousals or awakenings, and so the body of scientific literature has focused on predicting the percentage of the population that will be awakened at various noise levels. Fundamentally, regardless of the tools used to measure the degree of sleep disturbance (awakenings, arousals, etc.), these studies have grouped the data points into bins to predict the percentage of the population likely to be disturbed at various sound level thresholds.

FICON produced a guidance document that provided an overview of the most pertinent sleep disturbance research conducted throughout the 1970s (FICON, 1992). Literature reviews and meta-analysis conducted between 1978 and 1989 made use of the existing datasets that indicated the effects of nighttime noise on various sleep-state changes and awakenings (Lukas, 1978; Griefahn, 1978; Pearsons et al., 1989). FICON noted that various indoor A-weighted sound levels—ranging from 25 to 50 dB—were observed to be thresholds below which significant sleep effects were not expected. Due to the large variability in the data, FICON did not endorse the reliability of the results.

However, FICON did recommend the use of an interim dose-response curve—awaiting future research—that predicted the percent of the exposed population expected to be awakened as a function of the exposure to single event noise levels expressed in terms of SEL. This curve was based on the research conducted for the USAF (Finegold, 1994). The dataset included most of the research performed up to that point and predicted that 10 percent of the population would be awakened when exposed to an interior SEL of approximately 58 dB. The data utilized to derive this relationship were primarily the results of controlled laboratory studies.

***Recent sleep disturbance research, field and laboratory studies.*** It was noted in the early sleep disturbance research that the controlled laboratory studies did not account for many factors that are important to sleep behavior, such as habituation to the environment and previous exposure to noise and awakenings from sources other than aircraft noise. In the early 1990s, field studies were conducted to validate the earlier laboratory work. The most significant finding from these studies was that an estimated 80 to 90 percent of sleep disturbances were not related to individual outdoor noise events but the result of indoor noise sources and other non-noise-related factors. The results showed that there was less of an effect of noise on sleep in real-life conditions than had been previously reported from laboratory studies.

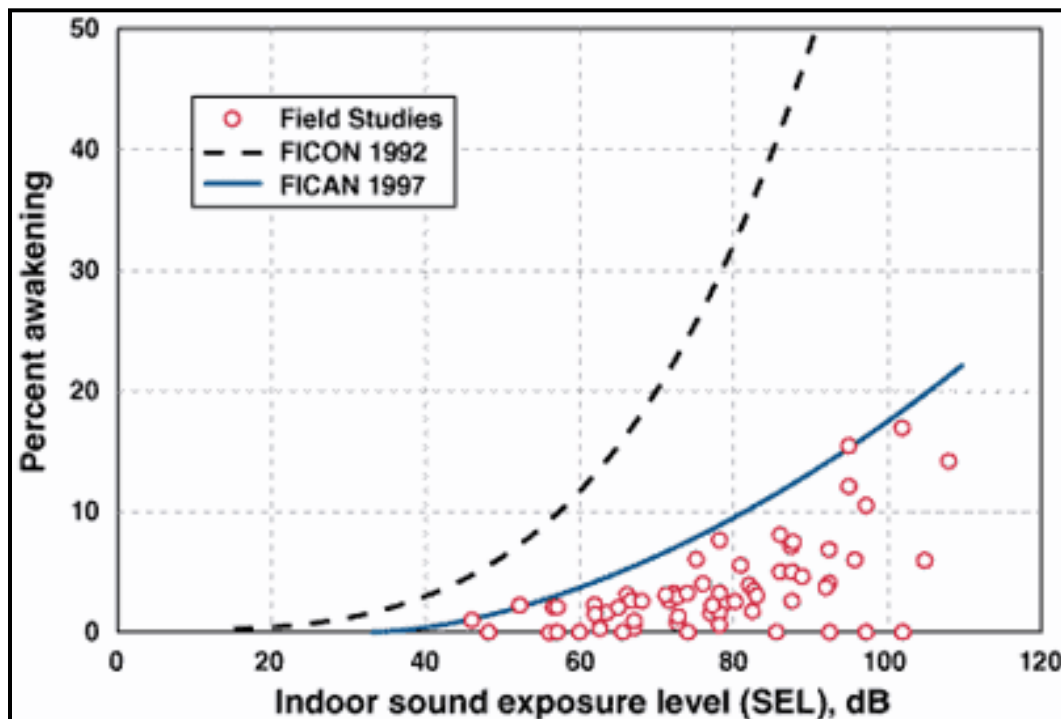
***Federal Interagency Committee on Aviation Noise (FICAN).*** The interim FICON dose-response curve that was recommended for use in 1992 was based on the most pertinent sleep disturbance research conducted through the 1970s, primarily in laboratory settings. After that time, considerable field research was conducted to evaluate the sleep effects in a normal home environment. Laboratory sleep studies tend to show higher values of sleep disturbance than field studies because people who sleep in their own homes are habituated to their environment and, therefore, do not wake up as easily (FICAN, 1997).

Based on the new information, FICAN updated its recommended dose-response curve in 1997, depicted as the lower curve in Figure B-5. This figure is based on the results of

three field studies (Ollerhead, 1992; Fidell et al., 1994; Fidell et al., 1995a; Fidell et al., 1995b), along with the datasets from six previous field studies.

The new relationship represents the higher end, or upper envelope, of the latest field data. It should be interpreted as predicting the “maximum percent of the exposed population expected to be behaviorally awakened” or the “maximum percent awakened” for a given residential population. According to this relationship, a maximum of 3 percent of people would be awakened at an indoor SEL of 58 dB, compared to 10 percent using the 1992 curve. An indoor SEL of 58 dB is equivalent to outdoor SELs of 73 and 83 dB, respectively, assuming 15 and 25 dB noise level reductions from outdoor to indoor with windows open and closed, respectively.

Note the relatively low percentage of awakenings to fairly high noise levels. People think they are awakened by a noise event, but usually the reason for awakening is otherwise. For example, the 1992 U.K. Civil Aviation Authority study found the average person was awakened about 18 times per night for reasons other than exposure to an aircraft noise—some of these awakenings are due to the biological rhythms of sleep and some to other reasons that were not correlated with specific aircraft events.



**Figure B-5. FICAN's 1997 Recommended Sleep Disturbance Dose-Response Relationship**

The FICAN 1997 curve is represented by the following equation:

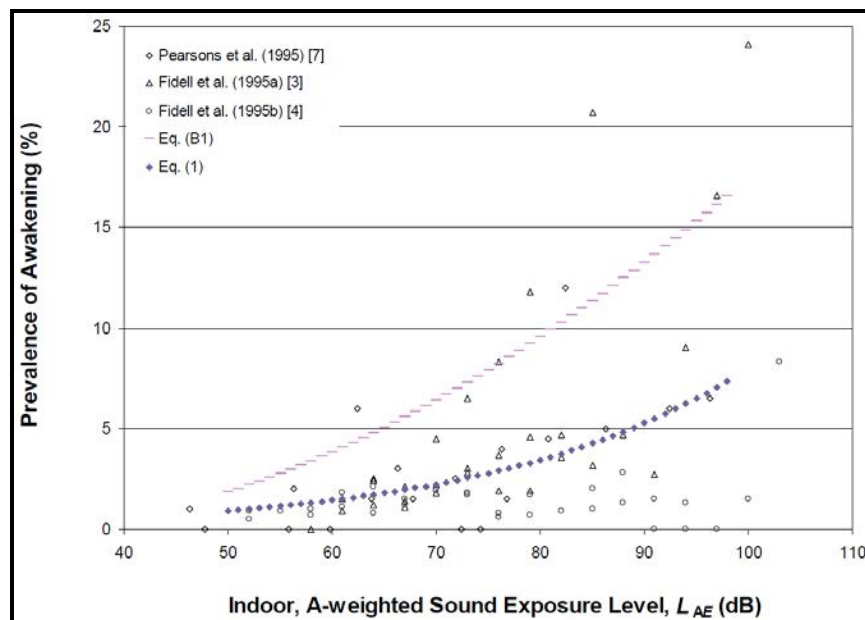
$$\text{Percent Awakenings} = 0.0087 \times [\text{SEL} - 30]^{1.79}$$

**Number of events and awakenings.** In recent years, there have been studies and one proposal that attempted to determine the effect of multiple aircraft events on the number of awakenings. The German Aerospace Center (DLR) conducted an extensive study

focused on the effects of nighttime aircraft noise on sleep and other related human performance factors (Basner, 2004). The DLR study was one of the largest studies to examine the link between aircraft noise and sleep disturbance and involved both laboratory and in-home field research phases. The DLR investigators developed a dose-effect curve that predicts the number of aircraft events at various values of  $L_{max}$  expected to produce one additional awakening over the course of a night. The dose-effect curve was based on the relationships found in the field studies.

In July 2008, ANSI and the Acoustical Society of America (ASA) published a method to estimate the percentage of the exposed population that might be awakened by multiple aircraft noise events based on statistical assumptions about the probability of awakening (or not awakening) (ANSI, 2008). This method relies on probability theory rather than direct field research/experimental data to account for multiple events.

Figure B-6 depicts the awakenings data that form the basis and equations of ANSI S12.9-2008. The curve labeled “Eq. (B1)” is the relationship between noise and awakening endorsed by FICAN in 1997. The ANSI recommended curve labeled “Eq. (1)” quantifies the probability of awakening for a population of sleepers exposed to an outdoor noise event as a function of the associated indoor SEL in the bedroom. This curve was derived from studies of behavioral awakenings associated with noise events in “steady-state” situations where the population has been exposed to the noise long enough to be habituated. The data points in Figure B-6 come from these studies. Unlike the FICAN curve, the ANSI 2008 curve represents the average of the field research data points.



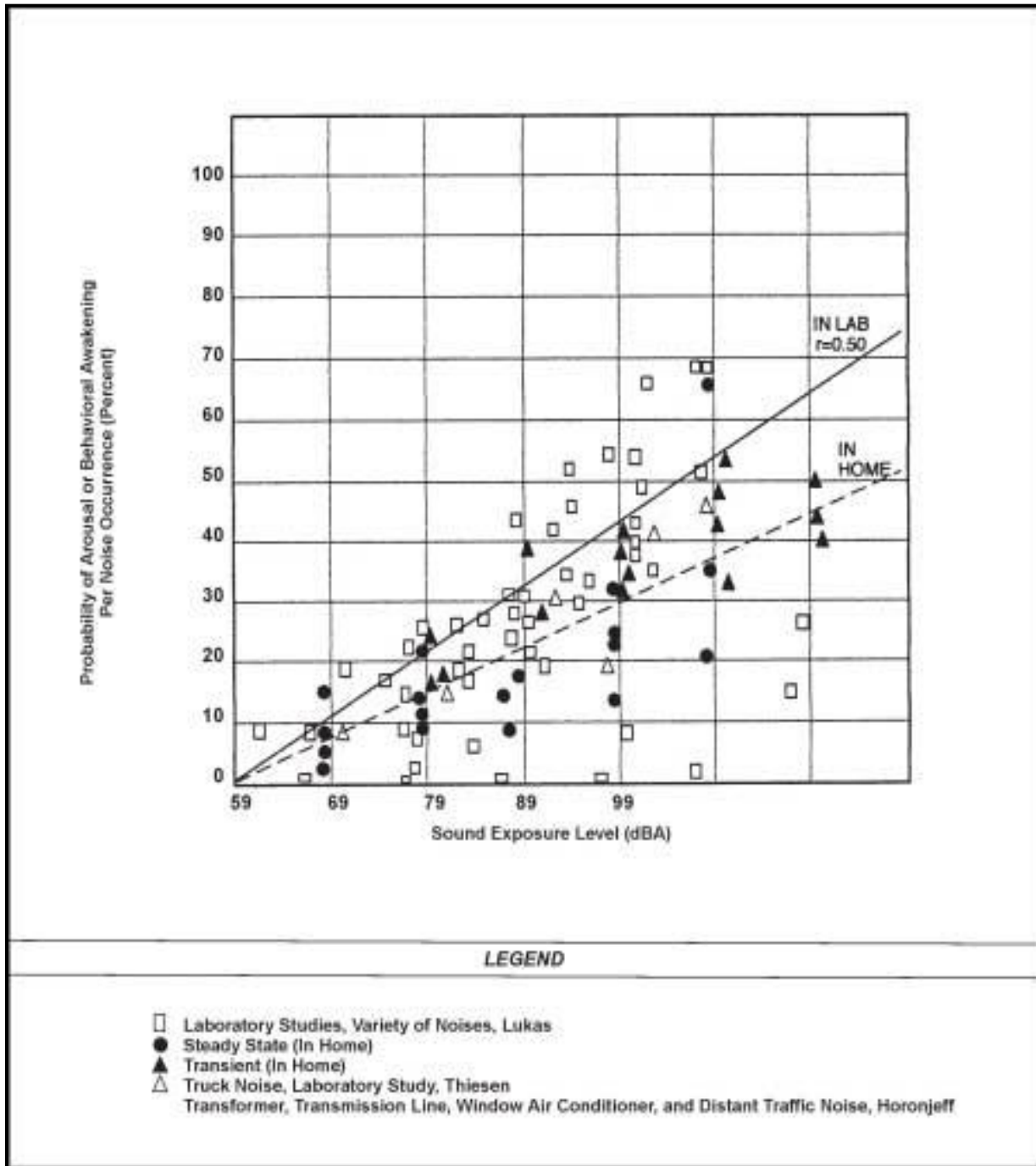
Source: ANSI, 2008

**Figure B-6. Plot of Sleep Awakening Data Versus Indoor SEL**

In December 2008, FICAN recommended the use of this new estimation procedure for future analyses of behavioral awakenings from aircraft noise (Figure B-7 and Figure B-8). In that statement, FICAN also recognized that additional sleep disturbance research is underway by various research organizations, and results of that work may result in



additional changes to FICAN's position. Until that time, FICAN recommends the use of ANSI S12.9-2008.



**Figure B-7. Probability of Arousal or Behavioral Awakening in Terms of Sound Exposure Level**

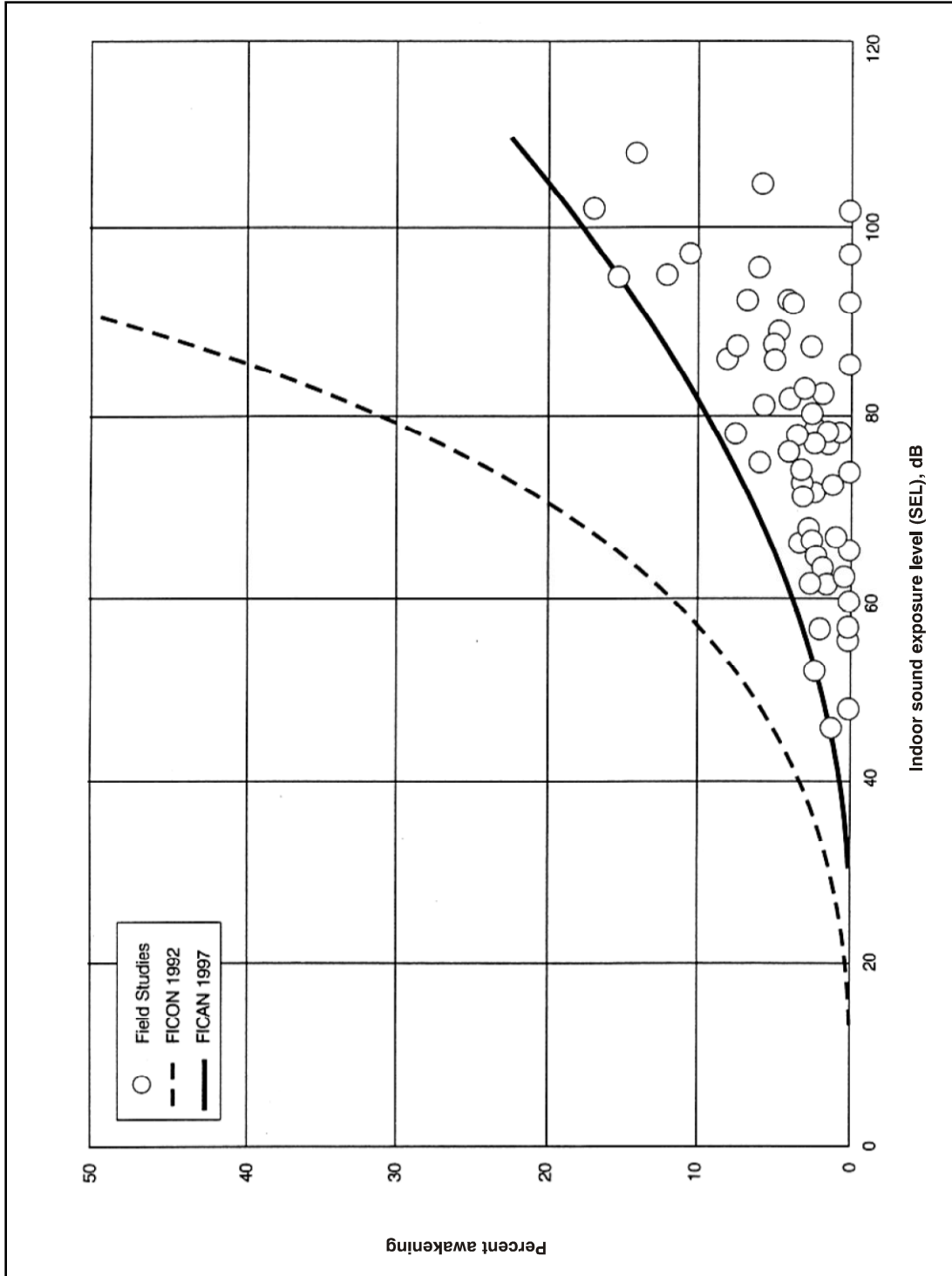


Figure B-8. Recommended Sleep Disturbance Dose-Response Relationship

**Land use compatibility.** As noted above, the inherent variability between individuals makes it impossible to predict accurately how any individual will react to a given noise event. Nevertheless, when a community is considered as a whole, its overall reaction to noise can be represented with a high degree of confidence. As described above, the best noise exposure metric for this correlation is the DNL or  $L_{dnmr}$  for military overflights.

In June 1980, the ad hoc FICUN published guidelines (FICUN, 1980) relating DNL to compatible land uses. This committee was composed of representatives from the DoD, Department of Transportation, Department of Housing and Urban Development, USEPA, and the Veterans Administration. Since issuance of the FICUN guidelines, federal agencies have generally adopted the guidelines for their noise analyses. These guidelines are reprinted in Table B-6. The designations contained in the table do not constitute a federal determination that any use of land covered by the program is acceptable or unacceptable under federal, state, or local law. The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the local authorities. The Federal Aviation Administration (FAA) determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriate by local authorities in response to locally determined needs and values in achieving noise-compatible land uses.

It is important to note that the guidelines presented in Table B-6 are recommendations, and compliance with them is not mandatory.

**Table B-6. Land Use Compatibility with Yearly Day-Night Average Sound Levels**

Land Use	Yearly Day-Night Average Sound Level in Decibels					
	Below 65	65–70	70–75	75–80	80–85	Over 85
Residential use						
Residential, other than mobile and transient lodgings	Y	N <sup>1</sup>	N <sup>1</sup>	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N <sup>1</sup>	N <sup>1</sup>	N <sup>1</sup>	N	N
Public use						
Schools	Y	N <sup>1</sup>	N <sup>1</sup>	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Government services	Y	Y	25	30	N	N
Transportation	Y	Y	Y <sup>2</sup>	N <sup>3</sup>	Y <sup>4</sup>	Y <sup>4</sup>
Parking	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
Commercial use						
Offices—business and professional	Y	Y	25	30	N	N
Wholesale and retail—building materials, hardware, and farm equipment	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
Retail trade—general	Y	Y	25	30	N	N
Utilities	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
Communication	Y	Y	25	30	N	N
Manufacturing and production						
Manufacturing—general	Y	Y	Y <sup>2</sup>	Y <sup>3</sup>	Y <sup>4</sup>	N
<i>Continued on the next page...</i>						

**Table B-6. Land Use Compatibility with Yearly Day-Night Average Sound Levels**

Land Use	Yearly Day-Night Average Sound Level in Decibels					
	Below 65	65–70	70–75	75–80	80–85	Over 85
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y <sup>6</sup>	Y <sup>7</sup>	Y <sup>8</sup>	Y <sup>8</sup>	Y <sup>8</sup>
Livestock farming and breeding	Y	Y <sup>6</sup>	Y <sup>7</sup>	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
Recreational						
Outdoor sports arenas and spectator sports	Y	Y <sup>5</sup>	Y <sup>5</sup> <sup>6</sup>	N	N	N
Outdoor music shells, amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts, and camps	Y	Y	Y	N	N	N
Golf courses, riding stables, and water recreation	Y	Y	25	30	N	N

Data for this table were taken from the Standard Land Use Coding Manual.

Y (YES) = land use and related structures compatible without restrictions.

N (No) = land use and related structures are not compatible and should be prohibited.

NLR = Noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.

25, 30, or 35 dB = land use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated into design and construction of structures.

- (1) Where the community determines that residential or school uses must be allowed, measures to achieve outdoor-to-indoor NLR of at least 25 dB and 30 dB should be incorporated into building codes and be considered in individual approvals. Normal residential construction can be expected to provide an NLR of 20 dB; thus, the reduction requirements are often stated as 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year round. However, the use of NLR criteria will not eliminate outdoor noise problems.
- (2) Measures to achieve NLR 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
- (3) Measures to achieve NLR 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
- (4) Measures to achieve NLR 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise-sensitive areas, or where the normal noise level is low.
- (5) Land use compatible provided special sound reinforcement systems are installed.
- (6) Residential buildings require an NLR of 25.
- (7) Residential buildings require an NLR of 30.
- (8) Residential buildings not permitted.

**Hearing loss.** There is very little potential for hearing loss at noise levels below 75 dB DNL (CHABA, 1977). However, there are situations where noise in and around airbases may exceed 75 dB DNL.

The first of these is a result of exposure to occupational noise by individuals working in known high noise exposure locations such as jet engine maintenance facilities or aircraft maintenance hangers. In this case, exposure of workers inside the base boundary area should be considered occupational, which is excluded from the DoD Noise Program by DoD Instruction 4715.13, and should be evaluated using the appropriate DoD component regulations for occupational noise exposure. The DoD, USAF, and the National Institute of Occupational Safety and Health (NIOSH) have all established occupational noise exposure damage risk criteria (or “standard”) for hearing loss so as to not exceed 85 dB as an 8-hour time weighted average, with a 3-dB exchange rate in a work environment. (The exchange rate is an increment of decibels that requires the halving of exposure time

or a decrement of decibels that requires the doubling of exposure time. For example, a 3-dB exchange rate requires that noise exposure time be halved for each 3-dB increase in noise level. Therefore, an individual would achieve the limit for risk criteria at 88 dB for a time period of four hours, and at 91 dB for a time period of two hours.) The standard assumes “quiet” (where an individual remains in an environment with noise levels less than 72 dB) for the balance of the 24-hour period. Also, USAF and OSHA occupational standards prohibit any unprotected worker exposure to continuous (i.e., of a duration greater than one second) noise exceeding a 115-dB sound level. OSHA established this additional standard to reduce the risk of workers developing noise-induced hearing loss.

The second situation where individuals may be exposed to high noise levels is when noise contours resulting from flight operations in and around the installation reach or exceed 80 dB DNL both on and off base. To assess the potential impacts of this situation, the DoD published a policy for assessing hearing loss risk (DoD, 2009). The policy defines the conditions under which assessments are required, references the methodology from a 1982 USEPA report, and describes how the assessments are to be calculated. The policy reads as follows:

Current and future high performance aircraft create a noise environment in which the current impact analysis based primarily on annoyance may be insufficient to capture the full range of impacts on humans. As part of the noise analysis in all future environmental impact statements, DoD components will use the 80 Day-Night A-Weighted (DNL) noise contour to identify populations at the most risk of potential hearing loss. DoD components will use as part of the analysis, as appropriate, a calculation of the PHL of the at risk population. The PHL (sometimes referred to as Population Hearing Loss) methodology is defined in USEPA Report No. 550/9-82-105, *Guidelines for Noise Impact Analysis*.

The USEPA *Guidelines for Noise Impact Analysis* (hereafter referred to as “USEPA Guidelines”) specifically addresses the criteria and procedures for assessing the noise-induced hearing loss in terms of the noise-induced NIPTS, a quantity that defines the permanent change in hearing level, or threshold, caused by exposure to noise (USEPA, 1982). Numerically, the NIPTS is the change in threshold averaged over the frequencies 0.5, 1, 2, and 4 kilohertz (kHz) that can be expected from daily exposure to noise over a normal working lifetime of 40 years, with the exposure beginning at an age of 20 years. A grand average of the NIPTS over time (40 years) and hearing sensitivity (10 to 90 percentiles of the exposed population) is termed the average NIPTS. The average NIPTS attributable to noise exposure for ranges of noise level in terms of DNL is given in Table B-7.

Thus, for a noise exposure within the 80- to 81-dB DNL contour band, the expected lifetime average value of NIPTS (hearing loss) is 3.0 dB. The average NIPTS is estimated as an average over all people included in the at risk population. The actual value of NIPTS for any given person will depend on their physical sensitivity to noise—some will experience more loss of hearing than others. The USEPA Guidelines provide information on this variation in sensitivity in the form of the NIPTS exceeded by 10 percent of the population, which is included in Table B-7 in the “10th Percentile NIPTS” column. As in the example above, for individuals within the 80- to 81-dB DNL contour band, the most sensitive of the population, would be expected to show no more degradation to their

hearing than a 7.0-dB average NIPTS hearing loss. Furthermore, while the DoD policy requires that hearing loss risk be estimated for the population exposed to 80 dB DNL or greater, this does not preclude populations outside the 80-dB DNL contour, i.e., at lower exposure levels, from being at some degree of risk of hearing loss.

**Table B-7. Average NIPTS and 10th Percentile NIPTS as a Function of DNL<sup>1</sup>**

DNL	Average NIPTS (dB) <sup>2</sup>	10th Percentile NIPTS (dB) <sup>2</sup>
80–81	3.0	7.0
81–82	3.5	8.0
82–83	4.0	9.0
83–84	4.5	10.0
84–85	5.5	11.0
85–86	6.0	12.0
86–87	7.0	13.5
87–88	7.5	15.0
88–89	8.5	16.5
89–90	9.5	18.0

dB = decibels; DNL = Day–Night Average Sound Level; NIPTS = Noise-Induced Permanent Threshold Shift

1. Relationships between DNL and NIPTS were derived from CHABA, 1977.
2. NIPTS values rounded to the nearest 0.5 dB.

The actual noise exposure for any person living in the at-risk area is determined by the time that person is outdoors and directly exposed to the noise. Many of the people living within the applicable DNL contour will not be present during the daytime hours—they may be at work, at school, or involved in other activities outside the at-risk area. Many will be inside their homes and thereby exposed to lower noise levels, benefitting from the noise attenuation provided by the house structure. The actual activity profile is usually impossible to generalize. For the purposes of this analysis, it was assumed that residents are fully exposed to the DNL level of noise appropriate for their residence location and the average NIPTS taken from Table B-7.

The quantity to be reported is the number of people living within each 1-dB contour band inside the 80-dB DNL contour who are at risk for hearing loss given by the average NIPTS for that band. The average nature of average NIPTS means that it underestimates the magnitude of the PHL for the population most sensitive to noise. Therefore, in the interest of disclosure, the information to be reported includes both the average NIPTS and the 10th percentile NIPTS (Table B-7) for each 1-dB contour band inside the 80-dB DNL contour.

According to the USEPA documents titled Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, and Public Health and Welfare Criteria for Noise, changes in hearing levels of less than 5 dB are generally not considered noticeable or significant. There is no known evidence that an NIPTS of less than 5 dB is perceptible or has any practical significance for the individual. Furthermore, the variability in audiometric testing is generally assumed to be  $\pm 5$  dB. The preponderance of available information on hearing loss risk is from the workplace with continuous exposure throughout the day for many years. Clearly, these data are applicable to the adult working population. According to a report by Ludlow and

Sixsmith, there were no significant differences in audiometric test results between military personnel who as children had lived in or near stations where jet operations were based and a similar group who had no such exposure as children (Ludlow and Sixsmith, 1999). Hence, for the purposes of PHL analysis, it can be assumed that the limited data on hearing loss are applicable to the general population, including children, and provide a conservative estimate of hearing loss.

**Effects on children.** The effect of aircraft noise on children is controversial. Certain studies indicate that, in certain situations, children are potentially more sensitive to noise compared to adults. For example, adults average roughly 10 percent better than young children on speech intelligibility tests in high-noise environments (ASA, 2000). Some studies indicate that noise negatively impacts classroom learning (Shield and Dockrell, 2008).

In response to noise-specific and other environmental studies, Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (1997), requires federal agencies to ensure that their policies, programs, and activities address environmental health and safety risks and identify any disproportionate risks to children. While the issue of noise impacts on children's learning is not fully settled, in June 2002, ANSI released a new classroom acoustics standard entitled "Acoustical Performance Criteria, Design Requirements, and Guidelines for Schools" (ANSI S12.60-2002). At present, complying with the standard is voluntary in most locations. Essentially, the criteria state that when the noisiest hour is dominated by noise from such sources as aircraft, the limits for most classrooms are an hourly average A-weighted sound level of 40 dB, and the A-weighted sound level must not exceed 40 dB for more than 10 percent of the hour. For schools located near airfields, indoor noise levels would have to be lowered by 35 to 45 dBA relative to outdoor levels (ANSI, 2002).

**Nonauditory health effects.** Nonauditory health effects of long-term noise exposure, where noise may act as a risk factor, have not been found to occur at levels below those protective against noise-induced hearing loss (as described above). Most studies attempting to clarify such health effects have found that noise exposure levels established for hearing protection will also protect against any potential nonauditory health effects, at least under workplace conditions. The lead paper at the National Institutes of Health Conference on Noise and Hearing Loss, held on January 22–24, 1990, in Washington, D.C., stated the following: "The non-auditory effects of chronic noise exposure, when noise is suspected to act as one of the risk factors in the development of hypertension, cardiovascular disease, and other nervous disorders, have never been proven to occur as chronic manifestations at levels below these criteria (an average of 75 dBA for complete protection against hearing loss for an eight-hour day)." At the 1988 International Congress on Noise as a Public Health Problem, most studies attempting to clarify such health effects did not find them at levels below the criteria protective of noise-induced hearing loss, and even above these criteria, results regarding such health effects were ambiguous. Consequently, it can be concluded that establishing and enforcing exposure levels to protect against noise-induced hearing loss would not only solve the noise-induced hearing loss problem but also any potential nonauditory health effects in the work place (von Gierke, 1990).

Although these findings were directed specifically at noise effects in the workplace, they are equally applicable to aircraft noise effects in the community environment. Research studies regarding the nonauditory health effects of aircraft noise are ambiguous, at best, and often contradictory. Yet, even those studies that purport to find such health effects use time-average noise levels of 75 dB and higher for their research.

The potential for noise to affect physiological health, such as the cardiovascular system, has been speculated; however, no unequivocal evidence exists to support such claims (Harris, 1997). Conclusions drawn from a review of health effect studies involving military low-altitude flight noise, with its unusually high maximum levels and rapid rise in sound level, have shown no correlation to cardiovascular disease (Schwartz and Thompson, 1993). Since the F-35 would fly predominantly at high altitudes, even less concern exists for such health effects. Additional unsupported claims include flyover noise that produces increased mortality rates, adverse effects on the learning ability of middle- and low-aptitude students, aggravation of post-traumatic stress syndrome, increased stress, increase in admissions to mental hospitals, and adverse effects on pregnant women and the unborn fetus (Harris, 1997). Harris's comments are based on a report by The Health Council of The Netherlands (1996). That study discusses two epidemiological studies that looked at the hearing abilities of children whose mothers had been exposed to occupational noise during pregnancy. The results were conditionally qualified by the committee concluding "...that equivalent sounds levels of 85 dB(A) or higher during an 8-hour working day appear to be detrimental to the hearing of the unborn child," but then they also recommended that further research be undertaken to verify that conclusion.

In summary, there is no scientific basis for a claim that potential health effects exist for aircraft time-average sound levels below 75 dB.

***Aircraft noise effects on structures.*** Normally, the most sensitive components of a structure to airborne noise are the windows and, infrequently, the plastered walls and ceilings. An evaluation of the peak sound pressures impinging on the structure is normally sufficient to determine the possibility of damage. In general, at sound levels above 130 dB, there is the possibility of the excitation of structural component resonance. While certain frequencies (such as 30 Hz for window breakage) may be of more concern than other frequencies, conservatively, only sounds lasting more than one second above a sound level of 130 dB are potentially damaging to structural components (CHABA, 1977).

One study, directed specifically at low-altitude, high-speed aircraft, showed that there is little probability of structural damage from such operations (Sutherland, 1989). Sound levels at damaging frequencies (e.g., 30 Hz for window breakage or 15 to 25 Hz for whole-house response) produced by most military aircraft are rarely above 130 dB.

Noise-induced structural vibration may also cause annoyance to dwelling occupants because of induced secondary vibrations or "rattle" of objects (such as hanging pictures, dishes, plaques, and bric-a-brac) within the dwelling. Windowpanes may also vibrate noticeably when exposed to high levels of airborne noise, causing homeowners to fear breakage. In general, such noise-induced vibrations occur at sound levels above those considered normally compatible with residential land use. Thus, assessments of noise



exposure levels for compatible land use should also be protective of noise-induced secondary vibrations.

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## B.6 NOISE IMPACTS MODELING

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### B.6.1 Aircraft Noise

**Subsonic Aircraft Noise.** An aircraft in subsonic flight emits noise from two sources: the engines and flow noise around the airframe. To estimate noise impacts on the ground, the DoD first measures noise from each aircraft in several flight configurations in straight and level flight at a reference altitude above an array of microphones. These measurements are stored in the NOISEFILE database. Next, this information on aircraft source noise is applied to a computer model to show how aircraft noise can be expected to propagate in real-world conditions. The algorithms at the core of these models account for spherical spreading, atmospheric absorption, and lateral attenuation. Spherical spreading is, in essence, the reduction in noise due to the spreading of sound energy away from its source. Sound energy decreases by approximately 6 dB every time the distance between the source and receiver is doubled. Daily and hourly variations in atmospheric conditions (such as humidity and clouds) can alter the amount of sound energy at a given location. The noise models use monthly average temperature and humidity conditions to derive acoustically average atmospheric absorption coefficients for each given location. Lateral attenuation, or the loss of sound energy due to reflection of sound by the ground, depends upon the altitude of the aircraft and the distance to the receiver.

The USAF has developed a series of computer models to handle modeling of aircraft noise in various situations. The USAF adopted the NOISEMAP computer program to describe noise impacts created by aircraft operations (U.S. Air Force Handbook 32-7084, 1999). NOISEMAP is one of two USEPA-approved programs; the other is the Integrated Noise Model (INM), which is used by the FAA for civilian airports. To describe airfield noise in the vicinity of an installation, the model NOISEMAP (Version 7.0) was used. NOISEMAP extracts data (speed and power setting of the aircraft) from the NOISEFILE database. The noise from each segment of each flight track from each aircraft then is summed to generate a map of average noise levels on the ground, which are typically expressed using the DNL metric. The model accounts for all operations, including both based and transient aircraft (Moulton, 1991).

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#### B.6.1.1 Points of Interest Analysis

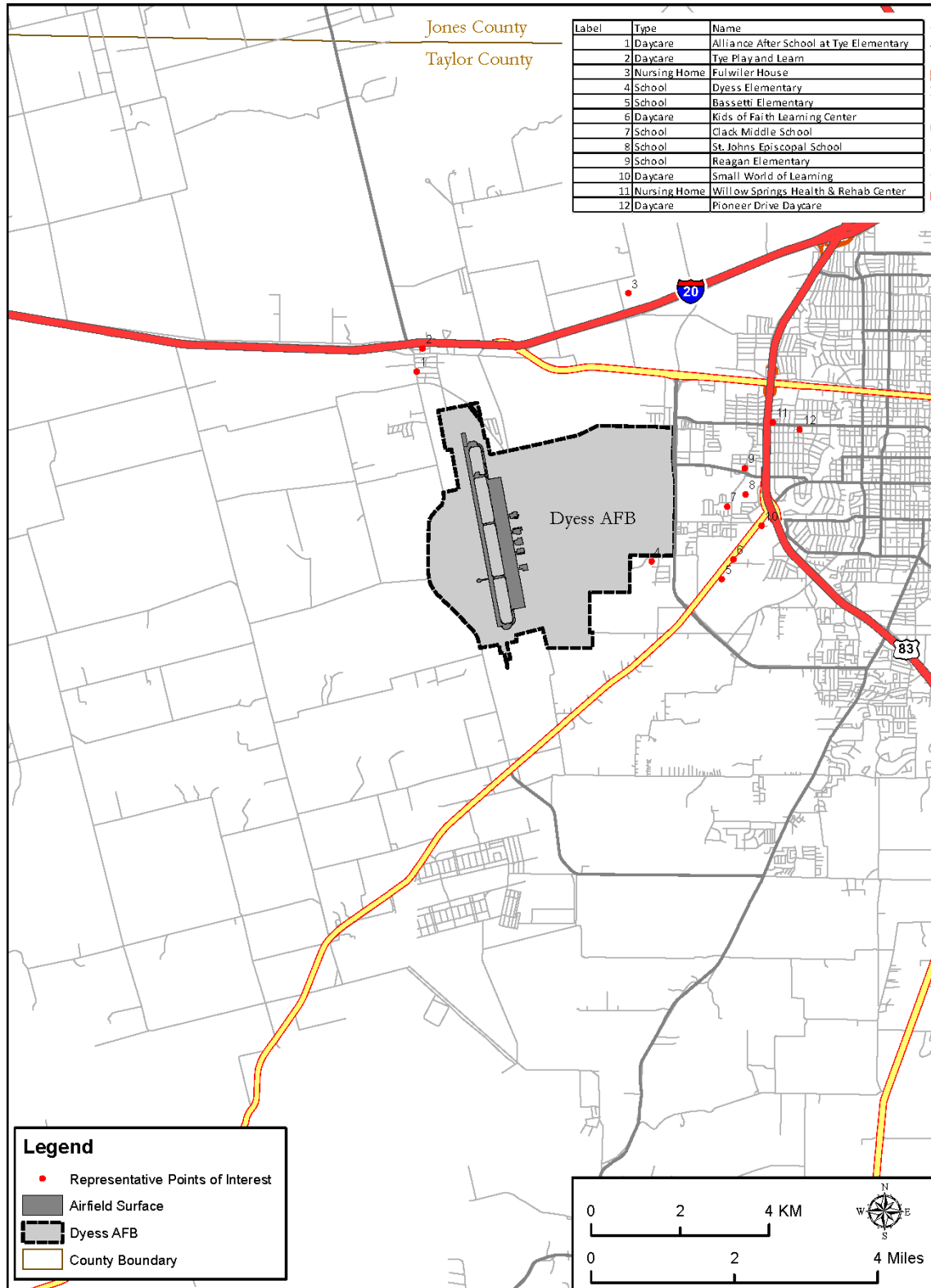
Potentially noise-sensitive locations (points of interest) were selected for detailed analysis. The locations are listed (in latitude/longitude format) in Table B-8 and Table B-9 for each respective base and shown graphically in Figure B-9 and Figure B-10. Noise analysis results for selected points of interest for each respective base are presented in Table B-10 through Table B-15.

**Table B-8. Geographic Locations of Points of Interest Near Dyess AFB**

Label	Type	Name	Latitude	Longitude
1	Daycare	Alliance After School at Tye Elementary	-99.87060	32.45404
2	Daycare	Tye Play and Learn	-99.86926	32.45875
3	Nursing Home	Fulwiler House	-99.82019	32.47029
4	School	Dyess Elementary	-99.81414	32.41594
5	School	Bassetti Elementary	-99.79734	32.41246
6	Daycare	Kids of Faith Learning Center	-99.79463	32.41650
7	School	Clack Middle School	-99.79615	32.42715
8	School	St. John's Episcopal School	-99.79184	32.42966
9	School	Reagan Elementary	-99.79206	32.43497
10	Daycare	Small World of Learning	-99.78794	32.42335
11	Nursing Home	Willow Springs Health & Rehab Center	-99.78544	32.44430
12	Daycare	Pioneer Drive Daycare	-99.77902	32.44292

**Table B-9. Geographic Locations of Points of Interest Near Ellsworth AFB**

Label	Type	Name	Latitude	Longitude
1	Daycare	Ellsworth Schoolage Care Program	-103.07935	44.145968
2	Daycare	Child Development Services Program	-103.07548	44.143756
3	School	Douglas Middle School	-103.06211	44.13907
4	Daycare	Badger Clark Daycare	-103.06333	44.137542
5	School	Patriot Elementary	-103.06177	44.137486
6	Daycare	District Day Care	-103.06334	44.137164
7	Daycare	Francis Case Daycare	-103.06153	44.1372
8	School	Douglas High School	-103.0626	44.135497
9	Daycare	Vandenberg Daycare	-103.06557	44.134615
10	School	Vandenberg Elementary	-103.06688	44.135498
11	School	East Middle School	-103.13876	44.078331
12	Church	Emmanuel Baptist Church	-103.0696	44.12396
13	Resort	Watiki Indoor Waterpark Resort	-103.14865	44.09911



**Figure B-9. Locations of Representative Points of Interest Near Dyess**

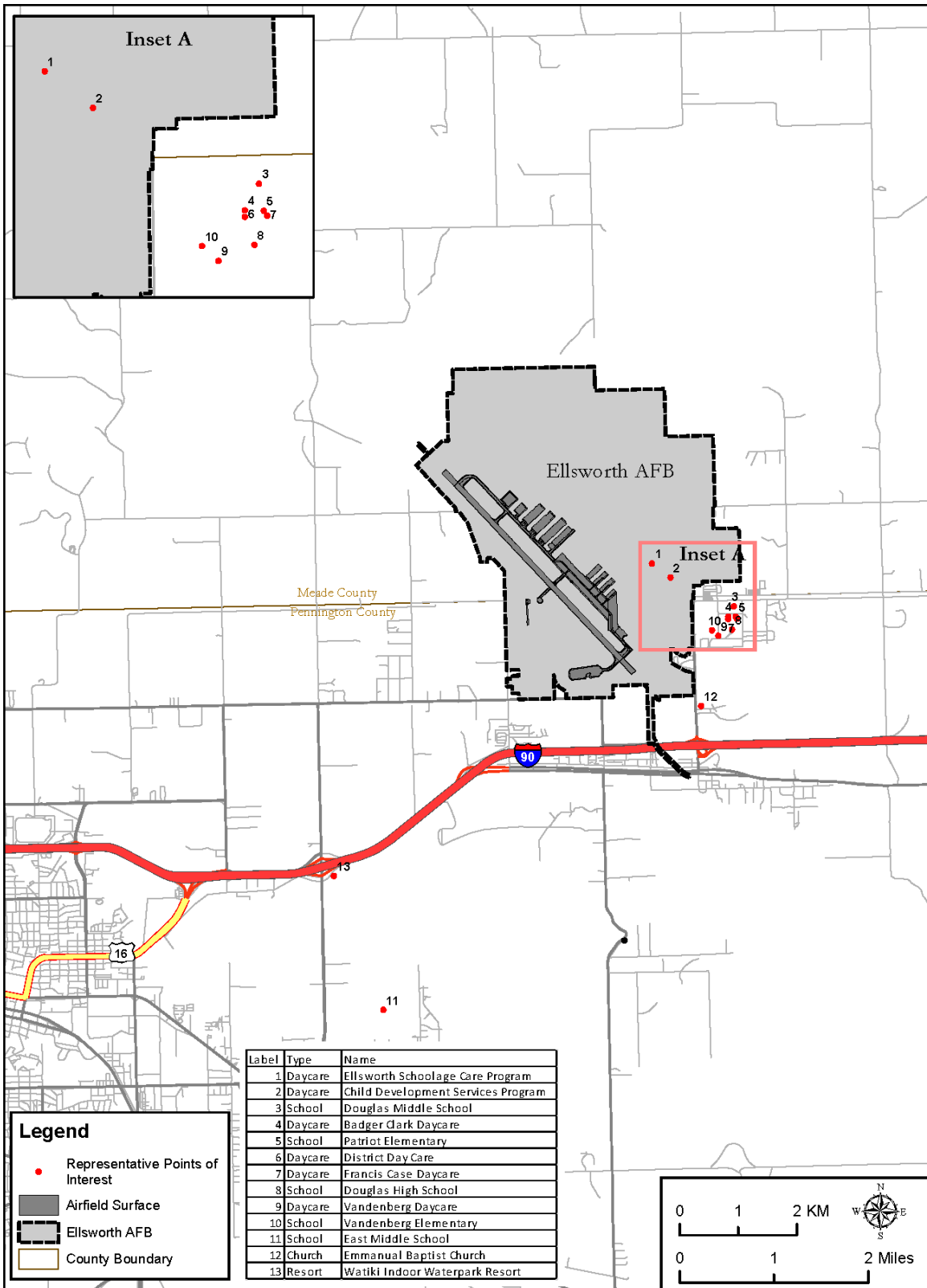


Figure B-10. Locations of Representative Points of Interest Near Ellsworth AFB

**Table B-10. Noise Levels at Selected Points of Interest Under the No Action Alternative At Dyess AFB**

Point of Interest		DNL (dBA)	Max SEL (dBA)
ID	Description		
SP01	Alliance After School at Tye Elementary	68	114
SP02	Tye Play and Learn	72	117
SP03	Fulwiler House	49	93
SP04	Dyess Elementary	54	98
SP05	Bassetti Elementary	47	89
SP06	Kids of Faith Learning Center	45	88
SP07	Clack Middle School	44	87
SP08	St. John's Episcopal School	43	86
SP09	Reagan Elementary	42	86
SP10	Small World of Learning	43	88
SP11	Willow Springs Health & Rehab Center	47	95
SP12	Pioneer Drive Daycare	46	95

**Table B-11. Noise Levels at Selected Points of Interest Under the No Action Alternative At Ellsworth AFB**

Point of Interest		DNL (dBA)	Max SEL (dBA)
ID	Description		
SP01	Ellsworth Schoolage Care Program	63	107
SP02	Child Development Services Program	64	107
SP03	Douglas Middle School	67	111
SP04	Badger Clark Daycare	70	114
SP05	Patriot Elementary	70	115
SP06	District Day Care	71	116
SP07	Francis Case Daycare	71	115
SP08	Douglas High School	74	119
SP09	Vandenberg Daycare	77	123
SP10	Vandenberg Elementary	77	122
SP11	East Middle School	53	96
SP12	Emmanuel Baptist Church	67	115
SP13	Watiki Indoor Waterpark Resort	54	100

**Table B-12. Noise Levels at Selected Points of Interest Under the Dyess Alternative**

Point of Interest		DNL (dBA)			Max SEL (dBA)		
ID	Description	No Action	Dyess Alternative	Increase re No Action	No Action	Dyess Alternative	Increase re No Action
SP01	Alliance After School at Tye Elementary	68	62	-6	114	108	-6
SP02	Tye Play and Learn	72	64	-8	117	110	-7
SP03	Fulwiler House	49	40	-9	93	87	-6
SP04	Dyess Elementary	54	45	-9	98	87	-11
SP05	Bassetti Elementary	47	39	-8	89	82	-7
SP06	Kids of Faith Learning Center	45	37	-8	88	81	-7
SP07	Clack Middle School	44	37	-7	87	79	-8
SP08	St. John's Episcopal School	43	35	-8	86	82	-4
SP09	Reagan Elementary	42	35	-7	86	83	-3
SP10	Small World of Learning	43	35	-8	88	81	-7
SP11	Willow Springs Health & Rehab Center	47	34	-13	95	79	-16
SP12	Pioneer Drive Daycare	46	33	-13	95	80	-15

**Table B-13. Noise Levels at Selected Points of Interest Under the Ellsworth Alternative**

Point of Interest		DNL (dBA)			Max SEL (dBA)		
ID	Description	No Action	Ellsworth Alternative	Increase re No Action	No Action	Ellsworth Alternative	Increase re No Action
SP01	Ellsworth Schoolage Care Program	63	55	-8	107	104	-3
SP02	Child Development Services Program	64	54	-10	107	103	-4
SP03	Douglas Middle School	67	51	-16	111	101	-10
SP04	Badger Clark Daycare	70	53	-17	114	101	-13
SP05	Patriot Elementary	70	52	-18	115	101	-14
SP06	District Day Care	71	53	-18	116	101	-15
SP07	Francis Case Daycare	71	52	-19	115	101	-14
SP08	Douglas High School	74	55	-19	119	102	-17
SP09	Vandenberg Daycare	77	58	-19	123	105	-18
SP10	Vandenberg Elementary	77	57	-20	122	105	-17
SP11	East Middle School	53	48	-5	96	87	-9
SP12	Emmanuel Baptist Church	67	59	-8	115	111	-4
SP13	Watiki Indoor Waterpark Resort	54	44	-10	100	84	-16

**Table B-14. Noise Levels at Selected Points of Interest Under the Dyess Snapshot Scenario**

Point of Interest		DNL (dBA)			Max SEL (dBA)		
ID	Description	No Action	Snapshot Scenario	Increase re No Action	No Action	Snapshot Scenario	Increase re No Action
SP01	Alliance After School at Tye Elementary	68	64	-4	114	114	-
SP02	Tye Play and Learn	72	67	-5	117	117	-
SP03	Fulwiler House	49	44	-5	93	93	-
SP04	Dyess Elementary	54	49	-5	98	98	-
SP05	Bassetti Elementary	47	42	-5	89	89	-
SP06	Kids of Faith Learning Center	45	41	-4	88	88	-
SP07	Clack Middle School	44	40	-4	87	87	-
SP08	St. John's Episcopal School	43	38	-5	86	86	-
SP09	Reagan Elementary	42	38	-4	86	86	-
SP10	Small World of Learning	43	38	-5	88	88	-
SP11	Willow Springs Health & Rehab Center	47	40	-7	95	95	-
SP12	Pioneer Drive Daycare	46	40	-6	95	95	-



**Table B-15. Noise Levels at Selected Points of Interest Under the Ellsworth Snapshot Scenario**

Point of Interest		DNL (dBA)			Max SEL (dBA)		
ID	Description	No Action	Snapshot Scenario	Increase re No Action	No Action	Snapshot Scenario	Increase re No Action
SP01	Ellsworth Schoolage Care Program	63	59	-4	107	107	-
SP02	Child Development Services Program	64	59	-5	107	107	-
SP03	Douglas Middle School	67	60	-7	111	111	-
SP04	Badger Clark Daycare	70	63	-7	114	114	-
SP05	Patriot Elementary	70	63	-7	115	115	-
SP06	District Day Care	71	64	-7	116	116	-
SP07	Francis Case Daycare	71	64	-7	115	115	-
SP08	Douglas High School	74	67	-7	119	119	-
SP09	Vandenberg Daycare	77	71	-6	123	123	-
SP10	Vandenberg Elementary	77	70	-7	122	122	-
SP11	East Middle School	53	50	-3	96	96	-
SP12	Emmanuel Baptist Church	67	63	-4	115	115	-
SP13	Watiki Indoor Waterpark Resort	54	49	-5	100	100	-

### B.6.1.2 Noise at Individual Schools

Eight-hour  $L_{eq}$  noise levels at representative schools near Dyess AFB and Ellsworth AFB are listed in Table B-16 through Table B-21 for each alternative scenario analyzed in this EIS. The schools presented were selected to help understand the noise environment and, as such, these tables may not include all schools that are affected by noise contours. Indoor  $L_{eq}$  was assumed to be 25 dB less than outdoor  $L_{eq}$  due to NLR provided by the school structure with windows closed. Actual outdoor-to-indoor NLR varies from school to school and between locations within individual schools.

**Table B-16. Indoor Classroom Learning Disruption for the Applicable School Locations for the No Action Alternative at Dyess AFB**

Point of Interest		Outdoor $L_{eq(8h)}$ (dB)	Indoor <sup>(1)</sup>			
			Windows Open		Windows Closed	
ID	Description		$L_{eq(8h)}$ (dB)	Events per Hour <sup>(2)</sup>	$L_{eq(8h)}$ (dB)	Events per Hour <sup>(2)</sup>
SP01	Alliance After School at Tye Elementary	66	51	3	41	1
SP02	Tye Play and Learn	70	55	3	45	2
SP03	Fulwiler House	47	<40	-	<40	-
SP04	Dyess Elementary	52	<40	1	<40	-
SP05	Bassetti Elementary	46	<40	-	<40	-
SP06	Kids of Faith Learning Center	44	<40	-	<40	-
SP07	Clack Middle School	42	<40	-	<40	-
SP08	St. John's Episcopal School	41	<40	-	<40	-
SP09	Reagan Elementary	41	<40	-	<40	-
SP10	Small World of Learning	42	<40	-	<40	-
SP11	Willow Springs Health & Rehab Center	45	<40	-	<40	-
SP12	Pioneer Drive Daycare	45	<40	-	<40	-
Number of Sites Exceeding 1 Intrusive Event per Hour				2		1
Minimum Number of Intrusive Events per Hour if Exceeding 1				3		2
Maximum Number of Intrusive Events per Hour if Exceeding 1				3		2

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

(2) Number of Average School-Day Events per hour during 8-hour school day (0800-1600) At or Above an Indoor Maximum (single-event) Sound Level ( $L_{max}$ ) of 50 dB.

**Table B-17. Indoor Classroom Learning Disruption for the Applicable School Locations for the No Action Alternative at Ellsworth AFB**

Point of Interest		Outdoor $L_{eq(8h)}$ (dB)	Indoor <sup>(1)</sup>			
			Windows Open		Windows Closed	
ID	Description		$L_{eq(8h)}$ (dB)	Events per Hour <sup>(2)</sup>	$L_{eq(8h)}$ (dB)	Events per Hour <sup>(2)</sup>
SP01	Ellsworth Schoolage Care Program	64	49	1	<40	1
SP02	Child Development Services Program	65	50	1	<40	1
SP03	Douglas Middle School	68	53	1	43	1
SP04	Badger Clark Daycare	71	56	1	46	1
SP05	Patriot Elementary	71	56	1	46	1
SP06	District Day Care	72	57	1	47	1
SP07	Francis Case Daycare	72	57	1	47	1
SP08	Douglas High School	75	60	1	50	1
SP09	Vandenberg Daycare	79	64	1	54	1
SP10	Vandenberg Elementary	78	63	1	53	1
SP11	East Middle School	53	<40	1	<40	-
SP12	Emmanuel Baptist Church	68	53	1	43	1
SP13	Watiki Indoor Waterpark Resort	55	40	1	<40	-
Number of Sites Exceeding 1 Intrusive Event per Hour				-		-
Minimum Number of Intrusive Events per Hour if Exceeding 1				2		2
Maximum Number of Intrusive Events per Hour if Exceeding 1				-		-

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

(2) Number of Average School-Day Events per hour during 8-hour school day (0800-1600) At or Above an Indoor Maximum (single-event) Sound Level ( $L_{max}$ ) of 50 dB.

**Table B-18. Indoor Classroom Learning Disruption for the Applicable School Locations for the Dyess AFB Alternative**

Point of Interest		Dyess Alternative					Increase re No Action				
		Outdoor $L_{eq(8h)}$ (dB)	Indoor <sup>(1)</sup>				Outdoor $L_{eq(8h)}$ (dB)	Indoor <sup>(1)</sup>			
ID	Description		Windows Open		Windows Closed			$L_{eq(8h)}$ (dB)	Events per Hour <sup>(2)</sup>	$L_{eq(8h)}$ (dB)	Events per Hour <sup>(2)</sup>
		$L_{eq(8h)}$ (dB)	Events per Hour <sup>(2)</sup>	$L_{eq(8h)}$ (dB)	Events per Hour <sup>(2)</sup>	$L_{eq(8h)}$ (dB)	Events per Hour <sup>(2)</sup>				
SP01	Alliance After School at Tye Elementary	57	42	3	<40	-	-10	-10	-	-10	-1
SP02	Tye Play and Learn	58	43	3	<40	2	-12	-12	-	-12	-
SP03	Fulwiler House	<40	<40	-	<40	-	-11	-11	-	-11	-
SP04	Dyess Elementary	42	<40	-	<40	-	-11	-11	-1	-11	-
SP05	Bassetti Elementary	<40	<40	-	<40	-	-10	-10	-	-10	-
SP06	Kids of Faith Learning Center	<40	<40	-	<40	-	-10	-10	-	-10	-
SP07	Clack Middle School	<40	<40	-	<40	-	-9	-9	-	-9	-
SP08	St. John's Episcopal School	<40	<40	-	<40	-	-9	-9	-	-9	-
SP09	Reagan Elementary	<40	<40	-	<40	-	-9	-9	-	-9	-
SP10	Small World of Learning	<40	<40	-	<40	-	-10	-10	-	-10	-
SP11	Willow Springs Health & Rehab Center	<40	<40	-	<40	-	-16	-16	-	-16	-
SP12	Pioneer Drive Daycare	<40	<40	-	<40	-	-16	-16	-	-16	-
Number of Sites Exceeding 1 Intrusive Event per Hour				2		1			-		-
Minimum Number of Intrusive Events per Hour if Exceeding 1				3		2			0		0
Maximum Number of Intrusive Events per Hour if Exceeding 1				3		2			0		0

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

(2) Number of Average School-Day Events per hour during 8-hour school day (0800-1600) At or Above an Indoor Maximum (single-event) Sound Level ( $L_{max}$ ) of 50 dB.

**Table B-19. Indoor Classroom Learning Disruption for the Applicable School Locations for the Ellsworth AFB Alternative**

Point of Interest		Ellsworth Alternative					Increase re No Action				
		Outdoor Leq(8h) (dB)	Indoor <sup>(1)</sup>				Outdoor Leq(8h) (dB)	Indoor <sup>(1)</sup>			
ID	Description		Windows Open		Windows Closed			Windows Open		Windows Closed	
		Leq(8h) (dB)	Events per Hour <sup>(2)</sup>	Leq(8h) (dB)	Events per Hour <sup>(2)</sup>	Leq(8h) (dB)	Events per Hour <sup>(2)</sup>	Leq(8h) (dB)	Events per Hour <sup>(2)</sup>	Leq(8h) (dB)	Events per Hour <sup>(2)</sup>
SP01	Ellsworth Schoolage Care Program	52	<40	1	<40	-	-12	-12	-	-12	-1
SP02	Child Development Services Program	52	<40	1	<40	-	-13	-13	-	-13	-1
SP03	Douglas Middle School	50	<40	1	<40	-	-18	-18	-	-18	-1
SP04	Badger Clark Daycare	52	<40	1	<40	-	-19	-19	-	-19	-1
SP05	Patriot Elementary	52	<40	1	<40	-	-19	-19	-	-19	-1
SP06	District Day Care	53	<40	1	<40	-	-19	-19	-	-19	-1
SP07	Francis Case Daycare	52	<40	1	<40	-	-20	-20	-	-20	-1
SP08	Douglas High School	55	40	1	<40	-	-20	-20	-	-20	-1
SP09	Vandenberg Daycare	58	43	1	<40	-	-21	-21	-	-21	-1
SP10	Vandenberg Elementary	58	43	1	<40	-	-20	-20	-	-20	-1
SP11	East Middle School	41	<40	-	<40	-	-12	-12	-1	-12	-
SP12	Emmanuel Baptist Church	58	43	1	<40	-	-11	-11	-	-11	-1
SP13	Watiki Indoor Waterpark Resort	<40	<40	-	<40	-	-17	-17	-1	-17	-
Number of Sites Exceeding 1 Intrusive Event per Hour				-		-			-		-
Minimum Number of Intrusive Events per Hour if Exceeding 1				2		2			0		0
Maximum Number of Intrusive Events per Hour if Exceeding 1				-		-			0		0

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

(2) Number of Average School-Day Events per hour during 8-hour school day (0800-1600) At or Above an Indoor Maximum (single-event) Sound Level (L<sub>max</sub>) of 50 dB.

**Table B-20. Indoor Classroom Learning Disruption for the Applicable School Locations for the Dyess AFB Snapshot Scenario**

Point of Interest		Snapshot Scenario					Increase re No Action				
		Outdoor $L_{eq(8h)}$ (dB)	Indoor <sup>(1)</sup>				Outdoor $L_{eq(8h)}$ (dB)	Indoor <sup>(1)</sup>			
			Windows Open		Windows Closed			Windows Open		Windows Closed	
ID	Description	$L_{eq(8h)}$ (dB)	$L_{eq(8h)}$ (dB)	Events per Hour <sup>(2)</sup>	$L_{eq(8h)}$ (dB)	Events per Hour <sup>(2)</sup>	$L_{eq(8h)}$ (dB)	Events per Hour <sup>(2)</sup>	$L_{eq(8h)}$ (dB)	Events per Hour <sup>(2)</sup>	
SP01	Alliance After School at Tye Elementary	61	46	3	<40	1	-5	-5	-	-5	-
SP02	Tye Play and Learn	64	49	3	<40	2	-6	-6	-	-6	-
SP03	Fulwiler House	41	<40	-	<40	-	-6	-6	-	-6	-
SP04	Dyess Elementary	47	<40	1	<40	-	-6	-6	-	-6	-
SP05	Bassetti Elementary	40	<40	-	<40	-	-6	-6	-	-6	-
SP06	Kids of Faith Learning Center	<40	<40	-	<40	-	-5	-5	-	-5	-
SP07	Clack Middle School	<40	<40	-	<40	-	-5	-5	-	-5	-
SP08	St. John's Episcopal School	<40	<40	-	<40	-	-5	-5	-	-5	-
SP09	Reagan Elementary	<40	<40	-	<40	-	-5	-5	-	-5	-
SP10	Small World of Learning	<40	<40	-	<40	-	-5	-5	-	-5	-
SP11	Willow Springs Health & Rehab Center	<40	<40	-	<40	-	-7	-7	-	-7	-
SP12	Pioneer Drive Daycare	<40	<40	-	<40	-	-7	-7	-	-7	-
Number of Sites Exceeding 1 Intrusive Event per Hour				2		1			-		-
Minimum Number of Intrusive Events per Hour if Exceeding 1				3		2			0		0
Maximum Number of Intrusive Events per Hour if Exceeding 1				3		2			0		0

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

(2) Number of Average School-Day Events per hour during 8-hour school day (0800-1600) At or Above an Indoor Maximum (single-event) Sound Level ( $L_{max}$ ) of 50 dB.

**Table B-21. Indoor Classroom Learning Disruption for the Applicable School Locations for the Ellsworth AFB Snapshot Scenario**

Point of Interest		Snapshot Scenario					Increase re No Actionm				
		Outdoor Leq(8h) (dB)	Indoor <sup>(1)</sup>				Outdoor Leq(8h) (dB)	Indoor <sup>(1)</sup>			
ID	Description		Windows Open		Windows Closed			Windows Open		Windows Closed	
		Leq(8h) (dB)	Events per Hour <sup>(2)</sup>	Leq(8h) (dB)	Events per Hour <sup>(2)</sup>	Leq(8h) (dB)	Events per Hour <sup>(2)</sup>	Leq(8h) (dB)	Events per Hour <sup>(2)</sup>		
SP01	Ellsworth Schoolage Care Program	58	43	1	<40	1	-6	-6	-	-6	-
SP02	Child Development Services Program	59	44	1	<40	1	-6	-6	-	-6	-
SP03	Douglas Middle School	61	46	1	<40	-	-7	-7	-	-7	-1
SP04	Badger Clark Daycare	64	49	1	<40	-	-7	-7	-	-7	-1
SP05	Patriot Elementary	64	49	1	<40	-	-7	-7	-	-7	-1
SP06	District Day Care	66	51	1	41	-	-7	-7	-	-7	-1
SP07	Francis Case Daycare	65	50	1	40	-	-7	-7	-	-7	-1
SP08	Douglas High School	69	54	1	44	-	-7	-7	-	-7	-1
SP09	Vandenberg Daycare	72	57	1	47	1	-7	-7	-	-7	-
SP10	Vandenberg Elementary	71	56	1	46	1	-7	-7	-	-7	-
SP11	East Middle School	47	<40	-	<40	-	-6	-6	-1	-6	-
SP12	Emmanuel Baptist Church	63	48	1	<40	-	-6	-6	-	-6	-1
SP13	Watiki Indoor Waterpark Resort	49	<40	-	<40	-	-7	-7	-1	-7	-
Number of Sites Exceeding 1 Intrusive Event per Hour				-		-			-		-
Minimum Number of Intrusive Events per Hour if Exceeding 1				2		2			0		0
Maximum Number of Intrusive Events per Hour if Exceeding 1				-		-			0		0

(1) assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

(2) Number of Average School-Day Events per hour during 8-hour school day (0800-1600) At or Above an Indoor Maximum (single-event) Sound Level (L<sub>max</sub>) of 50 dB.

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### B.6.1.3 Number of Noise Events Analysis

Speech interference associated with aircraft noise is a primary cause of annoyance for many communities. The disruption of routine indoor activities such as watching television or listening to the radio, using the telephone, or conversing gives rise to frustration and irritation. Several research studies since 1984 have concluded that if an aircraft noise event's  $L_{max}$  reached no higher than 50 dB, 90 percent of the words in a sentence would typically be understood. However, should the noise get louder, the percentage of words understood is further reduced. Ultimately, the bottom line is that one's activity has been disrupted or their ability for their speech to be understood begins to be limited to some degree at an indoor  $L_{max}$  of 50 dB.

An analysis of the number of events above an indoor  $L_{max}$  of 50 dB was undertaken using an interior  $L_{max}$  of 50 dB as a threshold and assuming that the average home built to modern building codes, in a "windows-closed" environment, provides 25 dB of attenuation from outdoor noise sources (noise level reduction).  $L_{max}$  is a measure of the loudest noise level occurring during a noise event. The total number of aircraft noise events that exceed the threshold  $L_{max}$  level of 50 dB inside the structure was determined for an average operating day (24-hour period). In this way, the result answers the question of how many aircraft fly over a given location that may potentially result in some level of interruption of one's activities such as sentence intelligibility, TV watching, or telephonic communications.

The results are displayed in the tables in this section (Table B-22 through Table B-27), where the location of interest is provided in the leftmost column, and the conditions under which the analysis was performed are provided in subsequent columns. For example, an individual living near Alliance After School at Tye Elementary (SP01) would typically experience as many as 3 disruptive events a day under the No Action Alternative conditions with windows open. The second column represents the number of times daily under the No Action Alternative that a resident could experience disruptive events with windows closed. For example, under the No Action Alternative at the Alliance After School at Tye Elementary, an individual would be expected to experience only 3 disruptive events each day windows open and only 1 per day with windows closed.



**Table B-22. Number of Noise Events Above 50 dB L<sub>max</sub> at Points of Interest near Dyess AFB Under the No Action Alternative**

Point of Interest		Annual Average Daily Indoor Daytime (0700-2200) Events per Hour <sup>(1)</sup>	
ID	Description	Windows Open	Windows Closed
SP01	Alliance After School at Tye Elementary	3	1
SP02	Tye Play and Learn	3	2
SP03	Fulwiler House	-	-
SP04	Dyess Elementary	1	-
SP05	Bassetti Elementary	-	-
SP06	Kids of Faith Learning Center	-	-
SP07	Clack Middle School	-	-
SP08	St. John's Episcopal School	-	-
SP09	Reagan Elementary	-	-
SP10	Small World of Learning	-	-
SP11	Willow Springs Health & Rehab Center	-	-
SP12	Pioneer Drive Daycare	-	-

(1) with an indoor Maximum Sound Level of at Least 50 dB; assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

**Table B-23. Number of Noise Events Above 50 dB L<sub>max</sub> at Points of Interest near Ellsworth AFB Under the No Action Alternative**

Point of Interest		Annual Average Daily Indoor Daytime (0700-2200) Events per Hour <sup>(1)</sup>	
ID	Description	Windows Open	Windows Closed
SP01	Ellsworth Schoolage Care Program	1	1
SP02	Child Development Services Program	1	1
SP03	Douglas Middle School	1	1
SP04	Badger Clark Daycare	1	1
SP05	Patriot Elementary	1	1
SP06	District Day Care	1	1
SP07	Francis Case Daycare	1	1
SP08	Douglas High School	1	1
SP09	Vandenberg Daycare	1	1
SP10	Vandenberg Elementary	1	1
SP11	East Middle School	1	-
SP12	Emmanuel Baptist Church	1	1
SP13	Watiki Indoor Waterpark Resort	1	-

(1) with an indoor Maximum Sound Level of at Least 50 dB; assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

**Table B-24. Number of Noise Events Above 50 dB L<sub>max</sub> at Points of Interest near Dyess AFB Under the Dyess AFB Alternative**

Point of Interest		Annual Average Daily Indoor Daytime (0700-2200) Events per Hour <sup>(1)</sup>			
		Dyess Alternative		Increase re No Action	
ID	Description	Windows Open	Windows Closed	Windows Open	Windows Closed
SP01	Alliance After School at Tye Elementary	3	0	-	-1
SP02	Tye Play and Learn	3	2	-	-
SP03	Fulwiler House	0	0	-	-
SP04	Dyess Elementary	0	0	-1	-
SP05	Bassetti Elementary	0	0	-	-
SP06	Kids of Faith Learning Center	0	0	-	-
SP07	Clack Middle School	0	0	-	-
SP08	St. John's Episcopal School	0	0	-	-
SP09	Reagan Elementary	0	0	-	-
SP10	Small World of Learning	0	0	-	-
SP11	Willow Springs Health & Rehab Center	0	0	-	-
SP12	Pioneer Drive Daycare	0	0	-	-

(1) with an indoor Maximum Sound Level of at Least 50 dB; assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

**Table B-25. Number of Noise Events Above 50 dB L<sub>max</sub> at Points of Interest near Ellsworth AFB Under the Ellsworth AFB Alternative**

Point of Interest		Annual Average Daily Indoor Daytime (0700-2200) Events per Hour <sup>(1)</sup>			
		Ellsworth Alternative		Increase re No Action	
ID	Description	Windows Open	Windows Closed	Windows Open	Windows Closed
SP01	Ellsworth Schoolage Care Program	1	0	-	-1
SP02	Child Development Services Program	1	0	-	-1
SP03	Douglas Middle School	1	0	-	-1
SP04	Badger Clark Daycare	1	0	-	-1
SP05	Patriot Elementary	1	0	-	-1
SP06	District Day Care	1	0	-	-1
SP07	Francis Case Daycare	1	0	-	-1
SP08	Douglas High School	1	0	-	-1
SP09	Vandenberg Daycare	1	0	-	-1
SP10	Vandenberg Elementary	1	0	-	-1
SP11	East Middle School	0	0	-1	-
SP12	Emmanuel Baptist Church	1	0	-	-1
SP13	Watiki Indoor Waterpark Resort	0	0	-1	-

**Table B-26. Number of Noise Events Above 50 dB L<sub>max</sub> at Points of Interest near Dyess AFB Under the Dyess AFB Snapshot Scenario**

Point of Interest		Annual Average Daily Indoor Daytime (0700-2200) Events per Hour <sup>(1)</sup>			
		Snapshot Scenario		Increase re No Action	
ID	Description	Windows Open	Windows Closed	Windows Open	Windows Closed
SP01	Alliance After School at Tye Elementary	3	1	-	-
SP02	Tye Play and Learn	3	2	-	-
SP03	Fulwiler House	0	0	-	-
SP04	Dyess Elementary	1	0	-	-
SP05	Bassetti Elementary	0	0	-	-
SP06	Kids of Faith Learning Center	0	0	-	-
SP07	Clack Middle School	0	0	-	-
SP08	St. John's Episcopal School	0	0	-	-
SP09	Reagan Elementary	0	0	-	-
SP10	Small World of Learning	0	0	-	-
SP11	Willow Springs Health & Rehab Center	0	0	-	-
SP12	Pioneer Drive Daycare	0	0	-	-

(1) with an indoor Maximum Sound Level of at Least 50 dB; assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

**Table B-27. Number of Noise Events Above 50 dB L<sub>max</sub> at Points of Interest near Ellsworth AFB Under the Ellsworth AFB Snapshot Scenario**

Point of Interest		Annual Average Daily Indoor Daytime (0700-2200) Events per Hour <sup>(1)</sup>			
		Snapshot Scenario		Increase re No Action	
ID	Description	Windows Open	Windows Closed	Windows Open	Windows Closed
SP01	Ellsworth Schoolage Care Program	1	1	-	-
SP02	Child Development Services Program	1	1	-	-
SP03	Douglas Middle School	1	0	-	-1
SP04	Badger Clark Daycare	1	0	-	-1
SP05	Patriot Elementary	1	0	-	-1
SP06	District Day Care	1	0	-	-1
SP07	Francis Case Daycare	1	0	-	-1
SP08	Douglas High School	1	0	-	-1
SP09	Vandenberg Daycare	1	1	-	-
SP10	Vandenberg Elementary	1	1	-	-
SP11	East Middle School	0	0	-1	-
SP12	Emmanuel Baptist Church	1	0	-	-1
SP13	Watiki Indoor Waterpark Resort	0	0	-1	-

(1) with an indoor Maximum Sound Level of at Least 50 dB; assumes 15 dB and 25 dB of Noise Level Reductions for windows open and closed, respectively.

### B.6.1.4 Special Use Airspace Analysis

Noise analysis was also conducted for the operations occurring in SUA. Table B-28 and Table B-29 provide noise levels (in  $L_{dnmr}$ ) for the No Action Alternative, the respective Proposed Action alternatives, and the snapshot scenarios.

**Table B-28. Dyess Alternative SUA Noise**

Complex	SUA	NAA	Dyess Alternative	Dyess Snap Shot	Change From NAA
MOA	Lancer	43.4	<35	36.6	-6.8
	Pecos	55.9	36.9	49.2	-6.7
	Brownwood	<35	<35	<35	0
PRTC	GAP A	44.2	44.2	44.2	0
	GAP B	41.9	41.9	41.9	0
	GAP C	35.5	35.5	35.5	0
	GATEWAY EAST	<35	<35	<35	0
	GATEWAY WEST	36.4	36.4	36.4	0
	POWDER RIVER 1A	42.8	42.8	42.8	0
	POWDER RIVER 1B	42.8	42.8	42.8	0
	POWDER RIVER 1C	45.7	45.7	45.7	0
	POWDER RIVER 1D	39.1	39.1	39.1	0
	POWDER RIVER 2	46.1	46.1	46.1	0
	POWDER RIVER 3	37.1	37.1	37.1	0
	POWDER RIVER 4	<35	<35	<35	0

**Table B-29. Ellsworth Alternative SUA Noise**

Complex	SUA	NAA	Ellsworth Alternative	Ellsworth Snap Shot	Change From NAA
PRTC	GAP A	44.2	38.9	40.6	-3.6
	GAP B	41.9	36.5	38.2	-3.7
	GAP C	35.5	<35	35	-0.5
	GATEWAY EAST	<35	<35	<35	0
	GATEWAY WEST	36.4	<35	35	-1.4
	POWDER RIVER 1A	42.8	35.8	38.4	-4.4
	POWDER RIVER 1B	42.8	37.1	39.0	-3.8
	POWDER RIVER 1C	45.7	42.0	43.0	-2.7
	POWDER RIVER 1D	39.1	<35	35.5	-3.6
	POWDER RIVER 2	46.1	<35	39.8	-6.3
	POWDER RIVER 3	37.1	<35	35	-2.1
	POWDER RIVER 4	<35	<35	<35	0

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**APPENDIX C**  
**AIR QUALITY CALCULATIONS**

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## ACRONYMS AND ABBREVIATIONS

ACAM	Air Conformity Applicability Model
AGL	above ground level
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gas
<b>GOV</b>	Government-Owned Vehicle
lb	pound
<b>LTO</b>	landing and takeoff
$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
NAAQS	National Ambient Air Quality Standards
NEI	National Emissions Inventory
$\text{NO}_2$	nitrogen dioxide
$\text{NO}_x$	nitrogen oxides
$\text{O}_3$	ozone
Pb	Lead
$\text{PM}_{10}$	particulate matter with a diameter less than or equal to 10 microns
$\text{PM}_{2.5}$	particulate matter with a diameter less than or equal to 2.5 microns
<b>ppb</b>	parts per billion
ppm	parts per million
<b>PSD</b>	Prevention of Significant Deterioration
ROI	region of influence
<b>SIP</b>	State Implementation Plan
$\text{SO}_2$	sulfur dioxide
TCEQ	Texas Commission on Environmental Quality
U.S.	United States
VOC	volatile organic compound
yr	year

## C. AIR QUALITY CALCULATIONS

This appendix presents an overview of the Clean Air Act (CAA) requirements, as well as calculations, including the assumptions used for the air quality analyses presented in the Environmental Impact Statement (EIS).

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### C.1 AIR QUALITY PROGRAM OVERVIEW

In order to protect public health and welfare, the U.S. Environmental Protection Agency (EPA) has developed numerical concentration-based standards, or National Ambient Air Quality Standards (NAAQS), for six “criteria” pollutants (based on health-related criteria) under the provisions of the CAA Amendments of 1970. There are two kinds of NAAQS: primary and secondary standards. Primary standards prescribe the maximum permissible concentration in the ambient air to protect public health, including the health of “sensitive” populations such as asthmatics, children, and the elderly. Secondary standards prescribe the maximum concentration or level of air quality required to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings (40 Code of Federal Regulations [CFR] 50).

The CAA gives states the authority to establish air quality rules and regulations. These rules and regulations must be equivalent to, or more stringent than, the federal program. The Texas Commission on Environmental Quality (TCEQ) is the state agency that regulates air quality emissions sources in Texas under the authority of the federal CAA and amendments, federal regulations, and state laws. In South Dakota, the South Dakota Department of Environment & Natural Resources has this authority.

Both Texas and South Dakota have adopted the federal NAAQS as shown in Table C-1. Based on measured ambient air pollutant concentrations, the EPA designates areas of the United States as having air quality better than the NAAQS (attainment), worse than the NAAQS (nonattainment), and unclassifiable. The areas that cannot be classified (on the basis of available information) as meeting or not meeting the NAAQS for a particular pollutant are “unclassifiable” and are treated as attainment areas until proven otherwise. Attainment areas can be further classified as “maintenance” areas, which are areas previously classified as nonattainment areas but where air pollutant concentrations have been successfully reduced to levels below the standard. Maintenance areas are subject to special maintenance plans and must operate under some of the nonattainment area plans to ensure compliance with the NAAQS. Both Taylor County, Texas, and Pennington and Meade Counties, South Dakota are currently in attainment for all criteria pollutants (EPA, 2020a).

A general conformity analysis is required to be conducted for areas designated as nonattainment or maintenance of the NAAQS if the action’s direct and indirect emissions have a potential to emit one or more of the six criteria pollutants at or above concentrations standards listed in Table C-1 or the *de minimis* emission rate thresholds in Table C-2 or Table C-3.

**Table C-1. Summary of National Ambient Air Quality Standards**

Criteria Pollutant	Averaging Time	Federal Primary NAAQS	Federal Secondary NAAQS
Carbon monoxide (CO)	8-hour	9 ppm	No standard
	1-hour	35 ppm	No standard
Lead (Pb)	Rolling 3-month average	0.15 µg/m <sup>3</sup> <sup>a</sup>	0.15 µg/m <sup>3</sup>
Nitrogen dioxide (NO <sub>2</sub> )	Annual	53 ppb <sup>b</sup>	53 ppb
	1-hour	100 ppb	No standard <sup>c</sup>
Particulate matter ≤10 microns (PM <sub>10</sub> )	24-hour	150 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
Particulate matter ≤ 2.5 microns (PM <sub>2.5</sub> )	Annual	12 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>
	24-hour	35 µg/m <sup>3</sup>	35 µg/m <sup>3</sup>
Ozone (O <sub>3</sub> )	8-hour	0.070 ppm <sup>c</sup>	0.070 ppm
Sulfur dioxide (SO <sub>2</sub> )	Annual	No standard	No standard
	24-hour <sup>a</sup>	No standard	No standard
	3-hour	No standard	0.50 ppm <sup>c</sup>
	1-hour	75 ppb <sup>d</sup>	No standard

Source: (EPA, 2016)

≤ = less than or equal to; µg/m<sup>3</sup> = micrograms per cubic meter; NAAQS = National Ambient Air Quality Standards; ppb = parts per billion; ppm = parts per million.

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

b. The level of the annual NO<sub>2</sub> standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

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

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

**Table C-2. Emission Rates for Criteria Pollutants in Nonattainment Areas<sup>1</sup>**

Pollutant	Emission Rate (tons/year)
Ozone (VOCs or NO <sub>x</sub> )	
Serious nonattainment areas	50
Severe nonattainment areas	25
Extreme nonattainment areas	10
Other ozone nonattainment areas outside an ozone transport region	100
Marginal and moderate nonattainment areas inside an ozone transport region	
VOCs	50
NO <sub>x</sub>	100
CO: all nonattainment areas	100
SO <sub>2</sub> or NO <sub>2</sub> : all nonattainment areas	100
PM <sub>10</sub>	
Moderate nonattainment areas	100
Serious nonattainment areas	70

**Table C-2. Emission Rates for Criteria Pollutants in Nonattainment Areas<sup>1</sup>**

Pollutant	Emission Rate (tons/year)
PM <sub>2.5</sub>	
Direct emissions	100
SO <sub>2</sub>	100
NO <sub>x</sub> (unless determined not to be a significant precursor)	100
VOCs or ammonia (if determined to be significant precursors)	100
Pb: all nonattainment areas	25

Source: (EPA, 2020b)

CO = carbon monoxide; NO<sub>2</sub> = nitrogen dioxide; NO<sub>x</sub> = nitrogen oxides; VOC = volatile organic compound; Pb = lead; PM<sub>2.5</sub> = particulate matter with a diameter less than or equal to 2.5 microns; PM<sub>10</sub> = particulate matter with a diameter less than or equal to 10 microns; SO<sub>2</sub> = sulfur dioxide

1. *De minimis* threshold levels for conformity applicability analysis.

**Table C-3. Emission Rates for Criteria Pollutants in Attainment (Maintenance) Areas<sup>1</sup>**

Pollutant	Emission Rate (tons/year)
Ozone (NO <sub>x</sub> , SO <sub>2</sub> , or NO <sub>2</sub> ): all maintenance areas	100
Ozone (VOCs)	
Maintenance areas inside an ozone transport region	50
Maintenance areas outside an ozone transport region	100
CO: all maintenance areas	100
PM <sub>10</sub> : all maintenance areas	100
PM <sub>2.5</sub>	
Direct emissions	100
SO <sub>2</sub>	100
NO <sub>x</sub> (unless determined not to be a significant precursor)	100
VOCs or ammonia (if determined to be significant precursors)	100
Pb: All maintenance areas	25

Source: (EPA, 2020b)

CO = carbon monoxide; NO<sub>x</sub> = nitrogen oxides; VOC = volatile organic compound; Pb = lead; PM<sub>2.5</sub> = particulate matter with a diameter less than or equal to 2.5 microns; PM<sub>10</sub> = particulate matter with a diameter less than or equal to 10 microns; SO<sub>2</sub> = sulfur dioxide

1. *De minimis* threshold levels for conformity applicability analysis.

Each state is required to develop a State Implementation Plan (SIP) that sets forth how CAA provisions will be imposed within the state. The SIP is the primary means for the implementation, maintenance, and enforcement of the measures needed to attain and maintain the NAAQS within each state and includes control measures, emissions limitations, and other provisions required to attain and maintain the ambient air quality standards. The purpose of the SIP is twofold. First, it must provide a control strategy that will result in the attainment and maintenance of the NAAQS. Second, it must demonstrate that progress is being made in attaining the standards in each nonattainment area.

In attainment areas, major new or modified stationary sources of air emissions on and in the area are subject to Prevention of Significant Deterioration (PSD) review to ensure that these sources are constructed without causing significant adverse deterioration of the clean air in the area. A major new source is defined as one that has the potential to emit any pollutant regulated under the CAA in amounts equal to or exceeding specific major source thresholds, that is, 100 or 250 tons per year based on the source's industrial category. A major modification is a physical change or change in the method of operation

at an existing major source that causes a significant “net emissions increase” at that source of any regulated pollutant. Table C-4 lists the PSD significant emissions rate thresholds for selected criteria pollutants (EPA, 1990).

**Table C-4. Criteria Pollutant Significant Emissions Rate Increases Under PSD Regulations**

Pollutant	Significant Emissions Rate (tons/year)
PM <sub>10</sub>	15
PM <sub>2.5</sub>	10
Total suspended particulates	25
SO <sub>2</sub>	40
NO <sub>x</sub>	40
Ozone (VOCs)	40
CO	100

Source: Title 40 CFR Part 51

CO = carbon monoxide; NO<sub>x</sub> = nitrogen oxides; VOC = volatile organic compound; Pb = lead; PM<sub>2.5</sub> = particulate matter with a diameter less than or equal to 2.5 microns; PM<sub>10</sub> = particulate matter with a diameter less than or equal to 10 microns; PSD = Prevention of Significant Deterioration; SO<sub>2</sub> = sulfur dioxide; VOC = volatile organic compound

The goals of the PSD program are to (1) ensure economic growth while preserving existing air quality; (2) protect public health and welfare from adverse effects that might occur even at pollutant levels better than the NAAQS; and (3) preserve, protect, and enhance the air quality in areas of special natural recreational, scenic, or historic value, such as national parks and wilderness areas. Sources subject to PSD review are required by the CAA to obtain a permit before commencing construction. The permit process requires an extensive review of all other major sources within a 50-mile radius and all Class I areas within a 62-mile radius of the facility. Emissions from any new or modified source must be controlled using best available control technology. The air quality, in combination with other PSD sources in the area, must not exceed the maximum allowable incremental increase identified in Table C-5. National parks and wilderness areas are designated as Class I areas, where any appreciable deterioration in air quality is considered significant. Class II areas are those where moderate, well-controlled industrial growth could be permitted. Class III areas allow for greater industrial development.

**Table C-5. Federal Allowable Pollutant Concentration Increases Under PSD Regulations**

Pollutant	Averaging Time	Maximum Allowable Concentration (µg/m <sup>3</sup> )		
		Class I	Class II	Class III
PM <sub>10</sub>	Annual	4	17	34
	24-hour	8	30	60
SO <sub>2</sub>	Annual	2	20	40
	24-hour	5	91	182
	3-hour	25	512	700
NO <sub>2</sub>	Annual	2.5	25	50

Source: Title 40 CFR Part 51

NO<sub>2</sub> = nitrogen dioxide; PM<sub>10</sub> = particulate matter with a diameter less than or equal to 10 microns; PSD = Prevention of Significant Deterioration; SO<sub>2</sub> = sulfur dioxide; µg/m<sup>3</sup> = micrograms per cubic meter



The Ambient Monitoring Program measures levels of air pollutants throughout the state. The data are used to determine compliance with air standards established for five compounds and evaluate the need for special controls for various other pollutants.

The air quality monitoring network is used to identify areas where the ambient air quality standards are being violated, and plans are needed to reduce pollutant concentration levels to be in attainment with the standards. Also included are areas where the ambient standards are being met, but plans are necessary to ensure maintenance of acceptable levels of air quality in the face of anticipated population or industrial growth.

The result of this attainment/maintenance analysis is the development of local and statewide strategies for controlling emissions of criteria air pollutants from stationary and mobile sources. The first step in this process is the annual compilation of the ambient air monitoring results, and the second step is the analysis of the monitoring data for general air quality, exceedances of air quality standards, and pollutant trends.

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## C.2 REGULATORY COMPARISONS

In order to evaluate air emissions and their impact on the overall region of influence (ROI), the emissions associated with the Proposed Action activities were evaluated in accordance with the tiered approach outlined in the *Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide – Fundamentals, Volume I and Volume II – Advanced Assessments*. The first step was to conduct an assessment to determine if the action was exempt from air quality analysis. The Proposed Action was not subject to any categorical exclusions or General Conformity exemptions. Since the Proposed Action is not subject to any exemptions under Tier I, a quantitative assessment (Tier II) was completed. The Tier II assessment requires a formal evaluation of air impacts based on a quantitative net change emission inventory of the annual net total direct and indirect emissions of pollutants of concern.

Air quality impacts were evaluated quantitatively based on a two-pronged approach. Potential impacts to air quality were first identified as the total emissions of any primary pollutant that equals 250 tons per year for that pollutant based on the federal New Source Review/PSD major stationary source threshold. In addition to criteria pollutants, greenhouse gases (GHGs) were quantified for the Proposed Action and alternatives for purposes of disclosing the local net effects (increase or decrease) and for their potential usefulness in making a reasoned choice among alternatives.

However, since the majority of the emissions related to the Proposed Action and alternatives would result from activities associated with mobile sources, a second-level indicator was deemed appropriate. Consequently, each pollutant was also evaluated and compared with the total region of influence (ROI) emissions on a pollutant-by-pollutant basis against the ROI's 2017 National Emissions Inventory (NEI) data.

Potential impacts to air quality are evaluated with respect to the extent, context, and intensity of the impact in relation to relevant regulations, guidelines, and scientific documentation. The Council on Environmental Quality (CEQ) defines *significance* in terms of context and intensity in 40 CFR 1508.27. This requires that the significance of the action must be analyzed with respect to the setting of the Proposed Action and based

relative to the severity of the impact. The CEQ National Environmental Policy Act Regulations (40 CFR 1508.27(b)) provide 10 key factors to consider in determining an impact's intensity.

*Intensity* refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:

- (1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the federal agency believes that on balance the effect will be beneficial.
- (2) The degree to which the proposed action affects public health or safety.
- (3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
- (4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.
- (5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
- (6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
- (7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
- (8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.
- (9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.
- (10) Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.

To provide a more conservative analysis, the affected counties where the respective airfields are located and those underlying the Special Use Airspace were selected as the ROIs instead of the EPA-designated Air Quality Control Regions, which are much larger

areas. Air quality impacts would be considered significant if the increases in annual emissions of a pollutant would be anticipated to: (1) cause or contribute to a violation of any national or state ambient air quality standard; (2) expose sensitive receptors to substantially increased pollutant concentrations; (3) exceed any evaluation criteria established by an SIP or permit limitations/requirements; or (4) be anticipated to cause an exceedance of the NAAQS or contribute to nonattainment.

The Air Conformity Applicability Model (ACAM) Version 5.0.16 was utilized to provide a level of consistency with respect to emissions factors and calculations. The ACAM provides estimated air emissions from proposed federal actions in areas designated as nonattainment and/or maintenance for each specific criteria and precursor pollutant as defined in the NAAQS. Emission factors for aircraft were obtained from ACAM. Equations and emission factors can be found in this appendix in Section C.4 (Project Calculations).

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### C.3 NATIONAL EMISSIONS INVENTORY

The NEI is operated under the EPA's Emission Factor and Inventory Group, which prepares the national database of air emissions information with input from numerous state and local air agencies, tribes, and industries. The database contains information on stationary and mobile sources that emit criteria air pollutants and hazardous air pollutants. The database includes estimates of annual emissions, by source, of air pollutants in each area of the country on a yearly basis. The NEI includes emission estimates for all 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands. Emission estimates for individual point or major sources (facilities), as well as county-level estimates for area, mobile, and other sources, are currently available for years 2011, 2014, and 2017 for criteria pollutants and hazardous air pollutants. The 2017 NEI data were finalized in April 2020 and last updated on July 7, 2020, so those data were used in all analyses.

Criteria air pollutants are those for which the EPA has set health-based standards. Four of the six criteria pollutants are included in the NEI database:

- Carbon monoxide
- Nitrogen oxides
- Sulfur dioxide
- Particulate matter (with a diameter less than or equal to 10 and 2.5 microns)

The NEI also includes emissions of volatile organic compounds (VOCs), which are ozone precursors, emitted from motor vehicle fuel distribution and chemical manufacturing, as well as other solvent uses. VOCs react with nitrogen oxides in the atmosphere to form ozone. The NEI database defines three classes of criteria air pollutant sources:

- Point sources. Stationary sources of emissions, such as an electric power plant, that can be identified by name and location. A "major" source emits a threshold amount (or more) of at least one criteria pollutant and must be inventoried and reported. Many states also inventory and report stationary sources that emit amounts below the thresholds for each pollutant.

- Area sources. Small point sources such as a home or office building or a diffuse stationary source such as wildfires or agricultural tilling. These sources do not individually produce sufficient emissions to qualify as point sources. Dry cleaners are one example; for instance, a single dry cleaner within an inventory area typically will not qualify as a point source, but collectively the emissions from all of the dry cleaning facilities in the inventory area may be significant and, therefore, must be included in the inventory.
- Mobile sources. Any kind of vehicle or equipment with a gasoline or diesel engine (such as an airplane or ship).

The following are the main sources of criteria pollutant emissions data for the NEI:

- For electric generating units: EPA's Emission Tracking System/Continuous Emissions Monitoring Data and Department of Energy fuel use data.
- For other large stationary sources: state data and older inventories where state data were not submitted.
- For on-road and nonroad mobile sources: the Federal Highway Administration's estimate of vehicle miles traveled and emission factors from EPA's MOVES 2014a Model.
- EPA's Clean Air Market program supplies emissions data for electric power plants.
- For stationary area sources: state data, EPA-developed estimates for some sources, and older inventories where state or EPA data were not submitted.
- State and local environmental agencies supply most of the point source data.

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## C.4 PROJECT CALCULATIONS

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### C.4.1 Aircraft Flight Operations

*Aircraft operations of concern* are those that occur from ground level up to 3,000 feet above ground level (AGL). Neither the Texas nor South Dakota SIP specifies a mixing height; therefore, the default 3,000-foot AGL ceiling was assumed as the atmospheric mixing height above which any pollutant generated would not contribute to increased pollutant concentrations at ground level. Aircraft operations of interest at Dyess and Ellsworth were departures and arrivals (the landing and takeoff [LTO] cycle) and closed pattern work near the airfield (visual flight rules and instrument flight rules routes) that occur below 3,000 feet. There were also low-level flight operations occurring in the Special Use Airspaces that were also calculated based on the time in mode below 3,000 feet.

For each mode of operation, an aircraft engine operates at a specified power setting and for a specific period (time in mode). The pollutant emission rate is a function of the engine's operating mode, the fuel flow rate, and the engine's overall efficiency. Emissions

for a particular aircraft are calculated by knowing the specific engine pollutant emissions factors for each mode of operation and the time of operation in that mode.

The U.S. Air Force has developed emissions factors for aircraft engines, and Table C-6 presents an example of the emissions factors and aircraft engine performance data for aircraft type used in this analysis. The table lists the various engine modes, fuel flow, and corresponding pollutant emissions factors. Using these data, as well as information on activity levels (i.e., time in mode annually for all aircraft ground operations [e.g., trim tests], sorties, and LTO operations), pollutant emissions for each aircraft were calculated based on the following formula:

$$AEM_{POL} = (TAH/60) * (FC / 1000) * EF * NE / 2000$$

AEM<sub>POL</sub>: aircraft emissions per pollutant (tons)

TAH: total hours annually (min)

60: conversion factor minutes to hours

FC: fuel flow rate (pounds [lb]/hour)

1000: conversion factor, pounds to 1,000 pounds

EF: emission factor (lb/1,000 lb fuel)

NE: number of engines

2000: conversion factor, pounds to tons

Aircraft flying operations were calculated using ACAM emission factors and applying them to the operational parameters utilized in the noise analysis in order to calculate the emissions based on time in mode below 3,000 feet AGL for each aircraft. Only those portions of the flying operation that take place below the atmospheric mixing height are considered (these are the only emissions presumed to affect ground-level concentrations). Air emissions were estimated for each criteria pollutant based on fuel flow rates for each engine mode (e.g., idle, taxi, intermediate, military, and afterburner) per the flight profiles, ground operations data, and operational time in mode as provided by each installation. It should be noted that B-2A emission factors were used as a surrogate for the B-21 as those aircraft-specific emission factors are not yet available.

**Table C-6. Aircraft Performance Data and Emissions Factors**

Aircraft Type	Power Setting	Fuel Flow Rate (lb/hr)	Emissions Factors (lb pollutant/1,000 lb fuel)						
			VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CO <sub>2e</sub>
B-1B	Idle	1,117	0.16	1.07	4.1	24.46	2.18	0.96	3,234
	Approach	4,533	0.02	1.07	9.16	1.03	4.21	3.74	3,234
	Intermediate	6,557	0.04	1.07	13.15	0.85	1.35	0.72	3,234
	Military	7,828	0.12	1.07	12.83	0.83	1.68	1.2	3,234
	After Burn	15,314	1.46	1.07	16.92	43.49	2.87	2.4	3,234
B-21 (B-2A) <sup>1</sup>	Idle	1,097	0.29	1.07	4.3	20.98	1.25	1.03	3,234
	Approach	3,773	0.05	1.07	11.09	2.02	4.7	2.32	3,234
	Intermediate	6,350	0.03	1.07	18.01	0.85	3.05	2.72	3,234

**Table C-6. Aircraft Performance Data and Emissions Factors**

Aircraft Type	Power Setting	Fuel Flow Rate (lb/hr)	Emissions Factors (lb pollutant/1,000 lb fuel)						
			VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM 10	PM 2.5	CO <sub>2e</sub>
	Military	10,887	0.03	1.07	33.12	0.65	1.64	1.48	3,234
	After Burn	0	0	0	0	0	0	0	3,234
C-130J	Idle	794	24.15	1.07	3.9	32	0.83	0.75	3,234
	Approach	1,185	14.26	1.07	4.4	22.2	0.97	0.87	3,234
	Intermediate	1,825	0.58	1.07	9.2	2.4	0.51	0.46	3,234
	Military	2,302	0.46	1.07	9.3	2.1	0.5	0.45	3,234
	After Burn	0	0	0	0	0	0	0	3,234
T-38	Idle	524	34.46	1.07	1.34	178.05	4.7	4.02	3,234
	Approach	798	2.59	1.07	2.13	78.2	3.01	1.84	3,234
	Intermediate	1,098	1.36	1.07	2.73	58.01	2.15	1.2	3,234
	Military	1,297	3.99	1.07	2.31	43.02	1.79	0.69	3,234
	After Burn	8,470	0.92	1.07	2.6	29	0.25	0.09	3,234
F/A-18E/F	Idle	685	3.39	1.07	1.7	110.18	4.47	3.1	3,234
	Approach	3,111	0.04	1.07	7.86	2.02	1.46	0.87	3,234
	Intermediate	6,464	0.07	1.07	17.03	1.54	1.57	0.9	3,234
	Military	7,739	0.02	1.07	25.83	1.48	1.61	0.89	3,234
	After Burn	15,851	1.85	1.07	5.43	50.31	3.57	3.21	3,234
C-12	Idle	115	57.7	1.07	2.43	64	0.5	0.45	3,234
	Approach	215	2.51	1.07	8.37	23.26	0.1	0.09	3,234
	Intermediate	400	0	1.07	7	1.2	0.25	0.23	3,234
	Military	425	0	1.07	7.81	1.01	0.24	0.22	3,234
	After Burn	0	0	0	0	0	0	0	3,234
KC-135	Idle	952	88.55	1.07	2.2	79	0.16	0.14	3,234
	Approach	3,333	1.61	1.07	5.8	7.9	0.93	0.84	3,234
	Intermediate	6,508	0.23	1.07	9.5	2.4	1.92	1.73	3,234
	Military	7,460	0.12	1.07	11	1.9	1.72	1.55	3,234
	After Burn	0	0	0	0	0	0	0	3,234
P-8A	Idle	817	2.65	1.07	4.09	34.71	0.07	0.06	3,234
	Approach	2,444	0.07	1.07	8.6	3.68	0.05	0.05	3,234
	Intermediate	7,103	0.04	1.07	15.6	0.15	0.08	0.07	3,234
	Military	8,619	0.02	1.07	18.93	0.18	0.09	0.09	3,234
	After Burn	0	0	0	0	0	0	0	3,234

**Table C-6. Aircraft Performance Data and Emissions Factors**

Aircraft Type	Power Setting	Fuel Flow Rate (lb/hr)	Emissions Factors (lb pollutant/1,000 lb fuel)						
			VOC	SO <sub>x</sub>	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	CO <sub>2e</sub>
B-52	Idle	1,093	5.32	1.07	0.78	134.96	6.13	3.8	3,234
	Approach	4,884	0.24	1.07	7.12	9.67	3.68	1.46	3,234
	Intermediate	6,356	0.06	1.07	8.1	4.16	5.28	1.72	3,234
	Military	8,264	0.02	1.07	10.29	1.49	3.58	1.23	3,234
	After Burn	0	0	0	0	0	0	0	3,234
C-17	Idle	978	0.37	1.07	3.76	22.7	10.67	8.75	3,234
	Approach	4,645	0.05	1.07	15.49	0.51	5.53	5.1	3,234
	Intermediate	10,408	0.04	1.07	32.72	0.32	2.31	1.42	3,234
	Military	13,905	0.01	1.07	35.04	0.32	0.06	0.05	3,234
	After Burn	0	0	0	0	0	0	0	3,234
C-16	Idle	1,111	0.22	1.07	3.77	24.11	2.6	1.12	3,234
	Approach	5,080	0.03	1.07	9.78	5.77	1.37	0.91	3,234
	Intermediate	7,332	0.05	1.07	16.92	3.47	0.58	0.41	3,234
	Military	11,358	0.04	1.07	29	3.38	0.14	0	3,234
	After Burn	18,088	1.21	1.07	14.26	67.41	3.35	2.98	3,234

CO = carbon monoxide; hr = hour; lb = pounds; NO<sub>x</sub> = nitrous oxides; PM<sub>10</sub> = particulate matter with a diameter of 10 microns or less; VOC = volatile organic compound

1. B-2A emission factors were used as a surrogate for the B-21 as those aircraft-specific emission factors are not yet available.

## C.4.2 Personnel and Construction Emissions

Emissions associated with personnel increases, such as vehicular emissions increases due to worker commutes, were calculated using ACAM 5.0.16 using the default values for each respective installation. Likewise, construction emissions resulting from the various facility construction, demolition, and renovation projects associated with the Proposed Action were also calculated using the default values in ACAM 5.0.16.

Calculations for construction emissions were completed using the methodologies described in the U.S. Air Force *Air Quality Environmental Impact Analysis Process (EIAP) Guide – Volumes I and II* (U.S. Air Force, 2017a; U.S. Air Force, 2018).

The ACAM was used to provide a level of consistency with respect to emissions factors and calculations. The ACAM evaluates the individual emissions from different sources associated with the construction phases. Phase I is the site preparation phase, and Phase II is the actual construction phase. For facilities and infrastructure construction, demolition, and renovation, these sources include grading activities, paving, construction worker trips, stationary equipment (such as saws and generators), and mobile equipment

emissions (U.S. Air Force, 2017b). Formulas and assumptions included in the ACAM program calculations are provided below in Sections C.4.2.1 through C.4.2.5.

The total square footage of each construction footprint was entered into the ACAM. Based on these assumptions, the construction emissions were calculated using the methodology described below.

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#### C.4.2.1 Grading Activities

Grading activities are divided into grading equipment emissions and grading operations emissions.

Grading equipment emissions are combustive emissions from equipment engines and are calculated in the following manner:

$$\text{VOC} = 0.22 \text{ (pounds [lb]/acre/day)} * \text{acres} * \text{DPY}_1/2,000$$

$$\text{Nitrogen oxide (NO}_x\text{)} = 2.07 \text{ (lb/acre/day)} * \text{acres} * \text{DPY}_1/2,000$$

$$\text{Particulate matter with a diameter less than or equal to 10 microns (PM}_{10}\text{)} = 0.17 \text{ (lb/acre/day)} * \text{acres} * \text{DPY}_1/2,000$$

$$\text{Carbon monoxide (CO)} = 0.55 \text{ (lb/acre/day)} * \text{acres} * \text{DPY}_1/2,000$$

$$\text{Sulfur dioxide (SO}_2\text{)} = 0.21 \text{ (lb/acre/day)} * \text{acres} * \text{DPY}_1/2,000$$

Where

acres = number of gross acres to be graded during Phase I construction

DPY<sub>1</sub> = number of days per year used for grading during Phase I construction

2,000 = conversion factor from pounds to tons

All emissions are represented as tons per year.

Grading operations emissions are fugitive dust and tiny soil particles distributed into the air through ground disturbance and are calculated using a similar equation.

Emissions calculation:

$$\text{PM}_{10} \text{ (tons/year [yr])} = 60.7 \text{ (lb/acre/day)} * \text{acres} * \text{DPY}_1/2,000$$

Where

acres = number of gross acres to be graded during Phase I construction

DPY<sub>1</sub> = number of days per year used for grading during Phase I construction

2,000 = conversion factor from pounds to tons

The calculations assumed there were no controls used to reduce fugitive emissions. Also, it was assumed construction activities would occur within a single calendar year to provide a conservative estimate.



### C.4.2.2 Construction Worker Trips

Construction worker trips during the construction phases of the project are calculated and represented as a function of the number of facilities constructed and/or square feet of commercial construction.

Calculation:

$$\text{Trips (trips/day)} = 0.42 \text{ (trip/facility/day)} * \text{Area of training facilities}$$

Where:

Areas of training facilities = total square footage of construction projects to be constructed in the given year of construction

Total daily trips are applied to the following factors depending on the corresponding years.

Year 2009:

- $\text{VOC}_E = 0.016 * \text{trips}$
- $\text{NOx}_E = 0.015 * \text{trips}$
- $\text{PM}_{10E} = 0.0022 * \text{trips}$
- $\text{CO}_E = 0.262 * \text{trips}$

Year 2010 and beyond:

- $\text{VOC}_E = 0.012 * \text{trips}$
- $\text{NOx}_E = 0.013 * \text{trips}$
- $\text{PM}_{10E} = 0.0022 * \text{trips}$
- $\text{CO}_E = 0.262 * \text{trips}$

To convert from pounds per day to tons per year:

$$\text{VOC (tons/yr)} = \text{VOC}_E * \text{DPY}_{II}/2,000$$

$$\text{NOx (tons/yr)} = \text{NOx}_E * \text{DPY}_{II}/2,000$$

$$\text{PM}_{10} \text{ (tons/yr)} = \text{PM}_{10E} * \text{DPY}_{II}/2,000$$

$$\text{CO (tons/yr)} = \text{CO}_E * \text{DPY}_{II}/2,000$$

Where

2,000 = conversion factor from pounds to tons

$\text{DPY}_{II}$  = number of days per year during Phase II construction activities

### C.4.2.3 Stationary Equipment

Emissions from stationary equipment occur when gasoline-powered equipment (e.g., saws, generators) are used at the construction site.

Emissions calculations:

$$VOC = 0.198 \text{ pounds (lb)/day} * (GRSQFT) * DPY_{II}/2,000$$

$$NO_x = 0.137 \text{ lb/day} * (GRSQFT) * DPY_{II}/2,000$$

$$PM_{10} = 0.004 \text{ lb/day} * (GRSQFT) * DPY_{II}/2,000$$

$$CO = 5.29 \text{ lb/day} * (GRSQFT) * DPY_{II}/2,000$$

$$SO_2 = 0.007 \text{ lb/day} * (GRSQFT) * DPY_{II}/2,000$$

Where

GRSQF = gross square feet of commercial buildings to be constructed during Phase II

DPY<sub>II</sub> = number of days per year during Phase II construction

2,000 = conversion factor from pounds to tons

### C.4.2.4 Mobile Equipment

Mobile equipment (such as forklifts and dump trucks) emissions include pollutant releases generated by the equipment during Phase II construction.

Emissions calculations:

$$VOC = 0.17 \text{ lb/day} * (GRSQFT) * DPY_{II}/2,000$$

$$NO_x = 1.86 \text{ lb/day} * (GRSQFT) * DPY_{II}/2,000$$

$$PM_{10} = 0.15 \text{ lb/day} * (GRSQFT) * DPY_{II}/2,000$$

$$CO = 0.78 \text{ lb/day} * (GRSQFT) * DPY_{II}/2,000$$

$$SO_2 = 0.23 \text{ lb/day} * (GRSQFT) * DPY_{II}/2,000$$

Where

GRSQF = gross square feet of training area to be constructed during Phase II

DPY<sub>II</sub> = number of days per year during Phase II construction

2,000 = conversion factor from pounds to tons

### C.4.2.5 Vehicle Emissions

Grading vehicle emissions are generated from on-road government use, off-road base-support vehicles, and maintenance construction vehicles. Since specific numbers and types of vehicles for each base are difficult to obtain, emissions from this category were based on historical installation fuel consumption data.

#### C.4.2.5.1 On-Road Government-Owned Vehicle (GOV)

Emissions calculation:

$$E_p = N \times F \times GOVVMT \times \frac{EF_p}{454 \times 2000}$$

Where

N = number of personnel realigned

F = fraction of the year the personnel operate

GOVVMT = per-employee volume of miles traveled (VMT), miles/employee

EF<sub>p</sub> = emissions factor for pollutant, *p*, grams/mile. These factors were determined from MOVES 2014a for total hydrocarbons (VOCs), CO, and NO<sub>x</sub> for the chosen fleet mix.

454 = conversion factor from grams to pounds

2,000 = conversion factor from pounds to tons

#### C.4.2.5.2 Off-Road Base-Support Vehicles

A variety of off-road base-support vehicles are used at typical Air Force installations. There are many types of these vehicles, both gasoline and diesel fueled. Since specific numbers and types of vehicles for each base are difficult to obtain, emissions from this category were based on historical data on installation fuel consumption.

Emissions calculation:

$$E_p = N \times F \times \frac{EF_p}{2000}$$

Where

N = number of personnel realigned

F = fraction of the year the personnel operate

EF<sub>p</sub> = per employee emissions factor, pounds.

Emissions factors are as follows: SO<sub>2</sub> = 0.24, PM<sub>10</sub> = 0.34, CO = 7.91, VOC = 0.74

2,000 = conversion factor from pounds to tons

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## **APPENDIX D**

### **LAND USE**

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## ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
AICUZ	Air Installation Compatible Use Zone
APZs	Accident Potential Zones
CZs	Clear Zones
dB	decibels
dBA	A-weighted decibels
DNL	day-night average sound level
ICEMAP	Installation Complex Encroachment Management Action Plan



## D. LAND USE

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### D.1 OFF-BASE LAND USE AND ASSOCIATED NOISE ZONES AND ACCIDENT POTENTIAL ZONES

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#### D.1.1 Dyess Air Force Base

The following is a summary of information contained in the 2015 Dyess Air Force Base (AFB) Air Installation Compatible Use Zone (AICUZ) study (Dyess AFB, 2015). Off-base land use categories are discussed in the context of definitions provided in that study. Note that land use categories have since been updated, and the revised definitions are used for descriptions and analyses associated with the No Action Alternative and Proposed Action.

Land use in most areas adjacent to Dyess AFB consists primarily of open space/low density, with a small amount of residential, commercial, and industrial. A mix of residential, commercial, industrial, and other uses occur in developed portions of Abilene. Abilene's land use policies, which guide development, are discussed in the city's Comprehensive Plan (City of Abilene, 2004). The city recognizes Dyess AFB as a significant asset to the local economy and is committed to promoting policies that will enable the base to meet current and future mission requirements. The city's land use and development strategies include controlling incompatible encroachment around the base. Abilene airport zoning regulations mitigate effects to the public from airfield operations at Dyess AFB.

Approximately 77 percent of land within the Tye city limit consists of open space/low-density use (Dyess AFB, 2015). The city center has an interspersed land use pattern of residential, recreational, and public/quasi-public. Commercial and industrial land use occurs adjacent to I-20. A mixture of mostly residential and industrial land uses occur along other primary roads. The city of Tye recognizes the noise zones and Accident Potential Zones (APZs) of Dyess AFB as a growth development restraint. In the community of Caps, industrial land use occurs along Highway 277. Land use in the remainder of the community consists primarily of open space/low-density, along with small amounts of residential. Taylor County does not have land use regulations. Outside of Abilene, Tye, and Caps, the great majority of county land use in the vicinity of Dyess AFB is open space/low density, along with a small number of residential parcels.

Land use adjacent to Dyess AFB may potentially be affected by noise and safety issues associated with aircraft operations. Noise contours, Clear Zones (CZs), and APZs extend in an approximately north-south axis along the primary runway centerline. The off-base area exposed to various noise levels (outside of CZs and APZs) and accident zones under existing conditions for each land use type, as defined in the 2015 AICUZ study, is shown in Table D-1 and Table D-2. Noise zone contours and accident zones are presented on figures in the AICUZ study.

**Table D-1. Off-Base Land Use Area Noise Exposure from the 2015 Dyess AFB AICUZ Study**

Land Use Category	Acres within Noise Zones <sup>1</sup> (dB DNL)				
	65-69	70-74	75-79	80+	Total
Residential	78	34	0	0	112
Commercial	26	24	0	0	50
Industrial	83	55	16	0	154
Public/Quasi-Public	2	13	8	0	23
Open Space/Low-Density	5,405	2,484	750	31	8,670
Recreational	0	0	0	0	0
<b>Total</b>	<b>5,595</b>	<b>2,610</b>	<b>774</b>	<b>31</b>	<b>9,009</b>

Source: (Dyess AFB, 2015)

dB = decibel; DNL = day-night average sound level

Notes: <sup>1</sup>Clear Zone and Accident Potential Zone areas are not included

**Table D-2. Off-Base Land Use Area within Clear Zones and Accident Potential Zones Identified in the 2015 Dyess AFB AICUZ Study**

Land Use Category	Acres within Clear Zones and Accident Potential Zones			
	Clear Zone	APZ I	APZ II	Total
Residential	0	24	29	53
Commercial	0	7	7	14
Industrial	0	68	73	141
Public/Quasi-Public	5	3	3	11
Open Space/Low-Density	107	553	809	1,469
Recreational	0	0	0	0
<b>Total</b>	<b>112</b>	<b>655</b>	<b>921</b>	<b>1,688</b>

Source: (Dyess AFB, 2015)

APZ = accident potential zone

Overall, about 96 percent of off-base land use within noise zones of 65 dB DNL or greater consists of open space/low density, which is compatible with all noise levels. Open space/low density accounts for about 87 percent of land use within the combined CZs/APZs. The base's AICUZ and Installation Complex Encroachment Management Action Plan (ICEMAP) studies provide additional information on specific areas within noise zones and APZs under existing conditions. Land use in noise zones within the Abilene city limit occurs north of the installation and consists of open space/low-density use only. However, there are existing incompatible/not recommended land uses within Abilene's extraterritorial jurisdiction (regulated areas outside the city limits) (Dyess AFB, 2018). Five residential areas in the city of Tye occur within noise zones greater than 65 dB DNL. Two of these areas, along with the Tye RV Park, are considered incompatible. Public/quasi-public land use areas occur in the center of Tye within noise zones of 75+ dB DNL, which is also considered incompatible. Overall, most land within the 75+ dB DNL noise zones are open space/low density, commercial, and agricultural use. In the community of Caps, conditionally compatible land in the 80+ dB DNL noise zone consists of industrial use. Incompatible use consists of residential parcels in the 75–79 dB DNL noise zone. Several residential areas in south Caps in the 65–74 dB DNL noise zone are conditionally compatible.

With regard to accident zones, the northern CZ is entirely within the installation boundary, with the exception of Air Base Road, which traverses the northeastern corner of the CZ. Land in the northern APZ I consists primarily of open space/low-density use but also contains residential, commercial, and public/quasi-public use. Residential land use is considered incompatible, while commercial and public/quasi-public uses are considered conditionally compatible. Land in the northern APZ II also consists primarily of open space/ low-density use but includes large commercial and industrial parcels, which are considered conditionally compatible. The City of Tye General Plan Report proposes to convert several existing large industrial and commercial parcels, along with some small residential lots, to vacant/agricultural use. This would alleviate some of the compatibility issues associated with the APZs. Approximately half of the land in the southern CZ is within the installation boundaries; the remaining land consists of open space/low density, including some agricultural use. There is an industrial use in southern APZ I. Dyess AFB owns restrictive easements to prevent development within this area, and because of these easements, it is considered a compatible use. Without the easements, this area would be conditionally compatible. All land in the southern APZ I and the majority of land in APZ II consists of open space/low density, which is considered compatible. Residential and industrial land in APZ II, which occurs in the community of Caps, are considered conditionally compatible uses. The majority if land in the Landing Zone APZs is within the installation boundary. A small portion of land for the Runway 163/343 Landing Zone extends outside the installation; land use in this area is open space/low density, which is compatible. Dyess AFB has proposed the designation of a Safety Influence Area within the CZs and APZs, which would prevent further development of incompatible and not-recommended land uses in these areas (Dyess AFB, 2018).

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### **D.1.2 Ellsworth Air Force Base**

The following is a summary of information contained in the 2008 Ellsworth AFB AICUZ study (Ellsworth AFB, 2008). Off-base land use categories are discussed in the context of definitions provided in that study. Note that land use categories have since been updated, and the revised definitions are used for descriptions and analyses associated with the No Action Alternative and Proposed Action.

Land use surrounding Ellsworth AFB is mixed, with the majority of the development southwest of the installation in Rapid City (Ellsworth AFB, 2008). Generally, most adjacent development has been in Pennington County south of the installation. The Box Elder Planning and Zoning Commission, the Pennington County Board of County Commissioners, and the Rapid City Planning Commission have enacted zoning ordinances that regulate land use adjacent to Ellsworth AFB.

The city of Box Elder has five land use designations, consisting of residential, commercial, agriculture, mobile home park, and industrial (City of Box Elder, 2014). Of these, agriculture and residential are the largest use categories, representing 61 percent and 27 percent of the total city area, respectively. Residential and commercial areas occur along Highway 1416. Commercial development has occurred near the Liberty Boulevard/I-90 intersection. The South Dakota Ellsworth Development Authority is pursuing a plan to purchase land in this area to prevent future incompatibility (Ellsworth

AFB, 2016). Box Elder's Comprehensive Plan provides suggestions for land use and zoning that would reduce or eliminate conflicts with noise zones and APZs at Ellsworth AFB. The city plans to annex areas to the north, incorporating existing residential areas east of the base, along with vacant land, for future residential development.

Rapid City has numerous designated land use categories, but the primary uses are residential, commercial, and industrial. With the exception of Ashland Heights, land between Ellsworth AFB and Rapid City is mostly undeveloped. However, there is potential for Rapid City to annex and develop areas along Elk Vale Road toward the base. The Rapid City Comprehensive Plan recognizes Ellsworth AFB as one of the primary employers in the region and includes support of the base as one of the city's stated goals (Rapid City, 2014). The plan discourages development that could conflict with aircraft operations at the base.

Land use categories in Meade County are agricultural, residential, commercial/industrial, public/quasi-public, conservation/recreation, and aggregate mining (Meade County, 2009). Most of Meade County is undeveloped, with the majority of land use consisting of ranching and agriculture. Most residential, commercial, and industrial growth has been concentrated along I-90, northwest of Ellsworth AFB (e.g., Sturgis, Summerset). However, there has been some development further east, including some low density residential development directly north of the base. The South Dakota Ellsworth Development Authority is working with ranchers to purchase development rights to prevent more development adjacent to the base (Ellsworth AFB, 2016). A large ridge along the north boundary of Ellsworth AFB lowers development potential immediately next to the base fence line. The county's land use plan includes adopting noise attenuation guidelines for construction of habitable dwellings and buildings in elevated noise areas, and encouraging state and federal agencies to purchase development rights around Ellsworth AFB to limit development in areas with noise levels above 70 dBA.

Land use categories in Pennington County consist of agriculture, residential, commercial, industrial, open space, and Native American lands, along with several subcategories. Land in Pennington County, outside the cities of Box Elder and Rapid City, is mostly rural with some low density residential development (Ellsworth AFB, 2016). The Pennington County Comprehensive Plan (currently being updated) states that it is important to ensure that land uses surrounding Ellsworth AFB are compatible with the military mission and operations (Pennington County, 2020). Stated goals in the plan include developing a Military Influence Area, which would be defined based on noise and safety guidance in Ellsworth AFB's AICUZ study and Joint Land Use Study.

Land use adjacent to Ellsworth AFB may potentially be affected by noise and safety issues associated with aircraft operations. Noise contours, CZs, and APZs extend northwest and southeast along the runway centerline. All of the noise zones encompass land in the city of Box Elder and in Pennington and Meade counties. The noise zones do not extend into Rapid City. The 65 to 74 dB DNL noise zones arc to the north/northeast because most flight tracks turn northeast to avoid Rapid City Regional Airport airspace and to minimize noise exposure in populated areas to the greatest extent possible.

The off-base area exposed to various noise levels and accident zones under existing conditions for each land use type, as defined in the 2008 AICUZ study, is shown in Table D-3 and Table D-4. Specific land use categories were not provided for the accident zone areas. Noise zone contours and accident zones are presented on figures in the AICUZ study.

**Table D-3. Off-Base Land Use Area Noise Exposure from the 2008 Ellsworth AFB AICUZ Study**

Land Use Category	Acres within Noise Zones (dBA)				Total
	65-69	70-74	75-79	80+	
Residential	768	430	135	1	<b>1,334</b>
Commercial	226	44	34	13	<b>317</b>
Industrial	7	0	0	0	<b>7</b>
Public/Semi-Public	28	40	22	3	<b>93</b>
Open Space/Low-Density	8,451	3,880	1,545	689	<b>14,565</b>
Recreational	0	13	0	0	<b>13</b>
Transportation	235	199	134	24	<b>592</b>
<b>Total</b>	<b>9,715</b>	<b>4,606</b>	<b>1,870</b>	<b>730</b>	<b>16,921</b>

**Table D-4. Off-Base Land Use Area within Clear Zones and Accident Potential Zones Identified in the 2008 Ellsworth AFB AICUZ Study**

Accident Potential Category	Acres within Clear Zones and Accident Potential Zones
Clear Zone	132
Accident Potential Zone I	663
Accident Potential Zone II	964
<b>Total</b>	<b>1,759</b>

Source: (Ellsworth AFB, 2008)

Overall, about 86 percent of off-base land use within noise zones of 65 A-weighted decibels (dBA) or greater consists of open space/low density. This use category is compatible with all noise levels evaluated, from 65 dBA to over 80 dBA. Residential and public/semi-public land uses are present in every noise zone, although the area in the 80+ dBA noise zone is extremely small. The base's AICUZ study provides additional information on specific areas within noise zones and APZs. All of the noise zones encompass land within Box Elder. Land use in the 80+ dBA noise zone consists of residential, open space/low density, transportation, and commercial. Land use within the southern APZs includes residential, open space/low density, public/semi-public, and commercial. Noise zones do not encompass land within Rapid City. The northeastern boundary of the city is approximately two miles southwest of the 65-69 dBA noise zone. Rapid Valley, which is a census-designated unincorporated suburb of Rapid City, is about 0.5 mile from this zone. Land outside of Box Elder and Rapid City within Pennington County consists of large tracts of open space/low-density use with smaller areas of residential parcels closer to the urban areas. Meade County consists almost entirely of open space/low-density land use, with small pockets of residential use surrounding the installation. Land use within the noise zones and APZs in Meade County consists primarily of open space/low-density, with small areas of residential use in the 65-74 dBA

noise zones. A small parcel of residential land is within the 80+ dBA noise, directly south of the northern CZ.

Land in the Ellsworth AFB CZs occurs either within the installation boundary or has been acquired by the base via easements (Ellsworth AFB, 2008). All land within the northern and southern CZs is considered compatible. Ellsworth AFB has property easements in the majority of the land in the northern APZ I but does not have easements in the northern APZ II or either of the southern APZs. All land in the northern APZs is compatible. As of the time the 2008 AICUZ report was prepared, approximately 22 percent (223 acres) of the land in the southern APZs was considered conditionally compatible and approximately 4 percent (39 acres) was incompatible. Conditionally compatible land consisted of commercial use in APZ I and residential use in APZ II. Conditionally compatible residential land consisted of mobile homes and single family homes south of Old Highway 1416. Incompatible land consisted of residential and public/semi-public land in APZ I. The incompatible residential land consisted of mobile homes south of I-90 and north of Old U.S. Highway 1416. The incompatible public/semi-public land contained the Emmanuel Baptist Church and Harvest Time Free Will Baptist Church.

## D.2 LAND USE CATEGORY DEFINITIONS

**Table D-5. Land Use Definitions from Dyess AFB and Ellsworth AFB AICUZ Studies**

Land Use Category	Definition
Residential	All types of residential activity, such as single- and multi-family residences and mobile homes, at a density greater than one dwelling unit per acre.
Commercial	Offices, retail, restaurants, businesses, and other types of commercial activity.
Industrial	Areas and the facilities they contain that are owned or used for manufacturing, warehousing, and other similar uses.
Public/Quasi-Public	Publicly owned lands or lands to which the public has access, such as public buildings or institutional facilities.
Recreational	Land areas designated for recreational activity, including local parks; wilderness areas and reservations; conservation areas; and areas designated for trails, hikes, camping, and other similar uses.
Open Space/Low Density	Undeveloped land areas, forested land, agricultural land, grazing areas, water or wetland areas, and areas with residential activity at densities less than or equal to one dwelling per acre.
Transportation	Major transportation features including roads, freeways, interstates, and railroads.

AFB = Air Force Base; AICUZ = air installation compatible use zone

**Table D-6. Land Use Definitions Associated with the 2016 USDA Land Use Dataset**

Land Use Category	Definition
Water	
Open Water	Areas of open water, generally with less than 25% cover of vegetation or soil.
Perennial Ice/Snow	Areas characterized by a perennial cover of ice and/or snow, generally greater than 25% of total cover.
Developed	
Developed, Open Space	Areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20% of total cover. These areas most commonly include large-lot single-family

**Table D-6. Land Use Definitions Associated with the 2016 USDA Land Use Dataset**

Land Use Category	Definition
	housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes.
Developed, Low Intensity	Areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20% to 49% percent of total cover. These areas most commonly include single-family housing units.
Developed, Medium Intensity	Areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50% to 79% of the total cover. These areas most commonly include single-family housing units.
Developed, High Intensity	Highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses and commercial/industrial. Impervious surfaces account for 80% to 100% of the total cover.
<b>Barren</b>	
Barren Land (Rock/Sand/Clay)	Areas of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits and other accumulations of earthen material. Generally, vegetation accounts for less than 15% of total cover.
<b>Forest</b>	
Deciduous Forest	Areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species shed foliage simultaneously in response to seasonal change.
Evergreen Forest	Areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species maintain their leaves all year. Canopy is never without green foliage.
Mixed Forest	Areas dominated by trees generally greater than 5 meters tall, and greater than 20% of total vegetation cover. Neither deciduous nor evergreen species are greater than 75% of total tree cover.
<b>Shrubland</b>	
Dwarf Scrub	Alaska only areas dominated by shrubs less than 20 centimeters tall with shrub canopy typically greater than 20% of total vegetation. This type is often co-associated with grasses, sedges, herbs, and non-vascular vegetation.
Shrub/Scrub	Areas dominated by shrubs; less than 5 meters tall with shrub canopy typically greater than 20% of total vegetation. This class includes true shrubs, young trees in an early successional stage or trees stunted from environmental conditions.
<b>Herbaceous</b>	
Grassland/Herbaceous	Areas dominated by graminoid or herbaceous vegetation, generally greater than 80% of total vegetation. These areas are not subject to intensive management such as tilling, but can be utilized for grazing.
Sedge/Herbaceous	Alaska only areas dominated by sedges and forbs, generally greater than 80% of total vegetation. This type can occur with significant other grasses or other grass like plants, and includes sedge tundra, and sedge tussock tundra.
Lichens	Alaska only areas dominated by fruticose or foliose lichens generally greater than 80% of total vegetation.
Moss	Alaska only areas dominated by mosses, generally greater than 80% of total vegetation.
<b>Planted/Cultivated</b>	
Pasture/Hay	Areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle. Pasture/hay vegetation accounts for greater than 20% of total vegetation.

**Table D-6. Land Use Definitions Associated with the 2016 USDA Land Use Dataset**

Land Use Category	Definition
Cultivated Crops	Areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial woody crops such as orchards and vineyards. Crop vegetation accounts for greater than 20% of total vegetation. This class also includes all land being actively tilled.
Wetlands	
Woody Wetlands	Areas where forest or shrubland vegetation accounts for greater than 20% of vegetative cover and the soil or substrate is periodically saturated with or covered with water.
Emergent Herbaceous Wetlands	Areas where perennial herbaceous vegetation accounts for greater than 80% of vegetative cover and the soil or substrate is periodically saturated with or covered with water.

Source: (MRLC, 2016)

### D.3 INFORMATION USED FOR LAND USE COMPATIBILITY DETERMINATION

**Table D-7. Corresponding Land Use Categories**

Current (2016) Land Use Category	Most Closely Corresponding Land Use Category or Categories, AICUZ Studies
Open Water	Open Space/Low Density
Perennial Ice/Snow	Open Space/Low Density
Developed, Open Space	Open Space/Low Density
Developed, Low Intensity	Residential
Developed, Medium Intensity	Residential
Developed, High Intensity	Commercial; Industrial
Barren Land	Open Space/Low Density; Recreational
Deciduous Forest	Open Space/Low Density; Recreational
Evergreen Forest	Open Space/Low Density; Recreational
Mixed Forest	Open Space/Low Density; Recreational
Dwarf Scrub	Open Space/Low Density; Recreational
Shrub/Scrub	Open Space/Low Density; Recreational
Grassland/Herbaceous	Open Space/Low Density; Recreational
Sedge/Herbaceous	Open Space/Low Density
Lichens	Open Space/Low Density
Moss	Open Space/Low Density
Pasture/Hay	Open Space/Low Density
Cultivated Crops	Open Space/Low Density
Woody Wetlands	Open Space/Low Density; Recreational
Emergent Herbaceous Wetlands	Open Space/Low Density; Recreational

AICUZ = air installation compatible use zone



**Table D-8. Generalized Land Use Compatibility**

Land Use Category	Clear/Accident Potential Zones			Noise Zones (dB DNL)			
	CZ	APZ I	APZ II	65-69	70-74	75-79	80+
Open Water	Y	Y	Y	Y	Y	Y	Y
Perennial Ice/Snow	Y	Y	Y	Y	Y	Y	Y
Developed, Open Space	C	Y	Y	Y	C	C	N
Developed, Low Intensity	N	N	C	C	C	N	N
Developed, Medium Intensity	N	N	C	C	C	N	N
Developed, High Intensity	N	C	C	Y	C	C	N
Barren Land	Y	Y	Y	Y	Y	Y	Y
Deciduous Forest	C	C	Y	Y	C	C	C
Evergreen Forest	C	C	Y	Y	C	C	C
Mixed Forest	C	C	Y	Y	C	C	C
Dwarf Scrub	C	Y	Y	Y	Y	Y	Y
Shrub/Scrub	C	Y	Y	Y	C	C	C
Grassland/Herbaceous	C	Y	Y	Y	C	C	C
Sedge/Herbaceous	C	Y	Y	Y	Y	Y	Y
Lichens	C	Y	Y	Y	Y	Y	Y
Moss	C	Y	Y	Y	Y	Y	Y
Pasture/Hay	C	Y	Y	Y	Y	Y	Y
Cultivated Crops	C	Y	Y	Y	Y	Y	Y
Woody Wetlands	C	Y	Y	Y	Y	Y	Y
Emergent Herbaceous Wetlands	C	Y	Y	Y	Y	Y	Y

APZ = accident potential zone; CZ = clear zone; dB = decibel; DNL = day-night noise level average  
Y = compatible use; C = conditionally compatible use; N = non-compatible use

---

## D.4 REFERENCES

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**APPENDIX E**  
**BIOLOGICAL RESOURCES**

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## E. BIOLOGICAL RESOURCES SUPPORTING INFORMATION

### E.1 USFWS CONSULTATION – ELLSWORTH AFB



#### United States Department of the Interior

FISH AND WILDLIFE SERVICE  
 South Dakota Ecological Services  
 420 South Garfield Avenue, Suite 400  
 Pierre, South Dakota 57501-5408



IN REPLY REFER TO:  
 Informal consultation for  
 B-21 Environmental Impact  
 Statement

May 20, 2020

Dr. Gary Brundige  
 Natural/Cultural/ELAP Program Manager  
 28 CES/CEIEC  
 2125 Scott Drive  
 Ellsworth Air Force Base, South Dakota, 57706

Dear Dr. Gary Brundige:

This letter is in response to your request received April 23, 2020 for environmental comments regarding the B-21 Environmental Impact Statement on Ellsworth Air Force Base, SD

In accordance with section 7(c) of the Endangered Species Act, as amended, 16 USC 1531 et seq., we have determined that the project, as currently planned, does not involve any federally listed threatened or endangered species or their habitats. If changes are made in the project plans or operating criteria, or if additional information becomes available, the Service must be informed so that the above determinations can be reconsidered.

The Service appreciates the opportunity to provide comments. If you have any questions on these comments, please contact Dylan Turner of this office at (605) 224-8693, Extension 233.

Sincerely,

**SCOTT LARSON**



Digitally signed by SCOTT  
 LARSON  
 Date: 2020.05.20 10:33:51  
 -05'00'

Scott Larson  
 Field Supervisor  
 North and South Dakota Field Office

## E.2 LIST OF THREATENED AND ENDANGERED SPECIES THAT MAY OCCUR IN PROPOSED PROJECT LOCATION AND/OR MAY BE AFFECTED

### E.2.1 Dyess Air Force Base

#### E.2.1.1 U.S. Fish and Wildlife List of Threatened and Endangered Species

**United States Department of the Interior**

FISH AND WILDLIFE SERVICE  
 Austin Ecological Services Field Office  
 10711 Burnet Road, Suite 200  
 Austin, TX 78758-4460  
 Phone: (512) 490-0057 Fax: (512) 490-0974  
<http://www.fws.gov/southwest/es/AustinTexas/>  
<http://www.fws.gov/southwest/es/EndangeredSpecies/lists/>

In Reply Refer To: February 19, 2020  
 Consultation Code: 02ETAU00-2020-SLI-0810  
 Event Code: 02ETAU00-2020-E-01712  
 Project Name: B-21 EIS

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

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that *may* occur within the county of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Please note that new information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Also note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of federally listed as threatened



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or endangered species and to determine whether projects may affect these species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

While a Federal agency may designate a non-Federal representative to conduct informal consultation or prepare a biological assessment, the Federal Agency must notify the Service in writing of any such designation. The Federal agency shall also independently review and evaluate the scope and content of a biological assessment prepared by their designated non-Federal representative before that document is submitted to the Service.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by a federally funded, permitted or authorized activity, the agency is required to consult with the Service pursuant to 50 CFR 402. The following definitions are provided to assist you in reaching a determination:

- *No effect* - the proposed action will not affect federally listed species or critical habitat. A “no effect” determination does not require section 7 consultation and no coordination or contact with the Service is necessary. However, if the project changes or additional information on the distribution of listed or proposed species becomes available, the project should be reanalyzed for effects not previously considered.
- *May affect, but is not likely to adversely affect* - the project may affect listed species and/or critical habitat; however, the effects are expected to be discountable, insignificant, or completely beneficial. Certain avoidance and minimization measures may need to be implemented in order to reach this level of effect. The Federal agency or the designated non-Federal representative should consult with the Service to seek written concurrence that adverse effects are not likely. Be sure to include all of the information and documentation used to reach your decision with your request for concurrence. The Service must have this documentation before issuing a concurrence.
- *Is likely to adversely affect* - adverse effects to listed species may occur as a direct or indirect result of the proposed action. For this determination, the effect of the action is neither discountable nor insignificant. If the overall effect of the proposed action is beneficial to the listed species but the action is also likely to cause some adverse effects to individuals of that species, then the proposed action “is likely to adversely affect” the listed species. The analysis should consider all interrelated and interdependent actions. An “is likely to adversely affect” determination requires the Federal action agency to initiate formal section 7 consultation with our office.

Regardless of the determination, the Service recommends that the Federal agency maintain a complete record of the evaluation, including steps leading to the determination of effect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related information. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>.

#### Migratory Birds

For projects that may affect migratory birds, the Migratory Bird Treaty Act (MBTA) implements various treaties and conventions for the protection of these species. Under the MBTA, taking, killing, or possessing migratory birds is unlawful. Migratory birds may nest in trees, brushy areas, or other areas of suitable habitat. The Service recommends activities requiring vegetation removal or disturbance avoid the peak nesting period of March through August to avoid destruction of individuals, nests, or eggs. If project activities must be conducted during this time, we recommend surveying for nests prior to conducting work. If a nest is found, and if possible, the Service recommends a buffer of vegetation remain around the nest until the young have fledged or the nest is abandoned.

For additional information concerning the MBTA and recommendations to reduce impacts to migratory birds please contact the U.S. Fish and Wildlife Service Migratory Birds Office, 500 Gold Ave. SW, Albuquerque, NM 87102. A list of migratory birds may be viewed at <https://www.fws.gov/birds/management/managed-species/migratory-bird-treaty-act-protected-species.php>. Guidance for minimizing impacts to migratory birds for projects including communications towers can be found at: <https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/communication-towers.php>. Additionally, wind energy projects should follow the wind energy guidelines

<https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/wind-energy.php> ) for minimizing impacts to migratory birds and bats.

Finally, please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan <https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/eagles.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

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## Official Species List

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

This species list is provided by:

**Austin Ecological Services Field Office**

10711 Burnet Road, Suite 200

Austin, TX 78758-4460

(512) 490-0057

02/19/2020

Event Code: 02ETAU00-2020-E-01712

2

## Project Summary

Consultation Code: 02ETAU00-2020-SLI-0810

Event Code: 02ETAU00-2020-E-01712

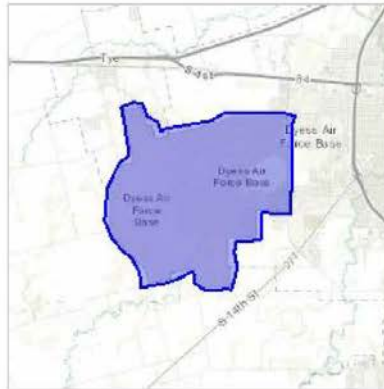
Project Name: B-21 EIS

Project Type: DEVELOPMENT

Project Description: Main Operating Base 1 Beddown  
Environmental Impact Statement

### Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/32.4207866663883945N99.83813278088942W>



Counties: Taylor, TX

02/19/2020

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## Endangered Species Act Species

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 5 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

## Birds

NAME	STATUS
Least Tern <i>Sterna antillarum</i> Population: interior pop. No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> <li>▪ Wind Energy Projects</li> </ul> Species profile: <a href="https://ecos.fws.gov/ecp/species/8505">https://ecos.fws.gov/ecp/species/8505</a>	Endangered
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> <li>▪ Wind Energy Projects</li> </ul> Species profile: <a href="https://ecos.fws.gov/ecp/species/6039">https://ecos.fws.gov/ecp/species/6039</a>	Threatened
Red Knot <i>Calidris canutus rufa</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> <li>▪ Wind Energy Projects</li> </ul> Species profile: <a href="https://ecos.fws.gov/ecp/species/1864">https://ecos.fws.gov/ecp/species/1864</a>	Threatened

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Event Code: 02ETAU00-2020-E-01712

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## Fishes

NAME	STATUS
<p>Sharpnose Shiner <i>Notropis oxyrhynchus</i></p> <p>There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat.</p> <p>This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> <li>All reservoir projects; in-channel projects such as interbasin transfers, water diversions, small impoundments, etc. that may reduce flows of major tributaries eventually flowing into occupied habitat; commercial/industrial well field projects.</li> </ul> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/6492">https://ecos.fws.gov/ecp/species/6492</a></p>	Endangered
<p>Smalleye Shiner <i>Notropis buccula</i></p> <p>There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat.</p> <p>This species only needs to be considered under the following conditions:</p> <ul style="list-style-type: none"> <li>All reservoir projects; in-channel projects such as interbasin transfers, water diversions, small impoundments, etc. that may reduce flows of major tributaries eventually flowing into occupied habitat; commercial/industrial well field projects.</li> </ul> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/1774">https://ecos.fws.gov/ecp/species/1774</a></p>	Endangered

## Clams

NAME	STATUS
<p>Texas Fawnsfoot <i>Truncilla macrodon</i></p> <p>No critical habitat has been designated for this species.</p> <p>Species profile: <a href="https://ecos.fws.gov/ecp/species/8965">https://ecos.fws.gov/ecp/species/8965</a></p>	Candidate

## Critical habitats

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

## E.2.1.2 Texas County List of Species

### Texas County List of Rare Species

Taxon	Species Name	Common Name	ESA	SPROT	Endemic	Global Rank	State Rank	SGCN	Description	Number of Counties
Amphibians	<i>Anaxyrus woodhousii</i>	Woodhouse's toad			N	G5	SU	Y	Extremely catholic up to 5000 feet, does very well (except for traffic) in association with man.	231
Birds	<i>Plegadis chihi</i>	white-faced ibis		T	N	G5	S4B	Y	Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.	254
Birds	<i>Haliaeetus leucocephalus</i>	bald eagle		T	N	G5	S3B,S3N	Y	Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds	238
Birds	<i>Laterallus jamaicensis</i>	black rail	PT		N	G3G4	S2	Y	Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of <i>Salicornia</i>	135
Birds	<i>Charadrius montanus</i>	mountain plover			N	G3	S2	Y	Breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous	183
Birds	<i>Leucophaeus pipixcan</i>	Franklin's gull			N	G4G5	S2N	Y	Habitat description is not available at this time.	254
Birds	<i>Athene cunicularia hypugaea</i>	western burrowing owl			N	G4T4	S2	Y	Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows	221

## Texas County List of Rare Species

Taxon	Species Name	Common Name	ESA	SPROT	Endemic	Global Rank	State Rank	SGCN	Description	Number of Counties
Birds	<i>Vireo atricapilla</i>	black-capped vireo		E	N	G3	S2B	Y	Oak-juniper woodlands with distinctive patchy, two-layered aspect; shrub and tree layer with open, grassy spaces; requires foliage reaching to ground level for nesting cover; return to same territory, or one nearby, year after year; deciduous and broad-leaved shrubs and trees provide insects for feeding; species composition less important than presence of adequate broad-leaved shrubs, foliage to ground level, and required structure; nesting season March-late summer	63
Mammals	<i>Myotis velifer</i>	cave myotis bat			N	G4G5	S4	Y	Colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow ( <i>Hirundo pyrrhonota</i> ) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore.	155
Mammals	<i>Perimyotis subflavus</i>	tricolored bat			N	G2G3	S3S4	Y	Forest, woodland and riparian areas are important. Caves are very important to this species.	230
Mammals	<i>Lasiurus borealis</i>	eastern red bat			N	G3G4	S4	Y	Found in a variety of habitats in Texas. Usually associated with wooded areas. Found in towns especially during migration.	254
Mammals	<i>Lasiurus cinereus</i>	hoary bat			N	G3G4	S4	Y	Known from montane and riparian woodland in Trans-Pecos, forests and woods in east and central Texas.	254
Mammals	<i>Tadarida brasiliensis</i>	Mexican free-tailed bat			N	G5	S5	Y	Roosts in buildings in east Texas. Largest maternity roosts are in limestone caves on the Edwards Plateau. Found in all habitats, forest to desert.	254



## Texas County List of Rare Species

Taxon	Species Name	Common Name	ESA	SPROT	Endemic	Global Rank	State Rank	SGCN	Description	Number of Counties
Mammals	<i>Cynomys ludovicianus</i>	black-tailed prairie dog			N	G4	S3	Y	Dry, flat, short grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle; live in large family groups	133
Mammals	<i>Mustela frenata</i>	long-tailed weasel			N	G5	S5	Y	Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.	234
Mammals	<i>Neovison vison</i>	mink			N	G5	S4	Y	Intimately associated with water; coastal swamps & marshes, wooded riparian zones, edges of lakes. Prefer floodplains.	155
Mammals	<i>Taxidea taxus</i>	American badger			N	G5	S5	Y	Habitat description is not available at this time.	225
Mammals	<i>Spilogale putorius</i>	eastern spotted skunk			N	G4	S1S3	Y	Catholic; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.	218
Mammals	<i>Spilogale putorius interrupta</i>	plains spotted skunk			N	G4T4	S1S3	N	Catholic; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie	217
Mammals	<i>Spilogale gracilis</i>	western spotted skunk			N	G5	S5	Y	Habitat description is not available at this time.	80
Mammals	<i>Conepatus leuconotus</i>	western hog-nosed skunk			N	G4	S4	Y	Habitats include woodlands, grasslands & deserts, to 7200 feet, most common in rugged, rocky canyon country; little is known about the habitat of the ssp. telmalestes	148

## Texas County List of Rare Species

Taxon	Species Name	Common Name	ESA	SPROT	Endemic	Global Rank	State Rank	SGCN	Description	Number of Counties
Mammals	<i>Puma concolor</i>	mountain lion			N	G5	S2S3	Y	Rugged mountains & riparian zones.	253
Mammals	<i>Antilocapra americana</i>	pronghorn			N	G5	S5	Y	Prefers hilly & plateau areas of open grassland, desert-grassland, & desert-scrub, where it frequents south-facing slopes & other sheltered areas.	71
Reptiles	<i>Terrapene ornata</i>	western box turtle			N	G5	S3	Y	Ornate or western box turtles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species; winter burrow depth was 0.5-1.8 meters in Wisconsin (Doroff and Keith 1990), 7-120 cm (average depth 54 cm) in Nebraska (Converse et al. 2002). Eggs are laid in nests dug in soft well-drained soil in open area (Legler 1960, Converse et al. 2002). Very partial to sandy soil.	249
Reptiles	<i>Phrynosoma cornutum</i>	Texas horned lizard		T	N	G4G5	S3	Y	Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area. Open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive; breeds March-September.	246
Reptiles	<i>Heterodon nasicus</i>	western hognose snake			N	G5	S4	Y	Habitat consists of areas with sandy or gravelly soils, including prairies, sandhills, wide valleys, river floodplains, bajadas, semiagricultural areas (but not intensively cultivated land), and margins of irrigation	142

## Texas County List of Rare Species

Taxon	Species Name	Common Name	ESA	SPROT	Endemic	Global Rank	State Rank	SGCN	Description	Number of Counties
									ditches (Degenhardt et al. 1996, Hammerson 1999, Werler and Dixon 2000, Stebbins 2003). Also thornscrub woodlands and chaparral thickets. Seems to prefer sandy and loamy soils, not necessarily flat. Periods of inactivity are spent burrowed in the soil or in existing burrows. Eggs are laid in nests a few inches below the ground surface (Platt 1969).	
Reptiles	<i>Thamnophis sirtalis</i>	common garter snake				G5	S2	N	Irrigation canals and riparian-corridor farmlands in west; marshy, flooded pastureland, grassy or brushy borders of permanent bodies of water; coastal salt marshes.	76
Reptiles	<i>Thamnophis sirtalis annectens</i>	Texas garter snake			Y	G5T4	S1	Y	Irrigation canals and riparian-corridor farmlands in west; marshy, flooded pastureland, grassy or brushy borders of permanent bodies of water; coastal salt marshes. Wet or moist microhabitats are conducive to the species occurrence, but is not necessarily restricted to them; hibernates underground or in or under surface cover; breeds March-August.	48
Reptiles	<i>Crotalus horridus</i>	timber (canebrake) rattlesnake		T	N	G4	S4	Y	Swamps, floodplains, upland pine and deciduous woodland, riparian zones, abandoned farmland. Limestone bluffs, sandy soil or black clay. Prefers dense ground cover, i.e. grapevines, palmetto.	77
Reptiles	<i>Crotalus viridis</i>	western rattlesnake			N	G5	S5	Y	Grassland, both desert and prairie; shrub desert rocky hillsides; edges of arid and semi-arid river breaks.	94

## Texas County List of Rare Species

Taxon	Species Name	Common Name	ESA	SPROT	Endemic	Global Rank	State Rank	SGCN	Description	Number of Counties
Insects	<i>Bombus pensylvanicus</i>	American bumblebee				G3G4	SNR	Y	Habitat description is not available at this time.	161
Mollusks	<i>Lampsilis bracteata</i>	Texas fatmucket	C	T	Y	G1	S1	Y	Streams and rivers on sand, mud, and gravel substrates; intolerant of impoundment; broken bedrock and coarse gravel or sand in moderately flowing water; Colorado and Guadalupe River basins	26
Plants	<i>Gaura triangulata</i>	prairie butterfly-weed			N	G3G4	S3	Y	Open sandy areas; Annual; Flowering March-June	16
Plants	<i>Oenothera coryi</i>	Cory's evening-primrose			Y	G3	S3	Y	Calcareous prairies in the Plains Country of north Texas and in the Panhandle; Perennial; Flowering April-May	9
Plants	<i>Vitis rupestris</i>	rock grape			N	G3	S1	Y	Occurs on rocky limestone slopes and in streambeds; Perennial; Flowering March-May; Fruiting May-July	7
Plants	<i>Hexalectris nitida</i>	Glass Mountains coral-root			N	G3	S3	Y	Apparently rare in mixed woodlands in canyons in the mountains of the Brewster County, but encountered with regularity, albeit in small numbers, under <i>Juniperus ashei</i> in woodlands over limestone on the Edwards Plateau, Callahan Divide and Lampasas Cutplain; Perennial; Flowering June-Sept; Fruiting July-Sept	19
Plants	<i>Hexalectris warnockii</i>	Warnock's coral-root			N	G2G3	S2	Y	In leaf litter and humus in oak-juniper woodlands on shaded slopes and intermittent, rocky creekbeds in canyons; in the Trans Pecos in oak-pinyon-juniper woodlands in higher mesic canyons (to 2000 m [6550 ft]), primarily on igneous substrates; in Terrell County under <i>Quercus fusiformis</i> mottes on terraces of spring-fed perennial streams, draining an otherwise rather xeric limestone landscape; on the Callahan Divide (Taylor	12

**Texas County List of Rare Species**

Taxon	Species Name	Common Name	ESA	SPROT	Endemic	Global Rank	State Rank	SGCN	Description	Number of Counties
									County), the White Rock Escarpment (Dallas County), and the Edwards Plateau in oak-juniper woodlands on limestone slopes; in Gillespie County on igneous substrates of the Llano Uplift; flowering June-September; individual plants do not usually bloom in successive years	

ESA = Species listed by the U.S. Fish and Wildlife Service under the *Endangered Species Act*; SPROT = State Protected, Rare, or Threatened Species (species listed by the State of Texas); SCGN = Species of Greatest Conservation Need

Y = yes; N = No

P = Potentially Threatened

T = Threatened

G = Global rank indicator, based on worldwide distribution at the species level<sup>1</sup>

S = State rank indicator, based on distribution within Texas at the lowest taxonomic level

G1-Critically Imperiled — At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.

G2-Imperiled — At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.

G3-Vulnerable — At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.

G4-Apparently Secure — Uncommon but not rare; some cause for long-term concern due to declines or other factors.

G5-Secure — Common; widespread and abundant.

(State Rank)B-Breeding—Conservation status refers to the breeding population of the species in the nation or state/province.

(State Rank)N-Nonbreeding—Conservation status refers to the non-breeding population of the species in the nation or state/province.

S1-Critically Imperiled — Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.

S2-Imperiled — Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

S3-Vulnerable — Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4-Apparently Secure — Uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5-Secure — Common, widespread, and abundant in the nation or state/province.

SNR-Unranked — Nation or state/province conservation status not yet assessed.

SU-Unrankable — Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

<sup>1</sup> Global and State ranking definitions as provided in the *Texas Conservation Action Plan 2011: Status and Rank Key for use with SCGN and Rare Communities List*

## E.2.2 Ellsworth Air Force Base



### United States Department of the Interior

FISH AND WILDLIFE SERVICE  
South Dakota Ecological Services Field Office  
420 South Garfield Avenue, Suite 400  
Pierre, SD 57501-5408  
Phone: (605) 224-8693 Fax: (605) 224-9974  
<http://www.fws.gov/southdakotafieldoffice/>



In Reply Refer To:  
Consultation Code: 06E14000-2020-SLI-0406  
Event Code: 06E14000-2020-E-00974  
Project Name: B-21 EIS

February 19, 2020

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

#### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Migratory Bird Treaty Act (16 U.S.C. 703-712, as amended), as well as the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). Projects affecting these species may benefit from the development of an Eagle Conservation Plan (ECP), see guidance at this website ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). An ECP can assist developers in achieving compliance with regulatory requirements, help avoid "take" of eagles at project sites, and provide biological support for eagle permit applications. Additionally, we recommend wind energy developments adhere to our Land-based Wind Energy Guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

We have recently updated our guidelines for minimizing impacts to migratory birds at projects that have communication towers (including meteorological, cellular, digital television, radio, and emergency broadcast towers). These guidelines can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>  
<http://www.towerkill.com>

According to National Wetlands Inventory maps, (available online at <http://wetlands.fws.gov/>) wetlands exist adjacent to the proposed construction corridor. If a project may impact wetlands or other important fish and wildlife habitats, the U.S. Fish and Wildlife Service (Service), in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347) and other environmental laws and rules, recommends complete avoidance of these areas, if possible. If this is not possible, attempts should be made to minimize adverse impacts. Finally if adverse impacts are unavoidable, measures should be undertaken to replace the impacted areas. Alternatives should be examined and the least damaging practical alternative selected. If wetland impacts are unavoidable, a mitigation plan addressing the number and types of wetland acres to be impacted, and the methods of replacement should be prepared and submitted to the resource agencies for review.

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Please check with your local wetland management district to determine whether Service interest lands exist at the proposed project site, the exact locations of these properties, and any additional restrictions that may apply regarding these sites. The Offices are listed below. If you are not sure which office to contact, we can help you make that decision.

U.S. Fish and Wildlife Service, Huron Wetland Management District, Federal Building, Room 309, 200 4th Street SW, Huron, SD 57350; telephone (605) 352-5894. Counties in the Huron WMD: Beadle, Buffalo, Hand, Hughes, Hyde, Jerauld, Sanborn, Sully.

U.S. Fish and Wildlife Service, Lake Andes Wetland Management District, 38672 291st Street, Lake Andes, South Dakota; telephone (605) 487-7603. Counties in the Lake Andes WMD: Aurora, Bon Homme, Brule, Charles Mix, Clay, Davison, Douglas, Hanson, Hutchinson, Lincoln, Turner, Union, Yankton.

U.S. Fish and Wildlife Service, Madison Wetland Management District, P.O. Box 48, Madison, South Dakota, 57042, telephone (605) 256-2974. Counties in the Madison WMD: Brookings, Deuel, Hamlin, Kingsbury, Lake, McCook, Miner, Minnehaha, Moody.

U.S. Fish and Wildlife Service, Sand Lake Wetland Management District, 39650 Sand Lake Drive, Columbia, South Dakota, 57433; telephone (605) 885-6320. Counties in the Sand Lake WMD: Brown, Campbell, Edmunds, Faulk, McPherson, Potter, Spink, Walworth.

U.S. Fish and Wildlife Service, Waubay Wetland Management District, 44401 134A Street, Waubay, South Dakota, 57273; telephone (605) 947-4521. Counties in the Waubay WMD: Clark, Codrington, Day, Grant, Marshall, Roberts.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

You are welcome to contact our office at the address or phone number above for more information.

Thank you.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands



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## Official Species List

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

This species list is provided by:

**South Dakota Ecological Services Field Office**

420 South Garfield Avenue, Suite 400

Pierre, SD 57501-5408

(605) 224-8693

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2

## Project Summary

Consultation Code: 06E14000-2020-SLI-0406

Event Code: 06E14000-2020-E-00974

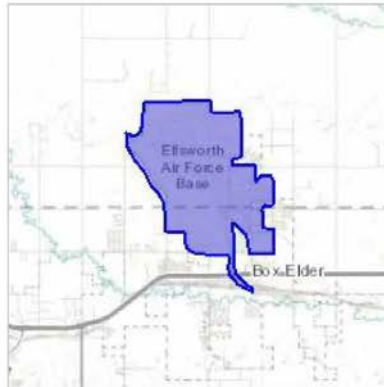
Project Name: B-21 EIS

Project Type: DEVELOPMENT

Project Description: Main Operating Base 1 Beddown  
Environmental Impact Statement

### Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/44.14439018984346N103.08686187051376W>



Counties: Meade, SD | Pennington, SD

## Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

### Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

### Birds

NAME	STATUS
Least Tern <i>Sterna antillarum</i> Population: interior pop. No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/8505">https://ecos.fws.gov/ecp/species/8505</a>	Endangered
Red Knot <i>Calidris canutus rufa</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1864">https://ecos.fws.gov/ecp/species/1864</a>	Threatened
Whooping Crane <i>Grus americana</i> Population: Wherever found, except where listed as an experimental population There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/758">https://ecos.fws.gov/ecp/species/758</a>	Endangered

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**Critical habitats**

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

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## USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

## Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<p>Bald Eagle <i>Haliaeetus leucocephalus</i></p> <p>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p> <p><a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a></p>	Breeds Dec 1 to Aug 31
<p>Burrowing Owl <i>Athene cunicularia</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p> <p><a href="https://ecos.fws.gov/ecp/species/9737">https://ecos.fws.gov/ecp/species/9737</a></p>	Breeds Mar 15 to Aug 31

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NAME	BREEDING SEASON
Ferruginous Hawk <i>Buteo regalis</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/6038">https://ecos.fws.gov/ecp/species/6038</a>	Breeds Mar 15 to Aug 15
Lark Bunting <i>Calamospiza melanocorys</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 10 to Aug 15
Marbled Godwit <i>Limosa fedoa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9481">https://ecos.fws.gov/ecp/species/9481</a>	Breeds May 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10

## Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12

(0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .

- The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

**Breeding Season (■)**

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

**Survey Effort (|)**

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

**No Data (—)**

A week is marked as having no data if there were no survey events for that week.

**Survey Timeframe**

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





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Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

## Migratory Birds FAQ

**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the migratory birds potentially occurring in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

**What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

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The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

#### **How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

#### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

#### **Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical](#)

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[Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

**What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

**Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

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## Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

### FRESHWATER EMERGENT WETLAND

- [PEM1A](#)
- [PEM1C](#)
- [PEM1Ch](#)
- [PEM1Cx](#)
- [PEM1Fx](#)

### FRESHWATER FORESTED/SHRUB WETLAND

- [PFOA](#)
- [PFOAh](#)
- [PSSCx](#)

### FRESHWATER POND

- [PABFh](#)
- [PUBFx](#)

### RIVERINE

- [R4SBC](#)
- [R5UBH](#)

## E.2.2.1 South Dakota County List of Species

### State and Federally Listed Threatened, Endangered and Candidate Species Documented in South Dakota by County. Updated on 07/19/2016

The following list contains documented occurrences of both state and federally listed species by county in South Dakota. Records were compiled from the South Dakota Natural Heritage Database and expert knowledge of species occurrences. Please note that the absence of a species from a county list does not preclude its presence and that a listing of a historical record does not necessarily mean the species still occurs in that county.

Documentations of bird species consist of known breeding records with the exception of the whooping crane (*Grus americana*) for which all observations are included. However, please note that while the year-round distribution of the American dipper (*Cinclus mexicanus*) does not change, all other listed bird species may be found throughout the state during migration.

If more specific information is needed for a particular project site, please visit the following website to request a search of the Natural Heritage Database: <http://gfp.sd.gov/wildlife/threatened-endangered/default.aspx>

Species statuses include: FE = Federally Endangered, FT = Federally Threatened, PE = Proposed Endangered (Federal), PT = Proposed Threatened (Federal) C = Federal Candidate, SE = State Endangered, ST = State Threatened.

County	Common Name	Scientific Name	Status
Aurora	Topeka Shiner	<i>Notropis topeka</i>	FE
	Whooping Crane	<i>Grus americana</i>	FE, SE
Beadle	Topeka Shiner	<i>Notropis topeka</i>	FE
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern River Otter	<i>Lontra canadensis</i>	ST
Bennett	Northern Pearl Dace	<i>Margariscus nachtriebi</i>	ST
	American Burying Beetle	<i>Nicrophorus americanus</i>	FE
	Northern Redbelly Dace	<i>Chrosomus eos</i>	ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Swift Fox	<i>Vulpes velox</i>	ST
Bon Homme	Blacknose Shiner	<i>Notropis heterolepis</i>	SE
	Northern Redbelly Dace	<i>Chrosomus eos</i>	ST
	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	Sicklefin Chub	<i>Macrhybopsis meeki</i>	ST
	Topeka Shiner	<i>Notropis topeka</i>	FE
	False Map Turtle	<i>Graptemys pseudogeographica</i>	ST
	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Piping Plover	<i>Charadrius melodus</i>	FT, ST
Whooping Crane	<i>Grus americana</i>	FE, SE	

	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	FT
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Brookings</b>	American Burying Beetle	<i>Nicrophorus americanus</i>	FE
	Poweshiek Skipperling	<i>Oarisma poweshiek</i>	FE
	Dakota Skipper	<i>Hesperia dacotae</i>	FT
	Northern Redbelly Dace	<i>Chrosomus eos</i>	ST
	Topeka Shiner	<i>Notropis topeka</i>	FE
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern River Otter	<i>Lontra canadensis</i>	ST
	Western Prairie Fringed Orchid	<i>Platanthera praeclara</i>	FT
<b>Brown</b>	Dakota Skipper	<i>Hesperia dacotae</i>	FT
	Topeka Shiner	<i>Notropis topeka</i>	FE
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Brule</b>	Northern Redbelly Dace	<i>Chrosomus eos</i>	ST
	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	FT
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Buffalo</b>	Northern Redbelly Dace	<i>Chrosomus eos</i>	ST
	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	False Map Turtle	<i>Graptemys pseudogeographica</i>	ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Butte</b>	Finescale Dace	<i>Chrosomus neogaeus</i>	SE
	Longnose Sucker	<i>Catostomus catostomus</i>	ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern River Otter	<i>Lontra canadensis</i>	ST
	Swift Fox	<i>Vulpes velox</i>	ST
<b>Campbell</b>	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	False Map Turtle	<i>Graptemys pseudogeographica</i>	ST
	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Piping Plover	<i>Charadrius melodus</i>	FT, ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
<b>Charles Mix</b>	Banded Killifish	<i>Fundulus diaphanus</i>	SE
	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	Sicklefin Chub	<i>Macrhybopsis meeki</i>	ST

	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	False Map Turtle	<i>Graptemys pseudogeographica</i>	ST
	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Piping Plover	<i>Charadrius melodus</i>	FT, ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	FT
<b>Clark</b>	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Clay</b>	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	Sicklefin Chub	<i>Macrhybopsis meeki</i>	ST
	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	Topeka Shiner	<i>Notropis topeka</i>	FE
	Eastern Hognose Snake	<i>Heterodon platirhinos</i>	ST
	False Map Turtle	<i>Graptemys pseudogeographica</i>	ST
	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Piping Plover	<i>Charadrius melodus</i>	FT, ST
	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	FT
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Codington</b>	Dakota Skipper	<i>Hesperia dacotae</i>	FT
	Poweshiek Skipperling	<i>Oarisma poweshiek</i>	FE
	Topeka Shiner	<i>Notropis topeka</i>	FE
	Piping Plover	<i>Charadrius melodus</i>	FT, ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Corson</b>	Northern Redbelly Dace	<i>Chrosomus eos</i>	ST
	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	Sicklefin Chub	<i>Macrhybopsis meeki</i>	ST
	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	False Map Turtle	<i>Graptemys pseudogeographica</i>	ST
	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Piping Plover	<i>Charadrius melodus</i>	FT, ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Black-footed Ferret	<i>Mustela nigripes</i>	FE, SE
<b>Custer</b>	Blacknose Shiner	<i>Notropis heterolepis</i>	SE
	Longnose Sucker	<i>Catostomus catostomus</i>	ST
	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	American Dipper	<i>Cinclus mexicanus</i>	ST
	Osprey	<i>Pandion haliaetus</i>	ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Black-footed Ferret	<i>Mustela nigripes</i>	FE, SE
	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	FT
	Northern River Otter	<i>Lontra canadensis</i>	ST

	Swift Fox	<i>Vulpes velox</i>	ST
<b>Davison</b>	Topeka Shiner	<i>Notropis topeka</i>	FE
<b>Day</b>	Blacknose Shiner	<i>Notropis heterolepis</i>	SE
	Dakota Skipper	<i>Hesperia dacotae</i>	FT
	Poweshiek Skipperling	<i>Oarisma poweshiek</i>	FE
	Banded Killifish	<i>Fundulus diaphanus</i>	SE
	Piping Plover	<i>Charadrius melodus</i>	FT, ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Deuel</b>	Dakota Skipper	<i>Hesperia dacotae</i>	FT
	Poweshiek Skipperling	<i>Oarisma poweshiek</i>	FE
	Banded Killifish	<i>Fundulus diaphanus</i>	SE
	Northern Redbelly Dace	<i>Chrosomus eos</i>	ST
	Topeka Shiner	<i>Notropis topeka</i>	FE
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Dewey</b>	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Piping Plover	<i>Charadrius melodus</i>	FT, ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Black-footed Ferret	<i>Mustela nigripes</i>	FE, SE
<b>Douglas</b>	Whooping Crane	<i>Grus americana</i>	FE, SE
<b>Edmunds</b>	Whooping Crane	<i>Grus americana</i>	FE, SE
<b>Fall River</b>	Finescale Dace	<i>Chrosomus neogaeus</i>	SE
	Osprey	<i>Pandion haliaetus</i>	ST
	Swift Fox	<i>Vulpes velox</i>	ST
<b>Faulk</b>	Whooping Crane	<i>Grus americana</i>	FE, SE
<b>Grant</b>	Dakota Skipper	<i>Hesperia dacotae</i>	FT
	Poweshiek Skipperling	<i>Oarisma poweshiek</i>	FE
	Blacknose Shiner	<i>Notropis heterolepis</i>	SE
	Northern Redbelly Dace	<i>Chrosomus eos</i>	ST
	Osprey	<i>Pandion haliaetus</i>	ST
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Gregory</b>	American Burying Beetle	<i>Nicrophorus americanus</i>	FE
	Northern Pearl Dace	<i>Margariscus nachtriebi</i>	ST
	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	Sicklefin Chub	<i>Macrhybopsis meeki</i>	ST
	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	False Map Turtle	<i>Graptemys pseudogeographica</i>	ST
	Piping Plover	<i>Charadrius melodus</i>	FT, ST
Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE	



	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	FT
<b>Haakon</b>	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern River Otter	<i>Lontra canadensis</i>	ST
	Swift Fox	<i>Vulpes velox</i>	ST
<b>Hamlin</b>	Dakota Skipper	<i>Hesperia dacotae</i>	FT
	Poweshiek Skipperling	<i>Oarisma poweshiek</i>	FE
	Topeka Shiner	<i>Notropis topeka</i>	FE
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Hand</b>	Whooping Crane	<i>Grus americana</i>	FE, SE
<b>Hanson</b>	Topeka Shiner	<i>Notropis topeka</i>	FE
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Harding</b>	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	Peregrine Falcon	<i>Falco peregrinus</i>	SE
	Swift Fox	<i>Vulpes velox</i>	ST
<b>Hughes</b>	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	Sicklefin Chub	<i>Macrhybopsis meeki</i>	ST
	False Map Turtle	<i>Graptemys pseudogeographica</i>	ST
	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Piping Plover	<i>Charadrius melodus</i>	FT, ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	FT
	Northern River Otter	<i>Lontra canadensis</i>	ST
	Swift Fox	<i>Vulpes velox</i>	ST
<b>Hutchinson</b>	Topeka Shiner	<i>Notropis topeka</i>	FE
	Whooping Crane	<i>Grus americana</i>	FE, SE
<b>Hyde</b>	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Swift Fox	<i>Vulpes velox</i>	ST
<b>Jackson</b>	Northern Redbelly Dace	<i>Chrosomus eos</i>	ST
	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	FT
	Swift Fox	<i>Vulpes velox</i>	ST
<b>Jerauld</b>	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Jones</b>	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	Whooping Crane	<i>Grus americana</i>	FE, SE

<b>Kingsbury</b>	Piping Plover	<i>Charadrius melodus</i>	FT, ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
<b>Lake</b>	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Lawrence</b>	Finescale Dace	<i>Chrosomus neogaeus</i>	SE
	Longnose Sucker	<i>Catostomus catostomus</i>	ST
	American Dipper	<i>Cinclus mexicanus</i>	ST
	Osprey	<i>Pandion haliaetus</i>	ST
	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	LT
<b>Lincoln</b>	Northern Redbelly Dace	<i>Chrosomus eos</i>	ST
	Topeka Shiner	<i>Notropis topeka</i>	FE
	Lined Snake	<i>Tropidoclonion lineatum</i>	SE
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Lyman</b>	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	False Map Turtle	<i>Graptemys pseudogeographica</i>	ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Black-footed Ferret	<i>Mustela nigripes</i>	FE, SE
	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	LT
	Northern River Otter	<i>Lontra canadensis</i>	ST
Swift Fox	<i>Vulpes velox</i>	ST	
<b>Marshall</b>	Dakota Skipper	<i>Hesperia dacotae</i>	FT
	Poweshiek Skipperling	<i>Oarisma poweshiek</i>	FE
	Whooping Crane	<i>Gus americana</i>	FE, SE
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>McCook</b>	Topeka Shiner	<i>Notropis topeka</i>	FE
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>McPherson</b>	Dakota Skipper	<i>Hesperia dacotae</i>	FT
	Banded Killifish	<i>Fundulus diaphanus</i>	SE
	Whooping Crane	<i>Grus americana</i>	FE, SE
<b>Meade</b>	Banded Killifish	<i>Fundulus diaphanus</i>	SE
	Longnose Sucker	<i>Catostomus catostomus</i>	ST
	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	American Dipper	<i>Cinclus mexicanus</i>	ST
	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	LT
	Northern River Otter	<i>Lontra canadensis</i>	ST
Swift Fox	<i>Vulpes velox</i>	ST	
<b>Mellette</b>	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
<b>Miner</b>	Topeka Shiner	<i>Notropis topeka</i>	FE

	Whooping Crane	<i>Grus americana</i>	FE, SE
<b>Minnehaha</b>	Topeka Shiner	<i>Notropis topeka</i>	FE
	Lined Snake	<i>Tropidoclonion lineatum</i>	SE
	Northern River Otter	<i>Lontra canadensis</i>	ST
	Western Prairie Fringed Orchid	<i>Platanthera praeclara</i>	FT
<b>Moody</b>	Dakota Skipper	<i>Hesperia dacotae</i>	FT
	Poweshiek Skipperling	<i>Oarisma poweshiek</i>	FE
	Blacknose Shiner	<i>Notropis heterolepis</i>	SE
	Topeka Shiner	<i>Notropis topeka</i>	FE
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Oglala Lakota</b>	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	Swift Fox	<i>Vulpes velox</i>	ST
<b>Pennington</b>	Longnose Sucker	<i>Catostomus catostomus</i>	ST
	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	American Dipper	<i>Cinclus mexicanus</i>	ST
	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Osprey	<i>Pandion haliaetus</i>	ST
	Peregrine Falcon	<i>Falco peregrinus</i>	SE
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Black-footed Ferret	<i>Mustela nigripes</i>	FE, SE
	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	LT
	Northern River Otter	<i>Lontra canadensis</i>	ST
Swift Fox	<i>Vulpes velox</i>	ST	
<b>Perkins</b>	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	LT
	Swift Fox	<i>Vulpes velox</i>	ST
<b>Potter</b>	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Piping Plover	<i>Charadrius melodus</i>	FT, ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
<b>Roberts</b>	Dakota Skipper	<i>Hesperia dacotae</i>	FT
	Poweshiek Skipperling	<i>Oarisma poweshiek</i>	FE
	Blacknose Shiner	<i>Notropis heterolepis</i>	SE
	Osprey	<i>Pandion haliaetus</i>	ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Sandborn</b>	Topeka Shiner	<i>Notropis topeka</i>	FE
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Spink</b>	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern River Otter	<i>Lontra canadensis</i>	ST

	Swift Fox	<i>Vulpes velox</i>	ST
<b>Stanley</b>	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	Sicklefin Chub	<i>Macrhybopsis meeki</i>	ST
	False Map Turtle	<i>Graptemys pseudogeographica</i>	ST
	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Piping Plover	<i>Charadrius melodus</i>	FT, ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Black-footed Ferret	<i>Mustela nigripes</i>	FE, SE
	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	LT
	Northern River Otter	<i>Lontra canadensis</i>	ST
	Swift Fox	<i>Vulpes velox</i>	ST
<b>Sully</b>	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Piping Plover	<i>Charadrius melodus</i>	FT, ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern River Otter	<i>Lontra canadensis</i>	ST
	Swift Fox	<i>Vulpes velox</i>	ST
<b>Todd</b>	American Burying Beetle	<i>Nicrophorus americanus</i>	FE
	Blacknose Shiner	<i>Notropis heterolepis</i>	SE
	Finescale Dace	<i>Chrosomus neogaeus</i>	SE
	Northern Pearl Dace	<i>Margariscus nachtriebi</i>	ST
	Northern Redbelly Dace	<i>Chrosomus eos</i>	ST
	Black-footed Ferret	<i>Mustela nigripes</i>	FE, SE
<b>Tripp</b>	American Burying Beetle	<i>Nicrophorus americanus</i>	FE
	Blacknose Shiner	<i>Notropis heterolepis</i>	SE
	Northern Pearl Dace	<i>Margariscus nachtriebi</i>	ST
	Northern Redbelly Dace	<i>Chrosomus eos</i>	ST
	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Turner</b>	Northern Redbelly Dace	<i>Chrosomus eos</i>	ST
	Topeka Shiner	<i>Notropis topeka</i>	FE
<b>Union</b>	American Burying Beetle	<i>Nicrophorus americanus</i>	FE
	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	Finescale Dace	<i>Chrosomus neogaeus</i>	SE
	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	Sicklefin Chub	<i>Macrhybopsis meeki</i>	ST
	Eastern Hognose Snake	<i>Heterodon platirhinos</i>	ST
	False Map Turtle	<i>Graptemys pseudogeographica</i>	ST
	Lined Snake	<i>Tropidoclonion lineatum</i>	SE

	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Piping Plover	<i>Charadrius melodus</i>	FT, ST
	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	LT
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Walworth</b>	Northern Redbelly Dace	<i>Chrosomus eos</i>	ST
	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	Sicklefin Chub	<i>Macrhybopsis meeki</i>	ST
	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Piping Plover	<i>Charadrius melodus</i>	FT, ST
	Whooping Crane	<i>Grus americana</i>	FE, SE
	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	LT
<b>Yankton</b>	Higgins Eye	<i>Lampsilis higginsii</i>	FE
	Scaleshell	<i>Leptodea leptodon</i>	FE
	Pallid Sturgeon	<i>Scaphirhynchus albus</i>	FE, SE
	Shovelnose Sturgeon	<i>Scaphirhynchus platyrhynchus</i>	FT
	Sicklefin Chub	<i>Macrhybopsis meeki</i>	ST
	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	Eastern Hognose Snake	<i>Heterodon platirhinos</i>	ST
	False Map Turtle	<i>Graptemys pseudogeographica</i>	ST
	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Piping Plover	<i>Charadrius melodus</i>	FT, ST
	Northern Long-eared Bat	<i>Myotis septentrionalis</i>	LT
	Northern River Otter	<i>Lontra canadensis</i>	ST
<b>Ziebach</b>	Sturgeon Chub	<i>Macrhybopsis gelida</i>	ST
	Interior Least Tern	<i>Sternula antillarum athalassos</i>	FE, SE
	Black-footed Ferret	<i>Mustela nigripes</i>	FE, SE
	Swift Fox	<i>Vulpes velox</i>	ST
	Whooping Crane	<i>Grus americana</i>	FE, SE

### E.3 BIRD CONSERVATION REGIONS

Table 14 BCR 16 (Southern Rockies/Colorado Plateau) *BCC 2008* list.<sup>16</sup>

Gunnison Sage Grouse  
 American Bittern  
 Bald Eagle (b)  
 Ferruginous Hawk  
 Golden Eagle  
 Peregrine Falcon (b)  
 Prairie Falcon  
 Snowy Plover (c)  
 Mountain Plover  
 Long-billed Curlew  
 Yellow-billed Cuckoo (w. U.S. DPS) (a)  
 Flammulated Owl  
 Burrowing Owl  
 Lewis's Woodpecker  
 Willow Flycatcher (c)  
 Gray Vireo  
 Pinyon Jay  
 Juniper Titmouse  
 Veery  
 Bendire's Thrasher  
 Grace's Warbler  
 Brewer's Sparrow  
 Grasshopper Sparrow  
 Chestnut-collared Longspur (nb)  
 Black Rosy-Finch  
 Brown-capped Rosy-Finch  
 Cassin's Finch

<sup>16</sup> (a) ESA candidate, (b) ESA delisted, (c) non-listed subspecies or population of Threatened or Endangered species, (d) MBTA protection uncertain or lacking, (nb) non-breeding in this BCR

Table 15 BCR 17 (Badlands and Prairies) *BCC 2008* list.<sup>17</sup>

Horned Grebe  
American Bittern  
Bald Eagle (b)  
Ferruginous Hawk  
Golden Eagle  
Peregrine Falcon (b)  
Prairie Falcon  
Yellow Rail  
Mountain Plover  
Upland Sandpiper  
Long-billed Curlew  
Marbled Godwit  
Black-billed Cuckoo  
Burrowing Owl  
Short-eared Owl  
Lewis's Woodpecker  
Red-headed Woodpecker  
Loggerhead Shrike  
Pinyon Jay  
Sage Thrasher  
Sprague's Pipit  
Brewer's Sparrow  
Sage Sparrow  
Grasshopper Sparrow  
Baird's Sparrow  
McCown's Longspur  
Chestnut-collared Longspur  
Dickcissel

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17 (a) ESA candidate, (b) ESA delisted, (c) non-listed subspecies or population of Threatened or Endangered species, (d) MBTA protection uncertain or lacking, (nb) non-breeding in this BCR

Table 16 BCR 18 (Shortgrass Prairie) *BCC 2008* list.<sup>18</sup>

Lesser Prairie-Chicken (a)  
Bald Eagle (b)  
Golden Eagle  
Prairie Falcon  
Snowy Plover (c)  
Mountain Plover  
Upland Sandpiper  
Long-billed Curlew  
Burrowing Owl  
Lewis's Woodpecker  
Willow Flycatcher (c)  
Bell's Vireo (c)  
Sprague's Pipit (nb)  
Lark Bunting  
McCown's Longspur  
Chestnut-collared Longspur

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18 (a) ESA candidate, (b) ESA delisted, (c) non-listed subspecies or population of Threatened or Endangered species, (d) MBTA protection uncertain or lacking, (nb) non-breeding in this BCR



Table 19 BCR 21 (Oaks and Prairies) *BCC 2008* list.<sup>21</sup>

Little Blue Heron  
Swallow-tailed Kite  
Bald Eagle (b)  
Peregrine Falcon (b)  
Black Rail (nb)  
Upland Sandpiper  
Long-billed Curlew (nb)  
Hudsonian Godwit (nb)  
Buff-breasted Sandpiper (nb)  
Red-headed Woodpecker  
Scissor-tailed Flycatcher  
Loggerhead Shrike  
Bell's Vireo (c)  
Sprague's Pipit (nb)  
Swainson's Warbler  
Henslow's Sparrow (nb)  
Harris's Sparrow (nb)  
Smith's Longspur (nb)  
Orchard Oriole

---

21 (a) ESA candidate, (b) ESA delisted, (c) non-listed subspecies or population of Threatened or Endangered species, (d) MBTA protection uncertain or lacking, (nb) non-breeding in this BCR

Table 33 BCR 35 (Chihuahuan Desert U.S. portion only) *BCC 2008* lists.<sup>35</sup>

Bald Eagle (b)  
 Common Black-Hawk  
 Ferruginous Hawk (nb)  
 Golden Eagle  
 Peregrine Falcon (b)  
 Snowy Plover (c)  
 Mountain Plover  
 Long-billed Curlew (nb)  
 Yellow-billed Cuckoo (w. US DPS) (a)  
 Flammulated Owl  
 Elf Owl  
 Burrowing Owl  
 Lucifer Hummingbird  
 Loggerhead Shrike  
 Bell's Vireo (c)  
 Gray Vireo  
 Bendire's Thrasher  
 Sprague's Pipit (nb)  
 Virginia's Warbler  
 Colima Warbler  
 Yellow Warbler (*sonorana* ssp.)  
 Grace's Warbler  
 Red-faced Warbler  
 Cassin's Sparrow  
 Black-chinned Sparrow  
 Lark Bunting (nb)  
 Baird's Sparrow (nb)  
 McCown's Longspur (nb)  
 Chestnut-collared Longspur (nb)  
 Varied Bunting  
 Painted Bunting

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35 (a) ESA candidate, (b) ESA delisted, (c) non-listed subspecies or population of Threatened or Endangered species, (d) MBTA protection uncertain or lacking, (nb) non-breeding in this BCR

Table 17 BCR 19 (Central Mixed-Grass Prairie) *BCC 2008* list.<sup>19</sup>

Lesser Prairie-Chicken (a)  
 Little Blue Heron  
 Mississippi Kite  
 Bald Eagle (b)  
 Swainson's Hawk  
 Black Rail  
 Snowy Plover (c)  
 Mountain Plover (nb)  
 Solitary Sandpiper (nb)  
 Upland Sandpiper  
 Long-billed Curlew  
 Hudsonian Godwit (nb)  
 Marbled Godwit (nb)  
 Buff-breasted Sandpiper (nb)  
 Short-billed Dowitcher (nb)  
 Red-headed Woodpecker  
 Scissor-tailed Flycatcher  
 Loggerhead Shrike  
 Bell's Vireo (c)  
 Sprague's Pipit (nb)  
 Cassin's Sparrow  
 Lark Bunting  
 Henslow's Sparrow  
 Harris's Sparrow (nb)  
 McCown's Longspur (nb)  
 Smith's Longspur (nb)  
 Chestnut-collared Longspur (nb)

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19 (a) ESA candidate, (b) ESA delisted, (c) non-listed subspecies or population of Threatened or Endangered species, (d) MBTA protection uncertain or lacking, (nb) non-breeding in this BCR

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**APPENDIX F**  
**CULTURAL RESOURCES**

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## F. CULTURAL RESOURCES SUPPORTING INFORMATION

### F.1 NATIVE AMERICAN CONSULTATION AND COMMUNICATION

#### F.1.1 Dyess AFB

##### F.1.1.1 Dyess AFB – Tribal Mailing List

Dyess AFB Tribal Government Mailing List				
Organization	Salutation	First Name	Last Name	Title
Kickapoo Traditional Tribe of Texas	Mr.	Garza	Juan	Chairman
Apache Tribe of Oklahoma	Mr.	Komardly	Bobby	Chairman
Comanche Nation	Mr.	Nelson Sr.	William	Chairman
Fort Sill Apache Tribe of Oklahoma	Mr.	Haozous	Jeff	Chairman
Jicarilla Apache Nation	Mr.	Garcia	Donnie	Chairman
Kiowa Tribe of Oklahoma	Mr.	Komalty	Matthew	Chairman
Caddo Nation of Oklahoma	Ms.	Francis-Fourkiller	Tammy	Chairman
Ysleta Del Sur Pueblo	Mr.	Silvas	E. Michael	Governor
Wichita and Affiliated Tribes	Ms.	Parton	Terri	President
Mescalero Apache Tribe	Mr.	Aguilar	Gabe	President
Tonkawa Tribe of Indians of Oklahoma	Mr.	Martin	Russell	President

## F.1.1.2 Dyess AFB –Tribal Letter Examples

### Notice of Intent Tribal Letter



**DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 7TH BOMB WING (AFGSC)  
DYESS AIR FORCE BASE TEXAS**

March 10, 2020

Colonel Jose E. Sumangil  
Commander  
7th Bomb Wing  
7 Lancer Loop  
Dyess AFB Texas 79607

Mr. Juan Garza  
Chairman  
Kickapoo Traditional Tribe of Texas  
HC 1, Box 9700  
2212 Rosita Valley Road  
Eagle Pass, TX 78852

Dear Chairman Garza

The Department of Defense (DoD) is developing a new bomber aircraft, the B-21 "Raider," which will eventually replace existing B-1 and B-2 bomber aircraft. The beddown of the B-21 will take place through a series of three Main Operating Bases (MOBs), referred to as MOB 1, MOB 2, and MOB 3. The United States Air Force (USAF) is preparing an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) to evaluate potential environmental impacts associated with the B-21 MOB 1 Beddown at Dyess AFB Texas or Ellsworth AFB South Dakota. MOB 2 and MOB 3 basing actions will be evaluated in future NEPA and NHPA analyses. Per Section 306108 of the National Historic Preservation Act (NHPA) and its implementing regulations at 36 CFR Part 800, the USAF is accounting for various environmental concerns and engaging early with tribal governments as it formulates the undertaking.

As part of this proposed undertaking, the USAF would beddown the B-21 MOB 1 at one of the candidate bases. The EIS will consider two alternatives, or locations, for MOB 1: Dyess AFB Texas or Ellsworth AFB South Dakota. This letter addresses Dyess AFB (Attachment 1). Implementation of the Proposed Action includes establishment of B-21 Operational Squadrons and a B-21 Formal Training Unit (FTU), as well as construction of various facilities and infrastructure projects, including a Weapons Generation Facility (WGF). The proposed undertaking also considers the additional personnel needed to support the MOB 1 mission at the selected base and B-21 aircraft operations within designated airspace.

The USAF has proposed numerous facilities and infrastructure projects required to establish the B-21 MOB 1 at Dyess AFB. Due to operational security concerns, the exact locations cannot be illustrated. However, Attachment 2 shows where USAF planners evaluated land use limitations and identified a general planned area of construction, or construction footprint on Dyess AFB. The WGF is a separate facility that is unique to the B-21 mission and would be constructed at Dyess AFB under the proposed undertaking. The WGF will provide a safer and more secure location for the storage of USAF nuclear munitions. The WGF will require a construction footprint of approximately 35 acres, with an approximate 52,000-square-foot building. The USAF will implement construction and operations in a manner consistent with AFI 20-110, *Nuclear Weapons-Related Materiel Management*. Due to national

**DEATH FROM ABOVE**

security implications, the details regarding the infrastructure associated with the WGF is not releasable. It should be noted that the Munitions Storage Area at Dyess AFB has adequate capacity for conventional USAF assets. The USAF identified one preferred location for the WGF at Dyess AFB (Attachment 3).

The B-21 mission personnel duties would include initial training, transition/conversion training, refresher/requalification training, and instructor training. Students entering the B-21 program would be graduates of undergraduate aviator and maintainer training programs. Pilots and maintainers entering the program from another aircraft platform would go through a transitional training program, which would provide the requisite skills to meet the mission-qualified pilot or mission-qualified maintainer graduation criteria. The B-21 mission would also require some civilian and contractor personnel for various support functions. Due to operational security concerns, the total number and breakout of B-21 mission personnel required for MOB 1 cannot be released. The EIS will provide a range of personnel numbers and associated dependents anticipated to meet the B-21 MOB 1 mission. The EIS will also analyze the potential impacts from changes in end-state populations at Dyess AFB. This analysis will consider both the incoming B-21 mission and personnel as well as the retiring B-1 mission and associated outgoing personnel.

The EIS will also address the B-21 training mission. The primary training area for B-21 aircraft operations based at either location would be the Powder River Training Complex airspace. However, aircraft based at Dyess AFB would also utilize additional airspace within the Brownwood Military Operating Area (MOA), Lancer MOA, and the Pecos MOA, which includes the associated Air Traffic Control Assigned Airspaces (ATCAAs) (Attachment 4). B-21 aircraft operations would adhere to the limitations established in the USAF's Powder River Training Complex EIS (USAF, 2014) and Record of Decision (ROD) (signed on January 16, 2015) (USAF, 2015) and the Federal Aviation Administration (FAA) ROD (signed on March 24, 2015) (FAA, 2015). Additionally, the Nevada Test and Training Range (NTTR) and the Utah Test and Training Range (UTTR) would also support minimal B-21 operations in a manner consistent with the current B-1 and B-2 missions, as incorporated in the NTTR Land Withdrawal Legislative EIS (USAF, 2018) and the F-35A Operational Basing EIS (USAF, 2013a) and ROD (signed December 2, 2013) (USAF, 2013b). In general, end-state B-21 operations and ordnance use in NTTR and UTTR are anticipated to be the same as existing B-1 and B-2 operations, which will be phased out of operation and into retirement. While many components of the B-21 aircraft are classified and cannot be released, in general, B-21 engine noise is anticipated to be quieter than the B-1 and would be the same as or quieter than the B-2. Additionally, the B-21 is not anticipated to use low altitude training routes during operations.

The USAF plans to hold six public scoping meetings to provide information on the description of the proposed action and alternatives and will solicit public comments. The meetings will occur from 6:00 p.m. to 8:00 p.m., on the dates and at the locations listed below:

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The agenda for each scoping meeting is as follows:

- 6:00 p.m. to 6:30 p.m. – Open House and comment submission
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Additional information on the B-21 MOB 1 Beddown EIS environmental impact analysis process can be found on the project website at <https://www.B21EIS.com>. Inquiries and comments-by-mail regarding the USAF proposal should be directed to Dyess AFB Public Affairs, 7 Lancer Loop, Suite 136, Dyess AFB Texas 79607; (325) 696-4820; or [7bwpa@us.af.mil](mailto:7bwpa@us.af.mil).

The project website (<https://www.B21EIS.com>) can also be used to submit comments. Comments will be accepted at any time during the environmental impact analysis process. However, to ensure the USAF has sufficient time to consider public input in the preparation of the Draft EIS, scoping comments should be submitted to the website or the address listed above by April 24, 2020.

In accordance with the NHPA, the USAF would like to request your level of interest in participating in government-to-government consultation on the B-21 MOB 1 Beddown at Dyess AFB Texas or Ellsworth AFB South Dakota EIS regarding traditional cultural properties. Please let us know if you believe this undertaking might adversely affect any historic properties of religious and cultural significance to the Kickapoo Traditional Tribe of Texas. In addition to government-to-government consultation on properties of religious and cultural significance, the USAF also requests your input in identifying any issues or areas of concern you feel should be addressed in the environmental analysis. If you would like to participate in government-to-government consultation or if you have any questions, please contact Mr. Tommy Downing, (AFGSC 7 CES/CENPP) Dyess AFB POC at (325) 696-2050 or by e-mail at [Tommy.Downing@us.af.mil](mailto:Tommy.Downing@us.af.mil). Thank you in advance for your assistance in this effort.

Sincerely

  
JOSEPH V. SUMANGIL, Colonel, USAF  
Commander

4 Attachments:

Attachment 1: Dyess AFB Location

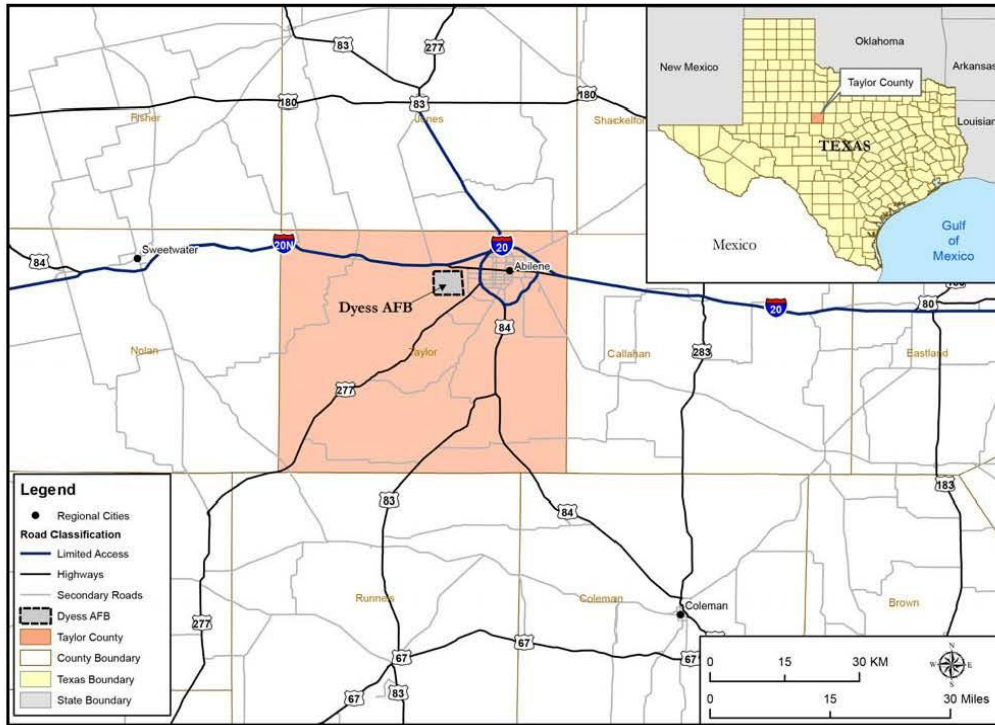
Attachment 2: Facilities and Infrastructure Planned Areas of Construction on Dyess AFB

Attachment 3: Weapons Generation Facility (WGF) Planned Areas of Construction on Dyess AFB

Attachment 4: Range and Airspace Boundaries

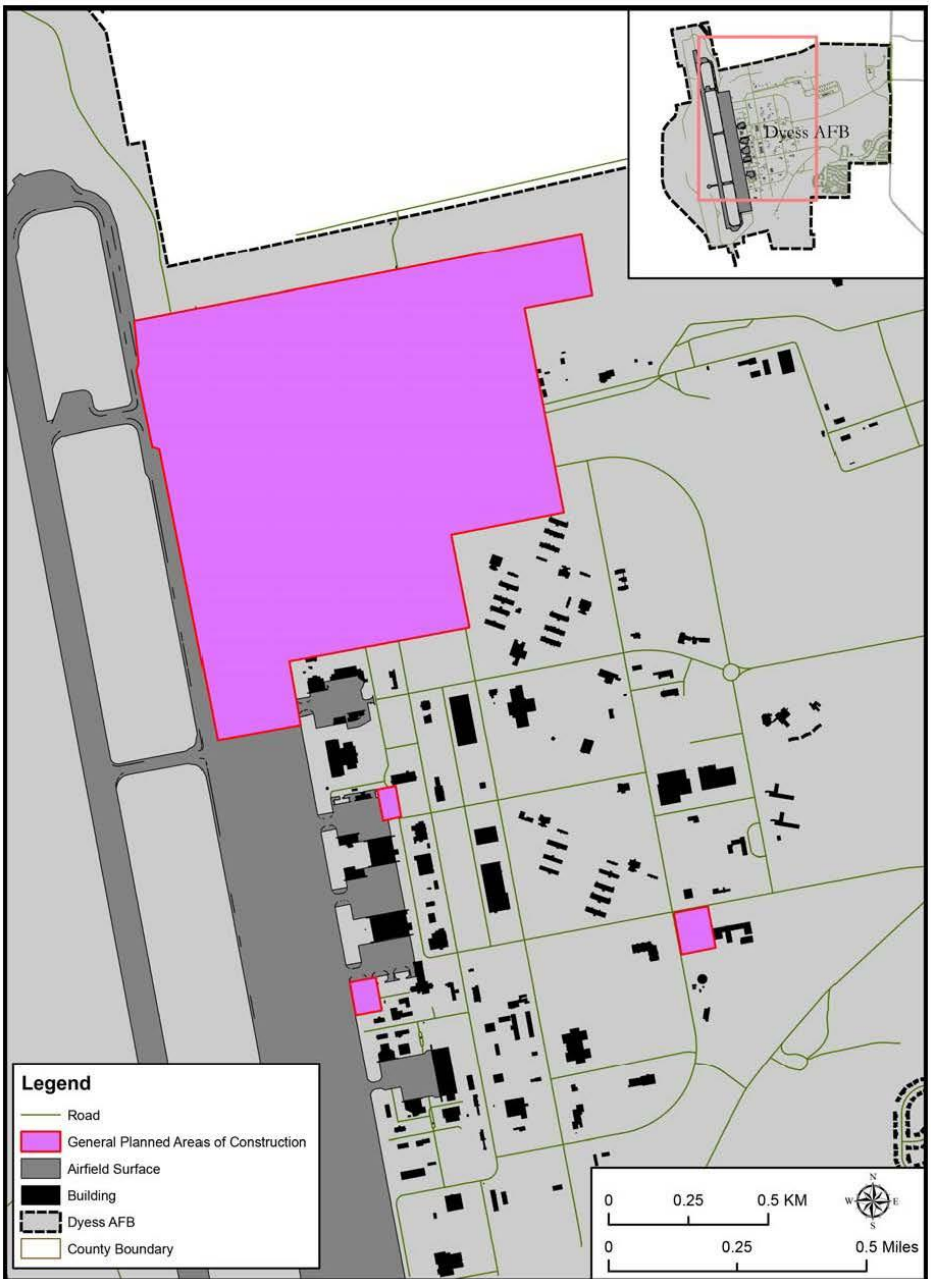
**REFERENCES**

- FAA. (2015). *Adoption of Environmental Impact Statement and FAA Record of Decision for Establishment of the Powder River Training Complex Located in Montana, North Dakota, South Dakota, and Wyoming*. Federal Aviation Administration, March 24.
- USAF. (2013a). *F-35A Operational Basing Environmental Impact Statement*. U.S. Air Force, September.
- USAF. (2013b). *Record of Decision for the First Active Duty F-35A Operational Base*. U.S. Air Force, December 2.
- USAF. (2014). *Powder River Training Complex Ellsworth Air Force Base, South Dakota Environmental Impact Statement*. U.S. Air Force, November.
- USAF. (2015). *Record of Decision for the Powder River Training Complex, Ellsworth Air Force Base, South Dakota, Environmental Impact Statement*. U.S. Air Force. January 16.
- USAF. (2018). *Nevada Test and Training Range Land Withdrawal Legislative Environmental Impact Statement*. U.S. Air Force, October.



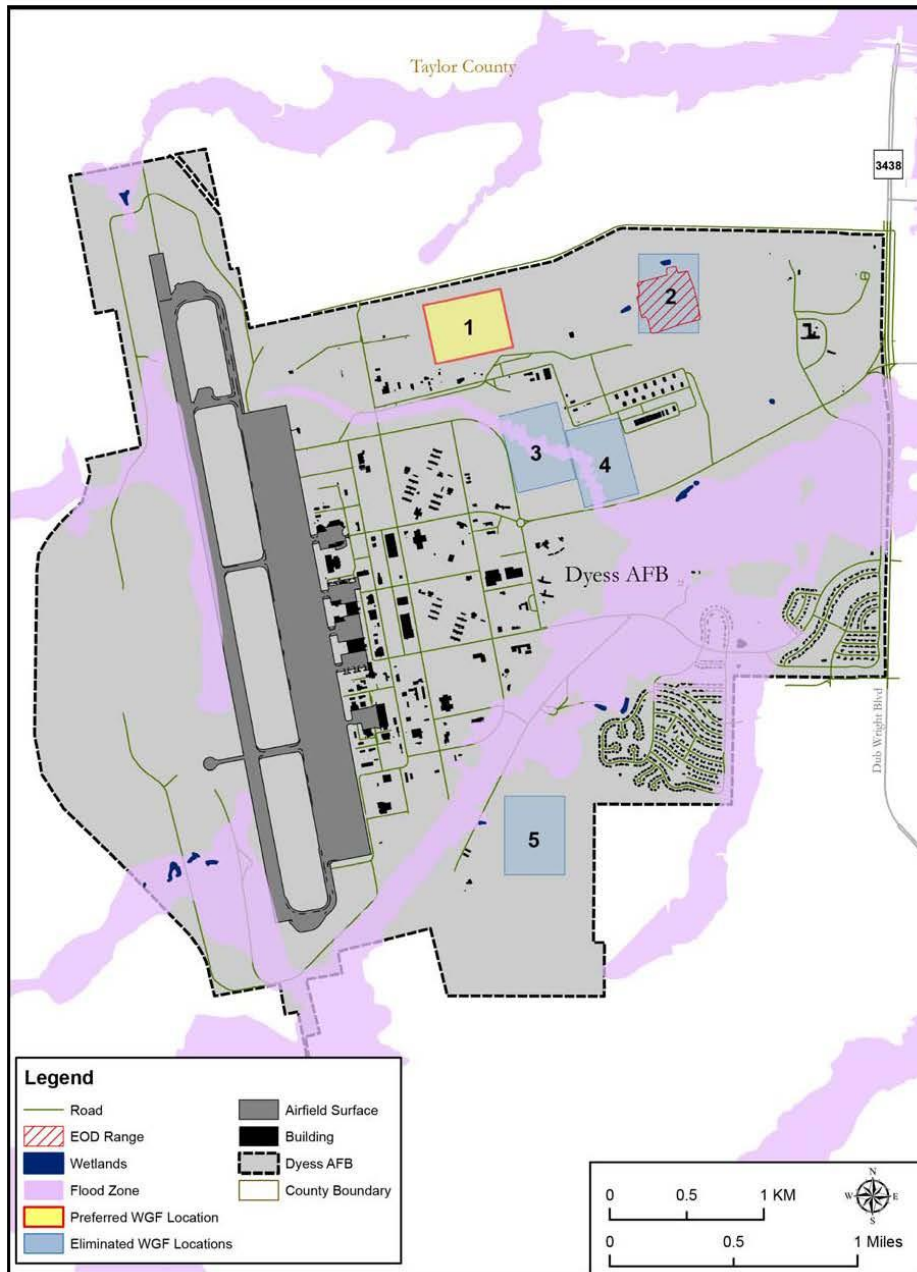
Dyess AFB Location

Attachment 1



Facilities and Infrastructure Planned Areas of Construction on Dyess AFB

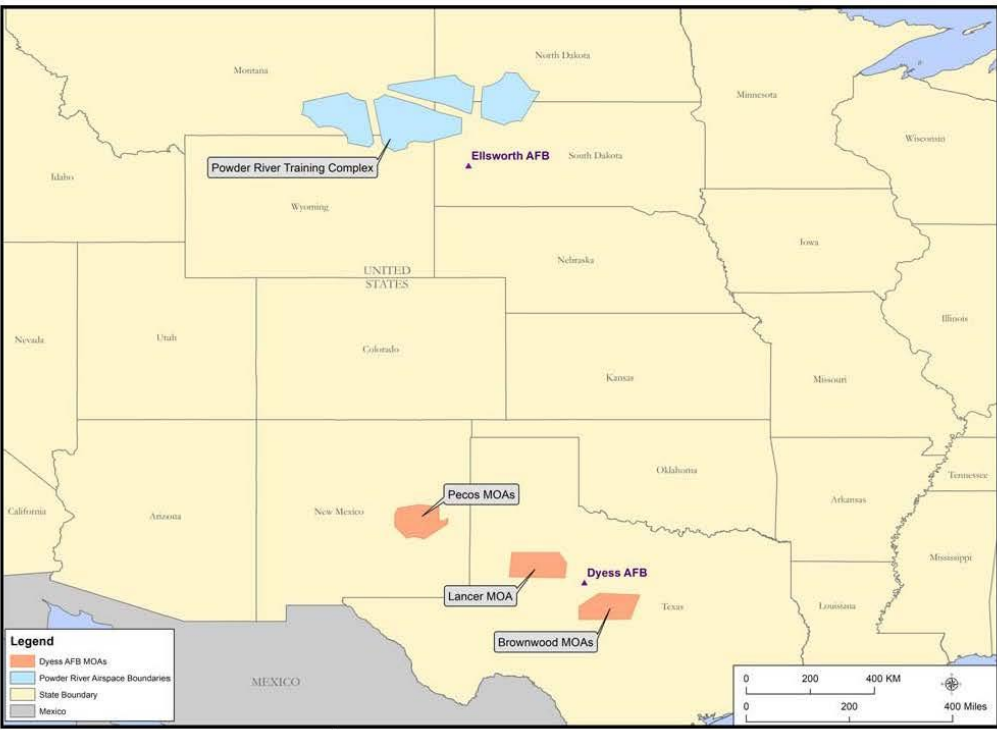
Attachment 2



Weapons Generation Facility (WGF) Planned Areas of Construction on Dyess AFB

Attachment 3





AFB = Air Force Base; MOA = Military Operating Area

### Range and Airspace Boundaries

Attachment 4

## Notice of Availability Tribal Letter



**DEPARTMENT OF THE AIR FORCE**  
 AIR FORCE CIVIL ENGINEER CENTER  
 JOINT BASE SAN ANTONIO LACKLAND TEXAS



4 September 2020

AFCEC/CZN  
 2261 Hughes Ave., Ste. 133  
 JBSA Lackland, TX 78236-9853

Receiver Name  
 Chairman/Title  
 Tribe Name  
 Street Address  
 City ST 12345-6789

**SUBJECT:** Environmental Impact Statement Public Review; B-21 Main Operating Base 1 (MOB 1) Beddown at Dyess Air Force Base (AFB), Texas or Ellsworth AFB, South Dakota

Dear Chairman/Title LastName

The Air Force is publishing a Notice of Availability (NOA) in the Federal Register that announces the availability of the *Draft Environmental Impact Statement (EIS) for the B-21 MOB 1 Beddown at Dyess AFB, Texas or Ellsworth AFB, South Dakota*. The publication of the NOA on September 25, 2020, begins a 46-day public comment period. The Draft EIS and supporting documents are available on the project website at [www.B21EIS.com](http://www.B21EIS.com). A printed copy of the Draft EIS has also been provided to the following libraries and repositories:

Rapid City Public Library  
 610 Quincy Street  
 Rapid City, SD 57701

Dickinson Area Public Library  
 139 3rd Street West  
 Dickinson, ND 58601

Devereaux Library  
 South Dakota School of Mines & Technology  
 501 East Saint Joseph Street  
 Rapid City, SD 57701

Abilene Public Library – Main Library  
 202 Cedar Street  
 Abilene, TX 79601

Sturgis Public Library  
 1040 Harley-Davidson Way, Suite 101  
 Sturgis, SD 57785

Howard County Library  
 500 Main Street  
 Big Spring, TX 79720

Big Horn County Library  
 419 North Custer Avenue  
 Hardin, MT 59034

Brownwood Public Library  
 600 Carnegie Street  
 Brownwood, TX 76801

Miles City Public Library  
 1 South 10th Street  
 Miles City, MT 59301

Fort Sumner Public Library  
 235 W. Sumner Avenue  
 Fort Sumner, NM 88119

The Air Force plans to hold virtual public hearings on the dates and times listed below. Please visit the project website ([www.B21EIS.com](http://www.B21EIS.com)) for details on registering to participate in the virtual public hearings and to make verbal comments during the hearings.

- Tuesday, October 13, 2020 – 5:30 p.m. to 7:30 p.m. Central Standard Time (CST)
- Thursday, October 15, 2020 – 5:30 p.m. to 7:30 p.m. CST
- Tuesday, October 20, 2020 – 5:30 p.m. to 7:30 p.m. Mountain Standard Time (MST)
- Thursday, October 22, 2020 – 5:30 p.m. to 7:30 p.m. MST

The project website can be used to submit comments on the Draft EIS. Comments may also be submitted by mail to Leidos, ATTN: B-21 EIS, 1456 Woodlawn Way, Gulf Breeze, Florida, 32563. Comments will be accepted at any time during the environmental impact analysis process. However, to ensure that the Air Force has sufficient time to consider public input in the preparation of the Final EIS, comments must be submitted to the website or mailed to the address listed above by November 9, 2020.

Please direct any requests for information or other inquiries to the Dyess AFB Public Affairs, (325) 696-4820, or after hours (325) 268-6554, [7bwpa@us.af.mil](mailto:7bwpa@us.af.mil); or Ellsworth AFB Public Affairs, (605) 385-5056, or after hours (605) 391-7436, [28bw.public.affairs@us.af.mil](mailto:28bw.public.affairs@us.af.mil).

Sincerely



Julianne Turko, Program Manager  
NEPA Division (AFCEC/CZN)

### F.1.1.3 Dyess AFB – Tribal Responses

# COMANCHE NATION



Department of the Air Force Headquarters 7<sup>th</sup> Bomb Wing (AFGSC)  
Attn: Colonel Jose E. Sumangil  
7 Lancer Loop  
Texas 79607

September 4, 2020

Re: Environmental Impact Statement (EIS) for the B-21 Main Operating Base 1 (MOB)  
Beddown at Dyess Air Force Base (AFB), Texas or Ellsworth AFB, South Dakota

Dear Colonel Sumangil:

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

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

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

Regards

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

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

# COMANCHE NATION



Department of the Air Force, Headquarters 7<sup>th</sup> Bomb Wing (AFGSC)  
Attn: Mr. Tommy Downing  
7 Lancer Loop  
Texas 79607

December 3, 2020

Re: The B-21 MOB 1 Beddown at Dyess AFB Texas or Ellsworth AFB South Dakota

Dear Mr. Downing:

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

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

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Regards

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

Consult Response delayed due to Covid-19 work conditions.

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

MARCH 2021



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 7TH BOMB WING (AFGSC)  
DYESS AIR FORCE BASE TEXAS

RECEIVED

March 10, 2020

Colonel Jose E. Sumangil  
Commander  
7th Bomb Wing  
7 Lancer Loop  
Dyess AFB Texas 79607

MAR 17 2020

BY: FDJ

FDJ Loop

Mr. E. Michael Silvas  
Governor  
Ysleta Del Sur Pueblo  
P.O. Box 17579  
El Paso, TX 79907

MAR 20 2020  
7 BW/CC-office  
Marked to  
CE

Dear Governor Silvas

The Department of Defense (DoD) is developing a new bomber aircraft, the B-21 "Raider," which will eventually replace existing B-1 and B-2 bomber aircraft. The beddown of the B-21 will take place through a series of three Main Operating Bases (MOBs), referred to as MOB 1, MOB 2, and MOB 3. The United States Air Force (USAF) is preparing an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) to evaluate potential environmental impacts associated with the B-21 MOB 1 Beddown at Dyess AFB Texas or Ellsworth AFB South Dakota. MOB 2 and MOB 3 basing actions will be evaluated in future NEPA and NHPA analyses. Per Section 306108 of the National Historic Preservation Act (NHPA) and its implementing regulations at 36 CFR Part 800, the USAF is accounting for various environmental concerns and engaging early with tribal governments as it formulates the undertaking.

As part of this proposed undertaking, the USAF would beddown the B-21 MOB 1 at one of the candidate bases. The EIS will consider two alternatives, or locations, for MOB 1: Dyess AFB Texas or Ellsworth AFB South Dakota. This letter addresses Dyess AFB (Attachment 1). Implementation of the Proposed Action includes establishment of B-21 Operational Squadrons and a B-21 Formal Training Unit (FTU), as well as construction of various facilities and infrastructure projects, including a Weapons Generation Facility (WGF). The proposed undertaking also considers the additional personnel needed to support the MOB 1 mission at the selected base and B-21 aircraft operations within designated airspace.

The USAF has proposed numerous facilities and infrastructure projects required to establish the B-21 MOB 1 at Dyess AFB. Due to operational security concerns, the exact locations cannot be illustrated. However, Attachment 2 shows where USAF planners evaluated land use limitations and identified a general planned area of construction, or construction footprint on Dyess AFB. The WGF is a separate facility that is unique to the B-21 mission and would be constructed at Dyess AFB under the proposed undertaking. The WGF will provide a safer and more secure location for the storage of USAF nuclear munitions. The WGF will require a construction footprint of approximately 35 acres, with an approximate 52,000-square-foot building. The USAF will implement construction and operations in a manner consistent with AFI 20-110, *Nuclear Weapons-Related Materiel Management*. Due to national

**DEATH FROM ABOVE**



**Ysleta del Sur Pueblo**  
Tribal Council

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

March 18, 2020

Colonel Jose E. Sumangil  
Commander  
7<sup>th</sup> Bomb Wing  
7 Lancer Loop  
Dyess AFB Texas 79607

Dear Colonel Jose E. Sumangil,

This letter is in response to the correspondence received in our office in which you provide Ysleta del Sur Pueblo the opportunity to comment on the B-21 MOB 1 Beddown at Dyess AFB Texas or Ellsworth AFB South Dakota EIS regarding traditional culture properties.

The Ysleta Del Sur Pueblo does not have any comments nor does it request consultation on this project due to its location being outside of our Pueblo's NAGPRA area of interest and/or relevance.

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

Sincerely,

Omar Villanueva  
Tribal Council Assistant  
Ysleta del Sur Pueblo  
119 S. Old Pueblo Rd.  
(915) 342-2557

ovillanueva@ydsp-nsn.gov

## F.1.2 Ellsworth AFB

### F.1.2.1 Ellsworth AFB – Tribal Mailing List

Ellsworth AFB Tribal Mailing List				
Organization Name	Salutation	First Name	Last Name	Title
Blackfeet Nation	Chairman	Timothy	Davis	Chairman
Cheyenne River Sioux Tribe	Chairman	Harold	Frazier	Chairman
Chippewa Cree Tribe	Chairman	Harlan Gopher	Baker	Chairman
Confederated Salish and Kootenai Tribe	Chairwoman	Shelly	Fyant	Chairwoman
Crow Creek Sioux Tribe	Chairman	Lester	Thompson Jr.	Chairman
Crow Tribe of Indians	Chairman	Alvin	Not Afraid Jr.	Chairman
Eastern Shoshone Tribe	Chairman	Vernon	Hill	Chairman
Flandreau Santee Sioux Tribe	President	Anthony	Reider	President
Fort Belknap Indian Community	President	Andrew "Andy"	Werk Jr.	President
Fort Peck Assiniboine and Sioux Tribes	Chairman	Floyd	Azure	Chairman
Lower Brule Sioux Tribe	Chairman	Boyd I.	Gourneau	Chairman
Mandan, Hidatsa and Arikara Nation	Chairman	Mark N.	Fox	Chairman
Northern Arapaho Tribe	Chairman	Lee	Spoonhunter	Chairman
Northern Cheyenne Tribe	President	Rynalea	Whiteman Pena	President
Oglala Sioux Tribe	President	Julian	Bear Runner	President
Rosebud Sioux Tribe	President	Rodney	Bordeaux	President
Sisseton-Wahpeton Oyate	Chairman	Donovan	White	Chairman
Spirit Lake Tribe	Chairperson	Peggy	Cavanaugh	Chairperson
Standing Rock Sioux Tribe	Chairman	Mike	Faith	Chairman
Turtle Mountain Band of Chippewa Indians	Chairman	Jamie	Azure	Chairman
Yankton Sioux Tribe	Chairman	Robert	Flying Hawk	Chairman
Blackfeet Nation	Chairman	Timothy	Davis	Chairman
Cheyenne River Sioux Tribe	Chairman	Harold	Frazier	Chairman
Chippewa Cree Tribe	Chairman	Harlan Gopher	Baker	Chairman
Confederated Salish and Kootenai Tribe	Chairwoman	Shelly	Fyant	Chairwoman
Crow Creek Sioux Tribe	Chairman	Lester	Thompson Jr.	Chairman
Crow Tribe of Indians	Chairman	Alvin	Not Afraid Jr.	Chairman



## F.1.2.2 Ellsworth AFB – Tribal Letter Examples

### Notice of Intent Tribal Letter



**DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 28TH BOMB WING (AFGSC)  
ELLSWORTH AIR FORCE BASE SOUTH DAKOTA**

Colonel David A. Doss  
28th Bomb Wing  
1958 Scott Drive, Suite 1  
Ellsworth Air Force Base SD 57706-4710

Timothy Davis  
Chairman  
Blackfeet Nation  
PO Box 850  
Browning, MT 59417

Dear Chairman Davis

The Department of Defense (DoD) is developing a new bomber aircraft, the B-21 “Raider,” which will eventually replace existing B-1 and B-2 bomber aircraft. The beddown of the B-21 will take place through a series of three Main Operating Bases (MOBs), referred to as MOB 1, MOB 2, and MOB 3. The United States Air Force (USAF) is preparing an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) to evaluate potential environmental impacts associated with the B-21 MOB 1 Beddown at Dyess AFB, Texas or Ellsworth AFB, South Dakota. MOB 2 and MOB 3 basing actions will be evaluated in future NEPA and NHPA analyses. Per Section 306108 of the National Historic Preservation Act (NHPA) and its implementing regulations at 36 CFR Part 800, the USAF is accounting for various environmental concerns and engaging early with tribal governments as it formulates the undertaking.

As part of this proposed undertaking, the USAF would beddown the B-21 MOB 1 at one of the candidate bases. The EIS will consider two alternatives, or locations, for MOB 1: Dyess AFB, Texas, or Ellsworth AFB, South Dakota. This letter addresses Ellsworth AFB (Attachment 1). Implementation of the Proposed Action includes establishment of B-21 Operational Squadrons and a B-21 Formal Training Unit (FTU), as well as construction of various facilities and infrastructure projects, including a Weapons Generation Facility (WGF). The proposed undertaking also considers the additional personnel needed to support the MOB 1 mission at the selected base and B-21 aircraft operations within designated airspace.

The USAF has proposed numerous facilities and infrastructure projects required to establish the B-21 MOB 1 at Ellsworth AFB. Due to operational security concerns, the exact locations cannot be illustrated. However, Attachment 2 shows where USAF planners evaluated land use limitations and identified a general planned area of construction, or construction footprint on Ellsworth AFB. The WGF is a separate facility that is unique to the B-21 mission and would be constructed at Ellsworth AFB under the proposed undertaking. The WGF will provide a safer and more secure location for the storage of USAF nuclear munitions. The WGF will require a construction footprint of approximately 35 acres, with an approximate 52,000-square-foot building. The USAF will implement construction and operations in a manner consistent with AFI 20-110, *Nuclear Weapons-Related Materiel Management*. Due to national security implications, the details regarding the infrastructure associated with the WGF is not releasable. It should be noted that the Munitions Storage Area at Ellsworth AFB has adequate capacity for conventional USAF assets. The USAF identified two preferred locations for the WGF at

Ellsworth AFB. These will be presented as subalternatives in the EIS under the Ellsworth AFB Alternative: the North WGF Site (Location 1 on Attachment 3) and the South WGF Site (Location 5 on Attachment 3).

The B-21 mission personnel duties would include initial training, transition/conversion training, refresher/requalification training, and instructor training. Students entering the B-21 program would be graduates of undergraduate aviator and maintainer training programs. Pilots and maintainers entering the program from another aircraft platform would go through a transitional training program, which would provide the requisite skills to meet the mission-qualified pilot or mission-qualified maintainer graduation criteria. The B-21 mission would also require some civilian and contractor personnel for various support functions. Due to operational security concerns, the total number and breakout of B-21 mission personnel required for MOB 1 cannot be released. The EIS will provide a range of personnel numbers and associated dependents anticipated to meet the B-21 MOB 1 mission. The EIS will also analyze the potential impacts from changes in end-state populations at Ellsworth AFB. This analysis will consider both the incoming B-21 mission and personnel as well as the retiring B-1 mission and associated outgoing personnel.

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The agenda for each scoping meeting is as follows:

- 6:00 p.m. to 6:30 p.m. – Open House and comment submission
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- 7:00 p.m. to 8:00 p.m. – Open House and comment submission resumes

Additional information on the B-21 MOB 1 Beddown EIS environmental impact analysis process can be found on the project website at <https://www.B21EIS.com>. Inquiries and comments-by-mail regarding the USAF proposal should be directed to Ellsworth AFB Public Affairs, ATTN: Steve Merrill, 28th Bomb Wing Public Affairs, 1958 Scott Drive, Suite 4, Ellsworth AFB, SD 57706; (605)358-5056; [28bw.public.affairs@us.af.mil](mailto:28bw.public.affairs@us.af.mil).

The project website (<https://www.B21EIS.com>) can also be used to submit comments. Comments will be accepted at any time during the environmental impact analysis process. However, to ensure the USAF has sufficient time to consider public input in the preparation of the Draft EIS, scoping comments should be submitted to the website or the address listed above by April 24, 2020.

In accordance with the NHPA, the USAF would like to request your level of interest in participating in government-to-government consultation on the B-21 MOB 1 Beddown at Dyess AFB, Texas or Ellsworth AFB, South Dakota EIS regarding traditional cultural properties. Please let us know if you believe this undertaking might adversely affect any historic properties of religious and cultural significance to the Blackfeet Nation. In addition to government-to-government consultation on properties of religious and cultural significance, the USAF also requests your input in identifying any issues or areas of concern you feel should be addressed in the environmental analysis. If you would like to participate in government-to-government consultation or if you have any questions, please contact Mr. Gary Brundige (AFGSC 28 CES/CEIEC) Ellsworth AFB POC at (605) 385-2690 or by e-mail at [Gary.Brundige@us.af.mil](mailto:Gary.Brundige@us.af.mil). Thank you in advance for your assistance in this effort.

Sincerely,

DOSS.DAVID  
A.1049946151  
DAVID A. DOSS, Colonel, USAF  
Commander

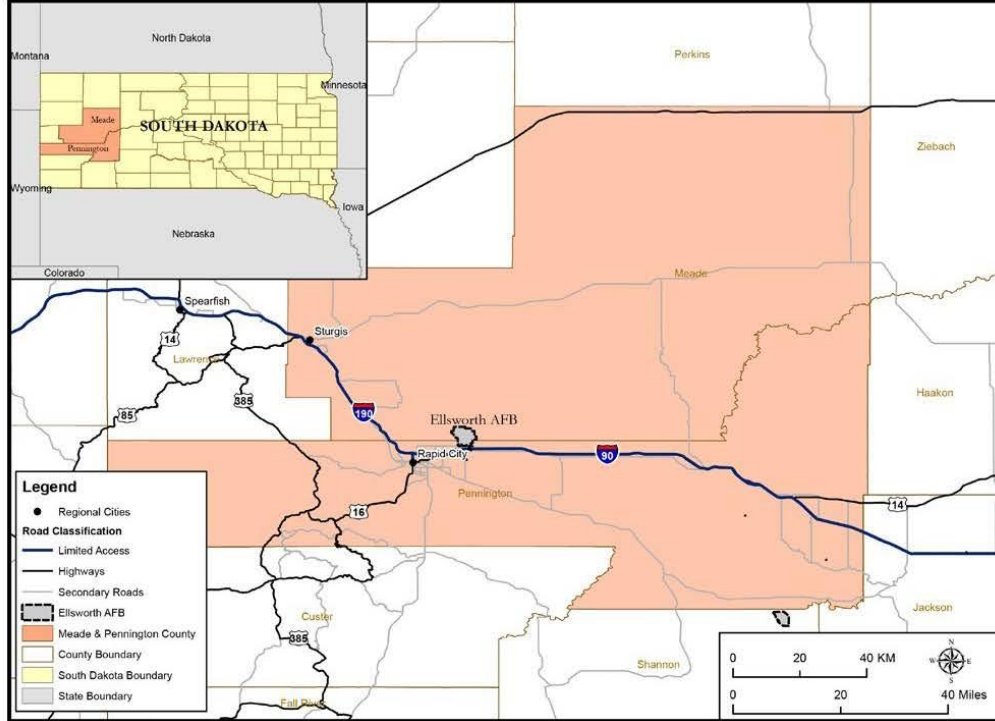
Digitally signed by  
DOSS.DAVID.A.1049946151  
Date: 2020.03.06 11:38:42  
-0700

**4 ATTACHMENTS:**

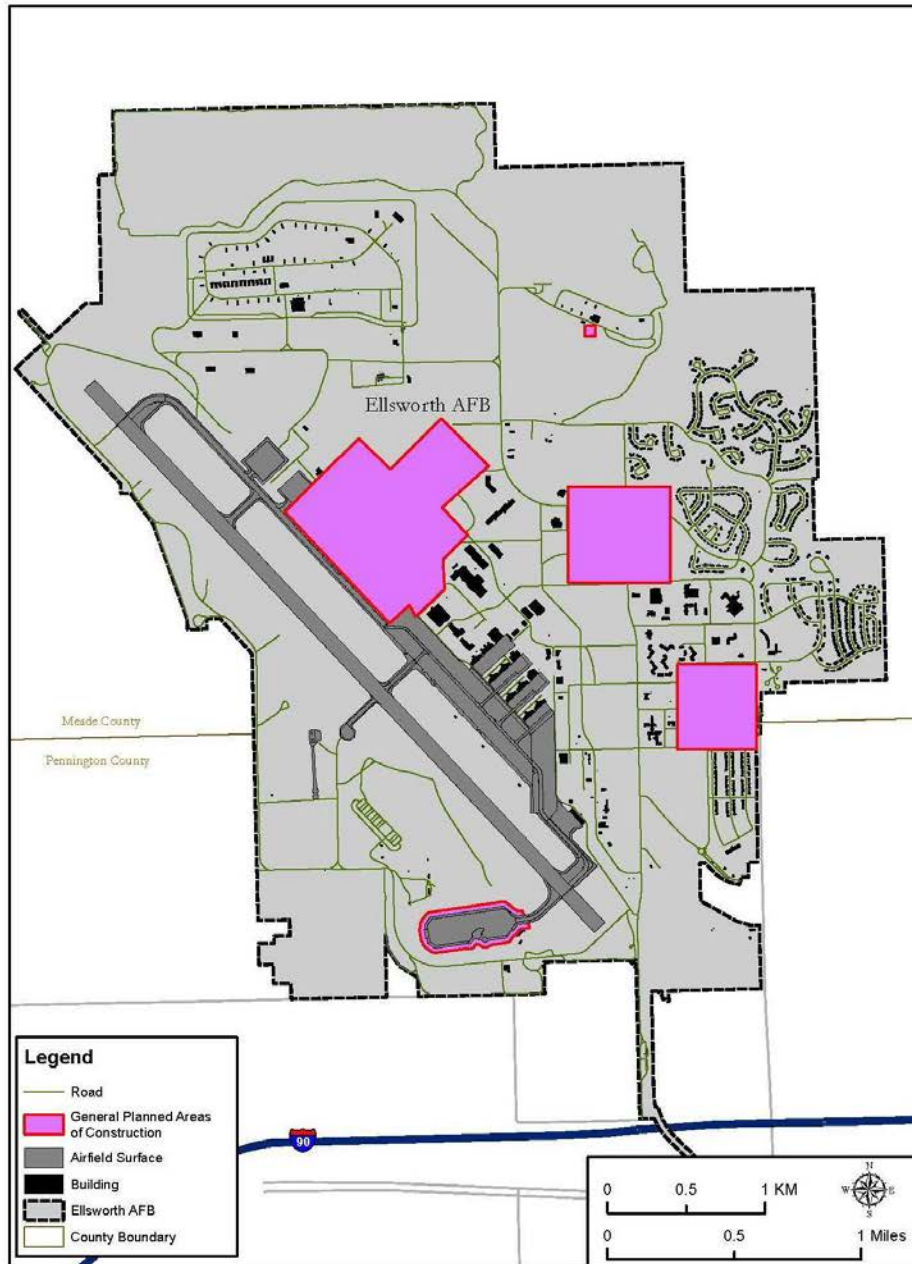
1. Attachment - Ellsworth AFB Location
2. Attachment - Facilities and Infrastructure Planned Areas of Construction on Ellsworth AFB
3. Attachment - Weapons Generation Facility (WGF) Planned Areas of Construction on Ellsworth AFB
4. Attachment - Range and Airspace Boundaries

## REFERENCES

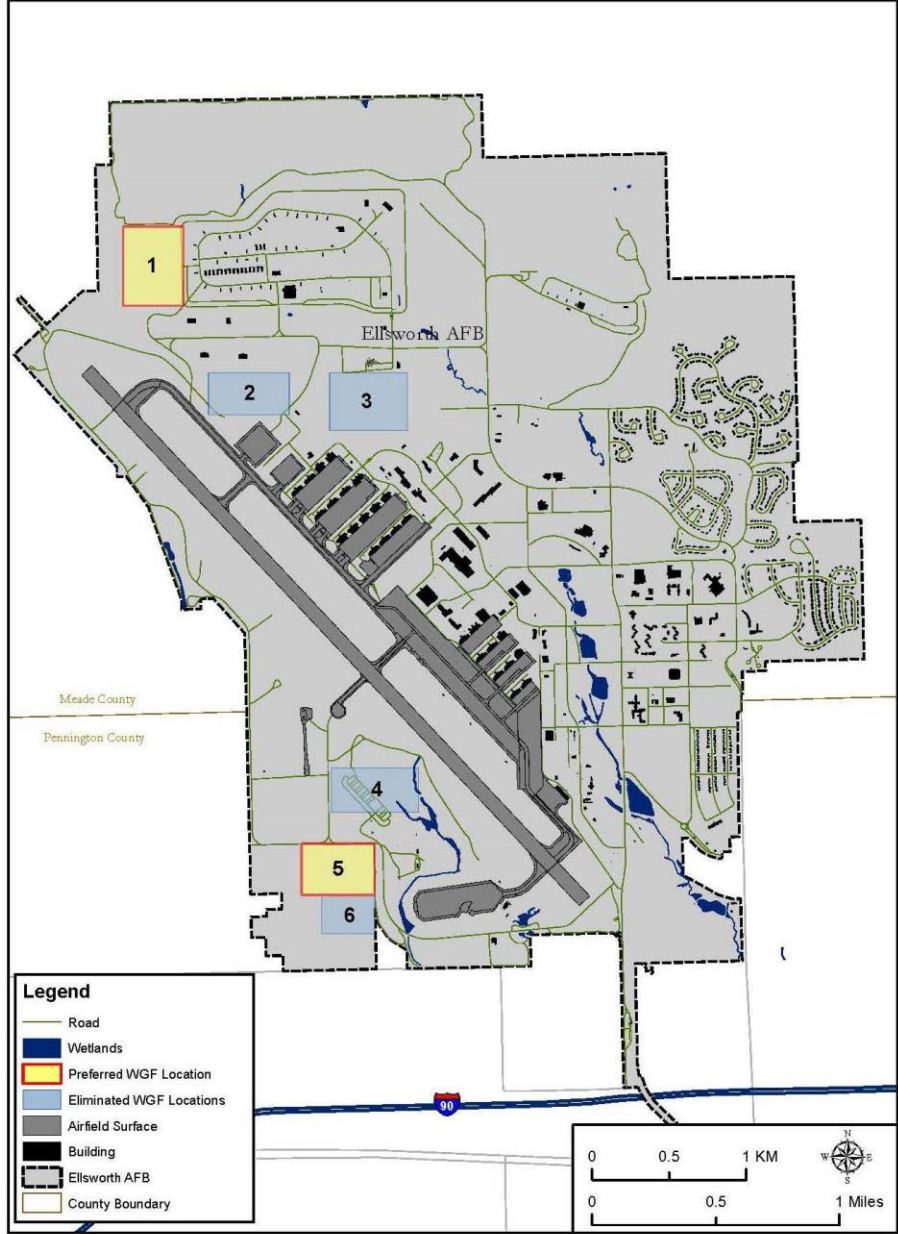
- FAA. (2015). *Adoption of Environmental Impact Statement and FAA Record of Decision for Establishment of the Powder River Training Complex Located in Montana, North Dakota, South Dakota, and Wyoming*. Federal Aviation Administration, March 24.
- USAF. (2013a). *F-35A Operational Basing Environmental Impact Statement*. U.S. Air Force, September.
- USAF. (2013b). *Record of Decision for the First Active Duty F-35A Operational Base*. U.S. Air Force, December 2.
- USAF. (2014). *Powder River Training Complex Ellsworth Air Force Base, South Dakota Environmental Impact Statement*. U.S. Air Force, November.
- USAF. (2015). *Record of Decision for the Powder River Training Complex, Ellsworth Air Force Base, South Dakota, Environmental Impact Statement*. U.S. Air Force, January 16.
- USAF. (2018). *Nevada Test and Training Range Land Withdrawal Legislative Environmental Impact Statement*. U.S. Air Force, October.



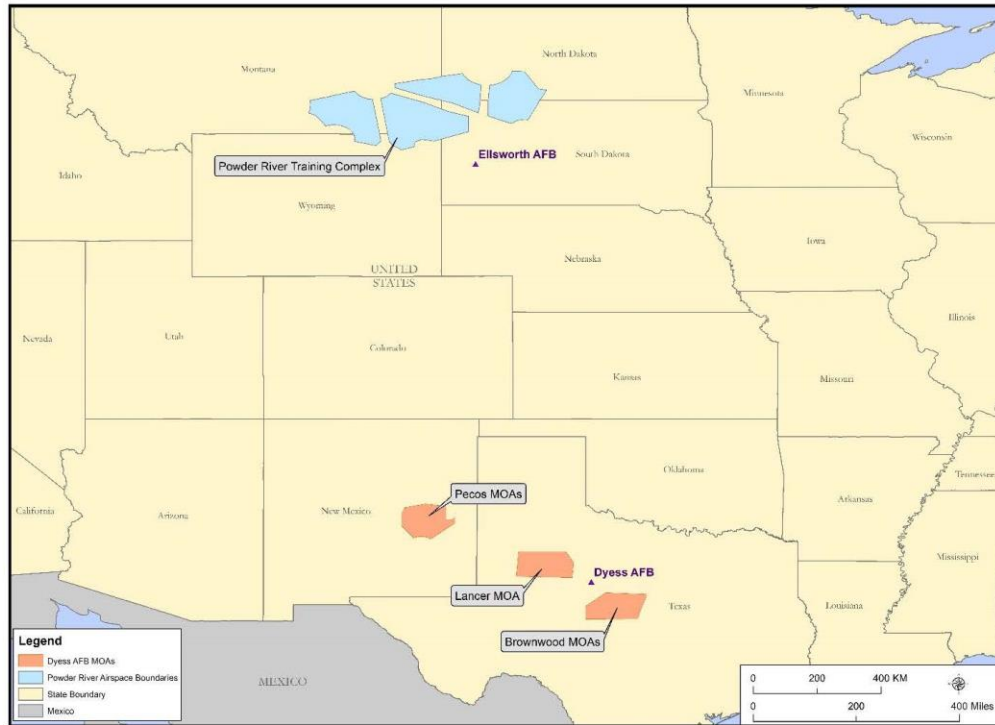
Attachment 1 Ellsworth AFB Location



Attachment 2 Facilities and Infrastructure Planned Areas of Construction on Ellsworth AFB



Attachment 3 Weapons Generation Facility (WGF) Planned Areas of Construction on Ellsworth AFB



AFB = Air Force Base; MOA = Military Operating Area

**Attachment 4. Range and Airspace Boundaries**



## Notice of Availability Tribal Letter



**DEPARTMENT OF THE AIR FORCE**  
 AIR FORCE CIVIL ENGINEER CENTER  
 JOINT BASE SAN ANTONIO LACKLAND TEXAS



4 September 2020

AFCEC/CZN  
 2261 Hughes Ave., Ste. 133  
 JBSA Lackland, TX 78236-9853

Receiver Name  
 Chairman/Title  
 Tribe Name  
 Street Address  
 City ST 12345-6789

**SUBJECT:** Environmental Impact Statement Public Review; B-21 Main Operating Base 1 (MOB 1) Beddown at Dyess Air Force Base (AFB), Texas or Ellsworth AFB, South Dakota

Dear Chairman/Title LastName

The Air Force is publishing a Notice of Availability (NOA) in the Federal Register that announces the availability of the *Draft Environmental Impact Statement (EIS) for the B-21 MOB 1 Beddown at Dyess AFB, Texas or Ellsworth AFB, South Dakota*. The publication of the NOA on September 25, 2020, begins a 46-day public comment period. The Draft EIS and supporting documents are available on the project website at [www.B21EIS.com](http://www.B21EIS.com). A printed copy of the Draft EIS has also been provided to the following libraries and repositories:

Rapid City Public Library  
 610 Quincy Street  
 Rapid City, SD 57701

Dickinson Area Public Library  
 139 3rd Street West  
 Dickinson, ND 58601

Devereaux Library  
 South Dakota School of Mines & Technology  
 501 East Saint Joseph Street  
 Rapid City, SD 57701

Abilene Public Library – Main Library  
 202 Cedar Street  
 Abilene, TX 79601

Sturgis Public Library  
 1040 Harley-Davidson Way, Suite 101  
 Sturgis, SD 57785

Howard County Library  
 500 Main Street  
 Big Spring, TX 79720

Big Horn County Library  
 419 North Custer Avenue  
 Hardin, MT 59034

Brownwood Public Library  
 600 Carnegie Street  
 Brownwood, TX 76801

Miles City Public Library  
 1 South 10th Street  
 Miles City, MT 59301

Fort Sumner Public Library  
 235 W. Sumner Avenue  
 Fort Sumner, NM 88119


The Air Force plans to hold virtual public hearings on the dates and times listed below. Please visit the project website ([www.B21EIS.com](http://www.B21EIS.com)) for details on registering to participate in the virtual public hearings and to make verbal comments during the hearings.

- Tuesday, October 13, 2020 – 5:30 p.m. to 7:30 p.m. Central Standard Time (CST)
- Thursday, October 15, 2020 – 5:30 p.m. to 7:30 p.m. CST
- Tuesday, October 20, 2020 – 5:30 p.m. to 7:30 p.m. Mountain Standard Time (MST)
- Thursday, October 22, 2020 – 5:30 p.m. to 7:30 p.m. MST

The project website can be used to submit comments on the Draft EIS. Comments may also be submitted by mail to Leidos, ATTN: B-21 EIS, 1456 Woodlawn Way, Gulf Breeze, Florida, 32563. Comments will be accepted at any time during the environmental impact analysis process. However, to ensure that the Air Force has sufficient time to consider public input in the preparation of the Final EIS, comments must be submitted to the website or mailed to the address listed above by November 9, 2020.

Please direct any requests for information or other inquiries to the Dyess AFB Public Affairs, (325) 696-4820, or after hours (325) 268-6554, [7bwpa@us.af.mil](mailto:7bwpa@us.af.mil); or Ellsworth AFB Public Affairs, (605) 385-5056, or after hours (605) 391-7436, [28bw.public.affairs@us.af.mil](mailto:28bw.public.affairs@us.af.mil).

Sincerely



Julianne Turko, Program Manager  
NEPA Division (AFCEC/CZN)

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### **F.1.2.3 Ellsworth AFB – Tribal Responses**

No responses have been received.

## F.2 SOUTH DAKOTA STATE HISTORIC PRESERVATION OFFICER (SHPO) CONSULTATION

### F.2.1 PRIDE Hangar SHPO Correspondence



**DEPARTMENT OF THE AIR FORCE**  
HEADQUARTERS 28TH MISSION SUPPORT GROUP (ACC)  
ELLSWORTH AIR FORCE BASE, SOUTH DAKOTA

21 Jan 2020

Gary Brundige  
Cultural Resources Manager  
28CES/CEIEC  
2125 Scott Drive  
Ellsworth AFB, SD 57706

Ms. Kate Nelson  
Restoration Specialist  
Cultural Heritage Center  
900 Governors Drive  
Pierre, SD 57501

Dear Ms. Nelson,

We recently discussed plans to rehabilitate building 7504, PRIDE Hangar, a historic eligible property on Ellsworth AFB. The project is to return an aircraft maintenance function to the building to accommodate the beddown of a new mission, basing the new B-21 bomber on Ellsworth AFB.

The rehabilitation will accommodate placing the Aerospace Grounds Equipment (AGE) shop within the open space of the former B-36 hangar bay. The details of the rehabilitation are incomplete as planning and alternative development are ongoing. However, the running track, exercise equipment and playing fields will be removed, and the exterior modifications are limited to the installation of overhead doors.

Other modifications under discussion include updating and modifying the lower office spaces against the northwest and southeast walls. These offices are not part of the original structure (see as-built plans attached), but were constructed shortly after. The original transformer room, bathrooms, and LP-2 walls remain between the arch supports within the office spaces on the southeast wall, however, these rooms have been stripped or repurposed. Similar original walls within the office spaces are missing or have been modified on the northwest wall. Current plans are to remove these walls to improve functionality of the space and accommodate new use. Access to upper office spaces and handrails will be brought up to code if necessary to provide additional storage space. Additionally, the exterior windows on the SE façade will be updated/replaced to improve thermal efficiency.

To accommodate the movement of equipment in and out of the hangar, the existing overhead door in the SW door set will be heightened to 18 ft (currently 16 ft). Three additional 16'W x 18'H overhead doors will be placed in the non-functional sliding hangar bay leaves

*Global Power For America*

where personnel doors and vestibules currently exist, resulting in two doors in the NE hangar door set and two in the SW hangar door set. A full length sunshade will be installed over the SW hangar door windows.

A wash bay will be constructed in the southeast corner of the building. If exterior space allows for an approach, 2 overhead doors will be installed in the SE facing façade, one between the 1<sup>st</sup> and 2<sup>nd</sup> arch supports and a second between the 3<sup>rd</sup> and 4<sup>th</sup> arch supports from the SE building corner. These doors will be 12 x 12. The existing overhead door between the 5<sup>th</sup> and 6<sup>th</sup> supports will be filled.

The original 2 center door leaves were replaced with an insert circa 1966 when the 44<sup>th</sup> Missile Wing Headquarters were housed in the Pride hangar. These door leaves are currently located in and adjacent to the door pocket on the SE corner of the building. These 2 door leaves will be scrapped and materials salvaged (windows and insulated panels) to repair the existing leaves.

We are in the conceptual planning stage, but the B-21 EIS is being fast tracked and we expect to finalize detail into this project in the near term. As indicated on the enclosed project review form, I have determined that this project as outlined will result in "no adverse effect".

I request the SD SHPO review the enclosed Section 106 Project Review Form and make a determination as to the proposed project's effect on historic properties.

If you have questions or concerns, please feel free to contact me at 605-385-2690 or by email at [gary.brundige@us.af.mil](mailto:gary.brundige@us.af.mil). Thank you for your continued support of our Cultural Resources Program.

Sincerely

Gary Brundige

Enclosures:  
Section 106 Project Review Form



SOUTH DAKOTA STATE HISTORICAL SOCIETY  
STATE HISTORIC PRESERVATION OFFICE (SHPO)  
SECTION 106 PROJECT REVIEW FORM

Submission of a completed Section 106 Project Review Form with adequate information and attachments constitutes a request for review pursuant to Section 106 of the National Historic Preservation Act of 1966 (as amended). Section 106 requires the South Dakota State Historic Preservation Office to review all projects that are federally funded, licensed, or assisted. We reserve the right to request more information if needed. Typed forms are preferred. **SUBMITTAL OF THIS FORM WITHOUT ALL REQUESTED INFORMATION WILL CAUSE REVIEW DELAYS.**

Section 106 regulations provide for a 30-day response time by the South Dakota State Historic Preservation Office from the date of receipt of complete information.

For projects requiring a license from the Federal Communications Commission, please use FCC Forms 620 or 621. **DO NOT USE THIS FORM.**

**I. PROJECT INFORMATION**

- THIS IS A NEW SUBMITTAL
- THIS IS MORE INFORMATION RELATING TO SHPO PROJECT# \_\_\_\_\_

1. PROJECT NAME: BLDG 7504, Pride Hangar – Aerospace Ground Equipment Maintenance

**2. FEDERAL AGENCY FUNDING, LICENSING, OR ASSISTING THE PROJECT**

A. AGENCY NAME: Ellsworth AFB

B. AGENCY CONTACT PERSON: Gary Brundige

**DETERMINATION OF EFFECT**

See page 5, #12 for descriptions and space for explanations.

- No Historic Properties Affected
- Adverse Effect
- No Adverse Effect

The responsible federal agency official must sign this form here prior to submitting it to the SHPO. Projects received without an appropriate signature will cause review delays. **This must be an original signature and not electronic.**

SIGNATURE \_\_\_\_\_ DATE 21 Jan 2020

Please type/ the following:

NAME Gary Brundige

TITLE Cultural Resources Manager

AGENCY Ellsworth Air Force Base

FOR SHPO USE ONLY. DO NOT WRITE OR INSERT ANYTHING HERE.

## SD SHPO SECTION 106 PROJECT REVIEW FORM

### 2. FEDERAL AGENCY FUNDING, LICENSING, OR ASSISTING THE PROJECT

A. AGENCY NAME: Ellsworth AFB  
 B. AGENCY CONTACT PERSON: Gary Brundige  
 C. MAILING ADDRESS: 2125 Scott Dr, Ellsworth AFB, SD 57706  
 D. EMAIL ADDRESS: gary.brundige@us.af.mil  
 E. TELEPHONE NUMBER: 605-385-2690

### 3. STATE AGENCY FUNDING, LICENSING, OR ASSISTING THE PROJECT, IF APPLICABLE

A. AGENCY NAME: \_\_\_\_\_  
 B. AGENCY CONTACT PERSON: \_\_\_\_\_  
 C. MAILING ADDRESS: \_\_\_\_\_  
 D. EMAIL ADDRESS: \_\_\_\_\_  
 E. TELEPHONE NUMBER: \_\_\_\_\_  
 F. IF THIS IS A GRANT PROGRAM, PLEASE INCLUDE THE NAME OF THE PROGRAM (FOR EXAMPLE, CDBG OR SRF): \_\_\_\_\_

### 4. CONSULTANT CONTACT PERSON, IF APPLICABLE

A. COMPANY NAME: \_\_\_\_\_  
 B. CONTACT PERSON: \_\_\_\_\_  
 C. MAILING ADDRESS: \_\_\_\_\_  
 D. EMAIL ADDRESS: \_\_\_\_\_  
 E. TELEPHONE NUMBER: \_\_\_\_\_

### 5. PROJECT LOCATION

A. ADDRESS: 1750 LeMay Blvd  
 B. CITY: Ellsworth AFB  
 C. COUNTY: Meade  
 D. TOWNSHIP: T2N E. RANGE R8E F. SECTION 12

G. Provide a USGS 7.5 minute quadrangle map of the project area. If the project is in an urban area, show the location(s) on a city map. Photocopies are acceptable, but poor quality maps or insufficient information will cause review delays. Do not enlarge or reduce the map.

Is a map showing the exact location of the project attached to this form? YES  or NO

## SD SHPO SECTION 106 PROJECT REVIEW FORM

### 6. PROJECT DESCRIPTION

Describe all anticipated work associated with the project. Be specific. The description should include all ancillary facilities such as access roads, placement of utilities, additional outbuildings, fences, material borrow areas, staging areas, etc. Use as much space and as many pages as needed to clearly describe the project.

Modification of interior spaces and entry/exit pathways in the Pride Hangar in preparation for the new bomber mission. The function of the Hangar will change from a recreational/fitness center to the Aerospace Ground Equipment (AGE) maintenance facility. The project will include removal of all interior playing fields, fitness equipment, and ceremonial props. The interior block wall offices and mezzanines (NW and SE walls constructed 1 – 2 years after the hangar came online) will be remodeled to accommodate offices, facilities, and storage (see Attachment 1). The as-built transformer and bathroom walls contained in the office space have been modified and will be removed. The original sliding leaf doors (replaced by an insert with 44<sup>th</sup> Missile Wing activation, ca 1966, Photo 1) *Continued pg 8*

### 7. PROJECT PLANS

Plans, drawings, engineering specifications etc. should be included to help explain the project, but these cannot replace the above verbal description. If new construction is involved, elevation drawings and plans should be included.

Are plans, drawings, engineering specifications, or similar documents attached to this form?

YES  or NO

### 8. PHOTOGRAPHS

Provide several clear, original photographs of the project location. Also, include photographs of every affected buildings/structures, including an overall front view of each structure and other views necessary to describe fully the structures and the project. Streetscape photographs of surrounding buildings and structures should also be included. Photographs should be color and can be either printed or digital images submitted on a CD. Printed digital photographs should have a high dpi and clear resolution. Photographs should also either be labeled or include a key.

NOTE: Projects submitted with insufficient photographs will cause review delays.

Are photographs that clearly show the project location attached to this form? YES  or NO

### 9. PROJECT AREA OF POTENTIAL EFFECT (APE)

The APE consists of the geographic area or areas within which a project may directly or indirectly, cause changes in the character or use of historic properties. In most instances, the APE is not simply the project's physical boundaries or right-of-way. The APE also includes all ancillary facilities such as access roads, placement of utilities, additional outbuildings, fences, material borrow areas, staging areas, etc. The APE may include visual and audible effects.

Highlight the APE on a localized map.

A. Is a map highlighting the APE attached to this form? YES  or NO

B. Provide a written description of the APE. Describe the steps taken to identify the APE, and justify why the APE boundaries were chosen. If the APE has been previously disturbed, include an explanation of the previous ground disturbance.

The proposed project is located primarily in the interior of building 7504. Additional work will occur on the hangar doors, installing 3 additional overhead doors. Two additional overhead doors will be installed in the SE corner to accommodate the wash rack. Building 7504, the Pride Hangar, is an HRHP eligible building. The area of potential effects is building 7504. There are no other eligible properties in the vicinity of this building.



**SD SHPO SECTION 106 PROJECT REVIEW FORM**

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**II. IDENTIFY HISTORIC PROPERTIES**

**10. IDENTIFICATION EFFORTS** (See 36 CFR 800.4)

Identification of historic properties may include, but is not limited, any of the following identification methods. Check which steps were taken to identify historic properties in the APE. Check all that apply and describe the results.

A.  RECORD SEARCH

Conducted a record search through the Archaeological Research Center in Rapid City. Record searches are available for a fee by calling 605.394.1936. This will include a search of all previously-surveyed archaeological sites and structures within the APE and within one mile of the APE.

If a record search was conducted, is a copy of the results attached to this form? YES  or NO

B.  ON-THE-GROUND SURVEY

Survey by an archaeologist and/or an architectural historian of project area not previously surveyed. Survey type will depend on the scope of the project. A list of professionals is available at <http://history.sd.gov/Preservation/TechAssist/ConsultantsContractors.aspx>. Guidelines for surveys and reports are available at: [http://history.sd.gov/Preservation/PresLaws/r&c\\_guidelines.pdf](http://history.sd.gov/Preservation/PresLaws/r&c_guidelines.pdf) and <http://history.sd.gov/Preservation/OtherServices/HSArchitecturalSurveyManual2006.pdf>.

If a survey was conducted, is a copy of the survey report and/or survey forms attached to this form?  
YES  or NO

C.  SEARCHED THE NATIONAL REGISTER OF HISTORIC PLACES DATABASE

This database is available online at: <http://nrhp.focus.nps.gov/>. NOTE: This database only includes properties *listed* on the National Register of Historic Places. Properties that are *eligible* for the National Register must also be taken into consideration.

If the National Register database was searched, is a printout of any results attached to this form?  
YES  or NO

D.  BACKGROUND RESEARCH

Please describe sources reviewed and findings of research. This could include such things as reviewing county or city history books or conducting research at a local historical society, research facility, or county courthouse.

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E.  ORAL HISTORY INTERVIEWS

Please list who was interviewed and describe what was learned through the interviews.

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## SD SHPO SECTION 106 PROJECT REVIEW FORM

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### F. CONSULTATION

Please describe who was consulted and the results of the consultation. Examples include tribes, historic preservation commissions, the public, and local historical societies.

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### G. OTHER

Describe any other efforts undertaken to identify historic properties and the results of those efforts.

Historic properties on Ellsworth AFB have been identified through surveys and consultation with SD SHPO.

No other historic properties are in the vicinity of Building 7504.

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### 11. HISTORIC PROPERTIES FINDING

Based on the efforts described above to identify historic properties, please choose one finding for the project. There are (mark one):

- Historic Properties Present in the APE  
 No Historic Properties Present in the APE

## III. ASSESS EFFECTS

### 12. DETERMINATION OF EFFECT

The federal agency must submit a determination of effect for the SHPO to review this project. Based on the information provided above, the responsible agency official should make a determination of effect on historic properties for this project. Please select and mark one of the following determinations, then explain the basis for your decision.

**No Historic Properties Affected** [36 CFR 800.4(d)(1)] – For a determination of no historic properties affected, the agency official finds no historic properties present or that the undertaking will have no effect upon historic properties as defined in Sec. 800.16(i). Please explain.

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**Adverse Effect** [36 CFR Part 800.5(a)(1)] – For a determination of adverse effect, the undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects may include reasonably foreseeable effects that may occur later in time, be farther removed in distance, or be cumulative. Please explain.

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**No Adverse Effect** [36 CFR Part 800.5(b)] – For a determination of no adverse effect, the undertaking is modified or conditions are imposed to avoid adverse effects to a historic property. Please explain.

**SD SHPO SECTION 106 PROJECT REVIEW FORM**

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The work will remove additions to the building interior not present as built. The hangar doors will have additional overhead doors inserted over existing personnel doors. These will match the configuration of the existing overhead door on the SW door set. Equipment will be installed in the open hangar bay.

**Please print and mail completed form to:**

Review and Compliance Coordinator  
South Dakota State Historical Society  
900 Governors Drive  
Pierre, SD 57501

Questions about Section 106 can be directed to:

Paige Olson  
Review and Compliance Coordinator  
[Paige.Olson@state.sd.us](mailto:Paige.Olson@state.sd.us)  
605.773.6004

OR

Jenna Carlson Dietmeier  
Review and Compliance Archaeologist  
[Jenna.CarlsonDietmeier@state.sd.us](mailto:Jenna.CarlsonDietmeier@state.sd.us)  
605.773.8370

Questions about Section 106 projects on existing buildings or structures can be directed to:

Kate Nelson  
Restoration Specialist  
[Kate.Nelson@state.sd.us](mailto:Kate.Nelson@state.sd.us)  
605.773.6005

Project information submitted cannot be returned. This documentation is kept on file at the South Dakota State Historical Society. We review faxed and electronic submissions in the same manner as any other submission and with the same considerations for clarity and completeness. However, original documents with original signature must follow all faxed and electronic submissions. The submission of incomplete, unclear, or confusing information may result in unnecessary delays in the review process until adequate information is obtained.

**SD SHPO SECTION 106 PROJECT REVIEW FORM**

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**Additional Resources**

1. South Dakota State Historic Preservation Office <http://history.sd.gov/Preservation/>
  - a. Link to National and State Register Listed Properties:  
<http://history.sd.gov/Preservation/NatReg/NatReg.aspx>
  - b. Historic Contexts:  
[history.sd.gov/Preservation/OtherServices/SHPODocs.aspx](http://history.sd.gov/Preservation/OtherServices/SHPODocs.aspx)
  - c. *Guidelines for Cultural Resource Surveys and Survey Reports 2005*:  
[http://history.sd.gov/Preservation/PresLaws/r&c\\_guidelines.pdf](http://history.sd.gov/Preservation/PresLaws/r&c_guidelines.pdf)
2. Advisory Council on Historic Preservation: [www.achp.gov](http://www.achp.gov)
  - a. Link to National Historic Preservation Act of 1966 as amended
  - b. 36 CFR Part 800 – Protection of Historic Properties
3. National Park Service: [www.nps.gov/](http://www.nps.gov/)
  - a. National Register of Historic Places: [www.nps.gov/nr/](http://www.nps.gov/nr/)
  - b. Publications (National Register Bulletins, Preservation Briefs, etc.):  
[www.nps.gov/history/publications.htm](http://www.nps.gov/history/publications.htm)
4. Archaeological Research Center: [history.sd.gov/Archaeology/](http://history.sd.gov/Archaeology/) or 605.394.1936
  - a. Record Search Information
5. State Archives: [history.sd.gov/Archives/](http://history.sd.gov/Archives/) or 605.773.3804
  - a. Historic photographs
  - b. Research material

**SD SHPO SECTION 106 PROJECT REVIEW FORM**

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**CONTINUATION SHEET**

## #6 Continued:

will be removed and salvaged for repair of installed leaves. The 2 center leaf doors are currently on their tracks adjacent to the southeast hangar door pocket (see Photo 2). The entire hangar concrete floor will be repaired/resurfaced. Various equipment to include hoists, a jack tester, a run room, and wash rack will be added to the interior. A full length sunshade will be added to the SW hangar door façade to aid in regulating temperature. The SE side office windows will be updated with thermally efficient windows matching the original look. The interior overhead span will remain open.

An existing overhead door on the southwest façade (in the runway side hangar doors - See Photo 3) will be heightened to 18 ft (currently 16 ft) to accommodate AGE equipment movement. One additional 16' W x 18' H overhead door will be placed in the 3<sup>rd</sup> leaf from the NW corner on the same (SW) façade (symmetric with the existing overhead door) and 2 additional 16' W x 18' W overhead doors will be placed in the NE facing hangar doors. These doors will be inserted over existing personnel doors. This will provide 2 entry/exit vehicle doors in the NE and SW door sets plus the 2 existing 15 x 18 doors in the inset (Photos 4 and 5).

A wash bay will be constructed in the southeast corner of the building. If exterior space allows for an approach, 2 overhead doors will be installed in the SE facing façade at the loading dock area, one between the 1<sup>st</sup> and 2<sup>nd</sup> arch supports and a second between the 3<sup>rd</sup> and 4<sup>th</sup> arch supports from the SE building corner. These doors will be 12 x 12. The existing overhead door between the 5<sup>th</sup> and 6<sup>th</sup> supports will be filled (see Photo 6 & 7 for interior and exterior views). No other changes will occur to the exterior of the building.



SOUTH DAKOTA STATE HISTORICAL SOCIETY  
STATE HISTORIC PRESERVATION OFFICE (SHPO)  
SECTION 106 PROJECT REVIEW FORM

JAN 24 2020  
South Dakota  
SHPO

Submission of a completed Section 106 Project Review Form with adequate information and attachments constitutes a request for review pursuant to Section 106 of the National Historic Preservation Act of 1966 (as amended). Section 106 requires the South Dakota State Historic Preservation Office to review all projects that are federally funded, licensed, or assisted. We reserve the right to request more information if needed. Typed forms are preferred. **SUBMITTAL OF THIS FORM WITHOUT ALL REQUESTED INFORMATION WILL CAUSE REVIEW DELAYS.**

Section 106 regulations provide for a 30-day response time by the South Dakota State Historic Preservation Office from the date of receipt of complete information.

For projects requiring a license from the Federal Communications Commission, please use FCC Forms 620 or 621. **DO NOT USE THIS FORM.**

**I. PROJECT INFORMATION**

- THIS IS A NEW SUBMITTAL
- THIS IS MORE INFORMATION RELATING TO SHPO PROJECT# \_\_\_\_\_

1. PROJECT NAME: BLDG 7504, Pride Hangar – Aerospace Ground Equipment Maintenance

2. FEDERAL AGENCY FUNDING, LICENSING, OR ASSISTING THE PROJECT

A. AGENCY NAME: Ellsworth AFB

B. AGENCY CONTACT PERSON: Gary Brundige

**DETERMINATION OF EFFECT**

See page 5, #12 for descriptions and space for explanations.

- No Historic Properties Affected
- Adverse Effect
- No Adverse Effect

The responsible federal agency official must sign this form here prior to submitting it to the SHPO. Projects received without an appropriate signature will cause review delays. **This must be an original signature and not electronic.**

SIGNATURE *Gary C Brundige* DATE 21 Jan 2020

Please type/ the following:

NAME Gary Brundige

TITLE Cultural Resources Manager

AGENCY Ellsworth Air Force Base

FOR SHPO USE ONLY. DO NOT WRITE OR INSERT ANYTHING HERE.

Pursuant to 36 CFR part 800.13, if historic properties are discovered or unanticipated effects on historic properties found after the agency official has completed the Section 106 process, the agency official shall avoid, minimize or mitigate the adverse effects to such properties and notify the SHPO/THPO, and Indian tribes that might attach religious and cultural significance to the affected property within 48 hours of the discovery.

**SECTION 106 DETERMINATION**  
Based upon the information provided to the South Dakota State Historic Preservation Office on 01-24-2020, we concur with your agency's determination of "No Adverse Effect" for this undertaking.

Gary D. Vogt  
State Historic Preservation Officer (SHPO)

By: Kate Nelson  
02-04-2020 20012407F

Date SHPO Project #

**SECTION 106 CONSULTATION**

Concurrence of the State Historical Preservation Office does not relieve the federal agency official from consulting with other appropriate parties as described in 36 CFR Part 800.2(c).

Updated May 2013

## F.2.2 Building Demolition SHPO Correspondence



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 28TH MISSION SUPPORT GROUP (AFGSC)  
ELLSWORTH AIR FORCE BASE SOUTH DAKOTA

27 Jan 2020

Gary Brundige  
Cultural Resources Manager  
28CES/CEIEC  
2125 Scott Drive  
Ellsworth AFB, SD 57706

Ms. Kate Nelson  
Restoration Specialist  
Cultural Heritage Center  
900 Governors Drive  
Pierre, SD 57501

Dear Ms. Nelson,

The 60 row docks (hangars) are four of 15 identical docks built on Ellsworth AFB in the early-middle 1950's. These buildings were designated as multi-purpose wing hangars and were designed to house the new B-52 bombers.

Ellsworth AFB is planning base improvements to accommodate the new B-21 bomber on EAFB. This new mission will require new facilities on the north ramp to support this new weapon system. The 60 row docks will be demolished to provide space for these new facilities. The proposed demolitions include docks 60, 61, 62, and 63 (buildings 7262, 7260, 7258, and 7256).

Building 7256 is not considered eligible and its demolition will not have an adverse effect on historic properties. However, demolition of buildings 7262, 7260, and 7258 *will have an Adverse Effect* on these historic buildings. We believe mitigation in the form of historic documentation of these facilities should be accomplished prior to demolition activities.

I request the SD SHPO review the enclosed Section 106 Project Review Form and make a determination per Section 106 of the Historic Preservation Act and recommend mitigation procedures regarding the proposed demolition of these historic buildings.

If you have questions or concerns, please feel free to contact me at 605-385-2690 or by email at [gary.brundige@us.af.mil](mailto:gary.brundige@us.af.mil). Thank you for your continued support of our Cultural Resources Program.

Sincerely

Gary Brundige

Enclosures:  
Section 106 Project Review Form

*Global Power For America*



SOUTH DAKOTA STATE HISTORICAL SOCIETY  
STATE HISTORIC PRESERVATION OFFICE (SHPO)  
SECTION 106 PROJECT REVIEW FORM

Submission of a completed Section 106 Project Review Form with adequate information and attachments constitutes a request for review pursuant to Section 106 of the National Historic Preservation Act of 1966 (as amended). Section 106 requires the South Dakota State Historic Preservation Office to review all projects that are federally funded, licensed, or assisted. We reserve the right to request more information if needed. Typed forms are preferred. **SUBMITTAL OF THIS FORM WITHOUT ALL REQUESTED INFORMATION WILL CAUSE REVIEW DELAYS.**

Section 106 regulations provide for a 30-day response time by the South Dakota State Historic Preservation Office from the date of receipt of complete information.

For projects requiring a license from the Federal Communications Commission, please use FCC Forms 620 or 621. **DO NOT USE THIS FORM.**

**I. PROJECT INFORMATION**

- THIS IS A NEW SUBMITTAL
- THIS IS MORE INFORMATION RELATING TO SHPO PROJECT# \_\_\_\_\_

1. PROJECT NAME: BLDGS 7258, 7260, 7262 - 60 Row Hangars – B-21 Beddown

2. FEDERAL AGENCY FUNDING, LICENSING, OR ASSISTING THE PROJECT

A. AGENCY NAME: Ellsworth AFB  
B. AGENCY CONTACT PERSON: Gary Brundige

**DETERMINATION OF EFFECT**

See page 5, #12 for descriptions and space for explanations.

- No Historic Properties Affected
- Adverse Effect
- No Adverse Effect

The responsible federal agency official must sign this form here prior to submitting it to the SHPO. Projects received without an appropriate signature will cause review delays. **This must be an original signature and not electronic.**

SIGNATURE \_\_\_\_\_ DATE 27 Jan 2020

Please type/ the following:

NAME Gary Brundige  
TITLE Cultural Resources Manager  
AGENCY Ellsworth Air Force Base

FOR SHPO USE ONLY. DO NOT WRITE OR INSERT ANYTHING HERE.



## SD SHPO SECTION 106 PROJECT REVIEW FORM

### 2. FEDERAL AGENCY FUNDING, LICENSING, OR ASSISTING THE PROJECT

A. AGENCY NAME: Ellsworth AFB  
 B. AGENCY CONTACT PERSON: Gary Brundige  
 C. MAILING ADDRESS: 2125 Scott Dr, Ellsworth AFB, SD 57706  
 D. EMAIL ADDRESS: gary.brundige@us.af.mil  
 E. TELEPHONE NUMBER: 605-385-2690

### 3. STATE AGENCY FUNDING, LICENSING, OR ASSISTING THE PROJECT, IF APPLICABLE

A. AGENCY NAME: \_\_\_\_\_  
 B. AGENCY CONTACT PERSON: \_\_\_\_\_  
 C. MAILING ADDRESS: \_\_\_\_\_  
 D. EMAIL ADDRESS: \_\_\_\_\_  
 E. TELEPHONE NUMBER: \_\_\_\_\_  
 F. IF THIS IS A GRANT PROGRAM, PLEASE INCLUDE THE NAME OF THE PROGRAM (FOR EXAMPLE, CDBG OR SRF): \_\_\_\_\_

### 4. CONSULTANT CONTACT PERSON, IF APPLICABLE

A. COMPANY NAME: \_\_\_\_\_  
 B. CONTACT PERSON: \_\_\_\_\_  
 C. MAILING ADDRESS: \_\_\_\_\_  
 D. EMAIL ADDRESS: \_\_\_\_\_  
 E. TELEPHONE NUMBER: \_\_\_\_\_

### 5. PROJECT LOCATION

A. ADDRESS: 1529, 1579, 1613 Hamilton Street  
 B. CITY: Ellsworth AFB  
 C. COUNTY: Meade  
 D. TOWNSHIP: T2N E. RANGE R8E F. SECTION 12

G. Provide a USGS 7.5 minute quadrangle map of the project area. If the project is in an urban area, show the location(s) on a city map. Photocopies are acceptable, but poor quality maps or insufficient information will cause review delays. Do not enlarge or reduce the map.

Is a map showing the exact location of the project attached to this form? YES  or NO

## SD SHPO SECTION 106 PROJECT REVIEW FORM

### 6. PROJECT DESCRIPTION

Describe all anticipated work associated with the project. Be specific. The description should include all ancillary facilities such as access roads, placement of utilities, additional outbuildings, fences, material borrow areas, staging areas, etc. Use as much space and as many pages as needed to clearly describe the project.

Demolition of Hangars 60-63 to provide space for specialized maintenance facilities for the new B-21 bomber.

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### 7. PROJECT PLANS

Plans, drawings, engineering specifications etc. should be included to help explain the project, but these cannot replace the above verbal description. If new construction is involved, elevation drawings and plans should be included.

Are plans, drawings, engineering specifications, or similar documents attached to this form?

YES  or NO

### 8. PHOTOGRAPHS

Provide several clear, original photographs of the project location. Also, include photographs of every affected buildings/structures, including an overall front view of each structure and other views necessary to describe fully the structures and the project. Streetscape photographs of surrounding buildings and structures should also be included. Photographs should be color and can be either printed or digital images submitted on a CD. Printed digital photographs should have a high dpi and clear resolution. Photographs should also either be labeled or include a key.

NOTE: Projects submitted with insufficient photographs will cause review delays.

Are photographs that clearly show the project location attached to this form? YES  or NO

### 9. PROJECT AREA OF POTENTIAL EFFECT (APE)

The APE consists of the geographic area or areas within which a project may directly or indirectly, cause changes in the character or use of historic properties. In most instances, the APE is not simply the project's physical boundaries or right-of-way. The APE also includes all ancillary facilities such as access roads, placement of utilities, additional outbuildings, fences, material borrow areas, staging areas, etc. The APE may include visual and audible effects.

Highlight the APE on a localized map.

A. Is a map highlighting the APE attached to this form? YES  or NO

B. Provide a written description of the APE. Describe the steps taken to identify the APE, and justify why the APE boundaries were chosen. If the APE has been previously disturbed, include an explanation of the previous ground disturbance.

The proposed project is located on the north ramp adjacent to the flightline and taxiway. The three eligible hangars are proximate to the flight line. The last hangar (dock 63) is also one of 15 identical hangars added in the 1950's. However, this buildings integrity is not intact due to modifications in the 1980's. There are no other eligible properties in the vicinity of these buildings.

**SD SHPO SECTION 106 PROJECT REVIEW FORM**

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**II. IDENTIFY HISTORIC PROPERTIES**

**10. IDENTIFICATION EFFORTS** (See 36 CFR 800.4)

Identification of historic properties may include, but is not limited to, any of the following identification methods. Check which steps were taken to identify historic properties in the APE. Check all that apply and describe the results.

A.  RECORD SEARCH

Conducted a record search through the Archaeological Research Center in Rapid City. Record searches are available for a fee by calling 605.394.1936. This will include a search of all previously-surveyed archaeological sites and structures within the APE and within one mile of the APE.

If a record search was conducted, is a copy of the results attached to this form? YES  or NO

B.  ON-THE-GROUND SURVEY

Survey by an archaeologist and/or an architectural historian of project area not previously surveyed. Survey type will depend on the scope of the project. A list of professionals is available at <http://history.sd.gov/Preservation/TechAssist/ConsultantsContractors.aspx>. Guidelines for surveys and reports are available at: [http://history.sd.gov/Preservation/PresLaws/r&c\\_guidelines.pdf](http://history.sd.gov/Preservation/PresLaws/r&c_guidelines.pdf) and <http://history.sd.gov/Preservation/OtherServices/HSArchitecturalSurveyManual2006.pdf>.

If a survey was conducted, is a copy of the survey report and/or survey forms attached to this form?  
YES  or NO

C.  SEARCHED THE NATIONAL REGISTER OF HISTORIC PLACES DATABASE

This database is available online at: <http://nrhp.focus.nps.gov/>. NOTE: This database only includes properties listed on the National Register of Historic Places. Properties that are *eligible* for the National Register must also be taken into consideration.

If the National Register database was searched, is a printout of any results attached to this form?  
YES  or NO

D.  BACKGROUND RESEARCH

Please describe sources reviewed and findings of research. This could include such things as reviewing county or city history books or conducting research at a local historical society, research facility, or county courthouse.

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E.  ORAL HISTORY INTERVIEWS

Please list who was interviewed and describe what was learned through the interviews.

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## SD SHPO SECTION 106 PROJECT REVIEW FORM

### F. CONSULTATION

Please describe who was consulted and the results of the consultation. Examples include tribes, historic preservation commissions, the public, and local historical societies.

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### G. OTHER

Describe any other efforts undertaken to identify historic properties and the results of those efforts.

Historic properties on Ellsworth AFB have been identified through surveys and consultation with SD SHPO.

No other historic properties are in the vicinity of Building 7504.

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### 11. HISTORIC PROPERTIES FINDING

Based on the efforts described above to identify historic properties, please choose one finding for the project. There are (mark one):

- Historic Properties Present in the APE  
 No Historic Properties Present in the APE

## III. ASSESS EFFECTS

### 12. DETERMINATION OF EFFECT

The federal agency must submit a determination of effect for the SHPO to review this project. Based on the information provided above, the responsible agency official should make a determination of effect on historic properties for this project. Please select and mark one of the following determinations, then explain the basis for your decision.

**No Historic Properties Affected** [36 CFR 800.4(d)(1)] – For a determination of no historic properties affected, the agency official finds no historic properties present or that the undertaking will have no effect upon historic properties as defined in Sec. 800.16(i). Please explain.

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**Adverse Effect** [36 CFR Part 800.5(a)(1)] – For a determination of adverse effect, the undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects may include reasonably foreseeable effects that may occur later in time, be farther removed in distance, or be cumulative. Please explain.

The demolition of these 4 buildings will have an adverse effect.

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**No Adverse Effect** [36 CFR Part 800.5(b)] – For a determination of no adverse effect, the undertaking is modified or conditions are imposed to avoid adverse effects to a historic property. Please explain.

**SD SHPO SECTION 106 PROJECT REVIEW FORM**

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**Please print and mail completed form to:**

Review and Compliance Coordinator  
South Dakota State Historical Society  
900 Governors Drive  
Pierre, SD 57501

Questions about Section 106 can be directed to:

Paige Olson  
Review and Compliance Coordinator  
[Paige.Olson@state.sd.us](mailto:Paige.Olson@state.sd.us)  
605.773.6004

OR

Jenna Carlson Dietmeier  
Review and Compliance Archaeologist  
[Jenna.CarlsonDietmeier@state.sd.us](mailto:Jenna.CarlsonDietmeier@state.sd.us)  
605.773.8370

Questions about Section 106 projects on existing buildings or structures can be directed to:

Kate Nelson  
Restoration Specialist  
[Kate.Nelson@state.sd.us](mailto:Kate.Nelson@state.sd.us)  
605.773.6005

Project information submitted cannot be returned. This documentation is kept on file at the South Dakota State Historical Society. We review faxed and electronic submissions in the same manner as any other submission and with the same considerations for clarity and completeness. However, original documents with original signature must follow all faxed and electronic submissions. The submission of incomplete, unclear, or confusing information may result in unnecessary delays in the review process until adequate information is obtained.

**SD SHPO SECTION 106 PROJECT REVIEW FORM**

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**Additional Resources**

1. South Dakota State Historic Preservation Office <http://history.sd.gov/Preservation/>
  - a. Link to National and State Register Listed Properties:  
<http://history.sd.gov/Preservation/NatReg/NatReg.aspx>
  - b. Historic Contexts:  
[history.sd.gov/Preservation/OtherServices/SHPODocs.aspx](http://history.sd.gov/Preservation/OtherServices/SHPODocs.aspx)
  - c. *Guidelines for Cultural Resource Surveys and Survey Reports 2005*:  
[http://history.sd.gov/Preservation/PresLaws/r&c\\_guidelines.pdf](http://history.sd.gov/Preservation/PresLaws/r&c_guidelines.pdf)
2. Advisory Council on Historic Preservation: [www.achp.gov](http://www.achp.gov)
  - a. Link to National Historic Preservation Act of 1966 as amended
  - b. 36 CFR Part 800 – Protection of Historic Properties
3. National Park Service: [www.nps.gov/](http://www.nps.gov/)
  - a. National Register of Historic Places: [www.nps.gov/nr/](http://www.nps.gov/nr/)
  - b. Publications (National Register Bulletins, Preservation Briefs, etc.):  
[www.nps.gov/history/publications.htm](http://www.nps.gov/history/publications.htm)
4. Archaeological Research Center: [history.sd.gov/Archaeology/](http://history.sd.gov/Archaeology/) or 605.394.1936
  - a. Record Search Information
5. State Archives: [history.sd.gov/Archives/](http://history.sd.gov/Archives/) or 605.773.3804
  - a. Historic photographs
  - b. Research material



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 28TH MISSION SUPPORT GROUP (AFGSC)  
ELLSWORTH AIR FORCE BASE SOUTH DAKOTA

18 June 2020

Gary Brundige  
Cultural Resources Manager  
28CES/CEIEC  
2125 Scott Drive  
Ellsworth AFB, SD 57706

Ms. Kate Nelson  
Restoration Specialist  
Cultural Heritage Center  
900 Governors Drive  
Pierre, SD 57501

Dear Ms. Nelson,

Ellsworth AFB is planning base improvements to accommodate the new B-21 bomber on EAFB. This new mission will require a mix of demolition of existing structures, new construction, as well as modification of, and addition to, existing facilities. These activities, to include both operational and support facilities, will occur in up to 10 locations around the base. Please see map attached and description in the Project Review Form.

New maintenance facilities are required on the north ramp to support this new weapon system. The 60 row docks (hangars) will be demolished to provide space for these new facilities. The proposed demolitions include Docks 60, 61, 62, and 63 (buildings 7262, 7260, 7258, and 7256, respectively).

The 60 row docks are four of 15 identical docks built on Ellsworth AFB in the early-middle 1950's. These buildings were designated as multi-purpose wing hangars and were designed to house the new B-52 bombers. Several modifications to these hangars have occurred to accommodate various missions and weapons systems since their construction some 65 years ago. Of these 15 hangars only three, Docks 60, 61, and 62 retain sufficient integrity for eligibility for listing on the National Register. Dock 63, the outboard hangar on the 60 row, is not considered eligible for listing due to modifications in the 1980's.

The demolition of Building 7256 (Dock 63) will not have an adverse effect on historic properties. However, demolition of buildings 7262 (Dock 60), 7260 (Dock 61), and 7258 (Dock 62) *will have an Adverse Effect* on these historic buildings. We believe mitigation in the form of historic documentation of these facilities should be accomplished prior to demolition activities.

I request the SD SHPO review the enclosed Section 106 Project Review Form and make a determination per Section 106 of the Historic Preservation Act and recommend mitigation procedures regarding the proposed demolition of these historic buildings.

*Global Power For America*

If you need any more information or have questions or concerns, please feel free to contact me at 605-385-2690 or by email at [gary.brundige@us.af.mil](mailto:gary.brundige@us.af.mil). Thank you for your continued support of our Cultural Resources Program.

Sincerely

Gary Brundige

Enclosures:  
Section 106 Project Review Form  
Map of the APE  
Table of Facilities and Infrastructure  
Photos





**SOUTH DAKOTA STATE HISTORICAL SOCIETY  
STATE HISTORIC PRESERVATION OFFICE (SHPO)  
SECTION 106 PROJECT REVIEW FORM**

Submission of a completed Section 106 Project Review Form with adequate information and attachments constitutes a request for review pursuant to Section 106 of the National Historic Preservation Act of 1966 (as amended). Section 106 requires the South Dakota State Historic Preservation Office to review all projects that are federally funded, licensed, or assisted. We reserve the right to request more information if needed. Typed forms are preferred. **SUBMITTAL OF THIS FORM WITHOUT ALL REQUESTED INFORMATION WILL CAUSE REVIEW DELAYS.**

Section 106 regulations provide for a 30-day response time by the South Dakota State Historic Preservation Office from the date of receipt of complete information.

For projects requiring a license from the Federal Communications Commission, please use FCC Forms 620 or 621. **DO NOT USE THIS FORM.**

**I. PROJECT INFORMATION**

- THIS IS A NEW SUBMITTAL
- THIS IS MORE INFORMATION RELATING TO SHPO PROJECT# \_\_\_\_\_

1. PROJECT NAME: B-21 Beddown

**2. FEDERAL AGENCY FUNDING, LICENSING, OR ASSISTING THE PROJECT**

A. AGENCY NAME: Ellsworth AFB  
 B. AGENCY CONTACT PERSON: Gary Brundige

**DETERMINATION OF EFFECT**

See page 5, #12 for descriptions and space for explanations.

- No Historic Properties Affected
- Adverse Effect
- No Adverse Effect

The responsible federal agency official must sign this form here prior to submitting it to the SHPO. Projects received without an appropriate signature will cause review delays. **This must be an original signature and not electronic.**

SIGNATURE \_\_\_\_\_ DATE 18 June 2020

Please type/ the following:

NAME Gary Brundige  
 TITLE Cultural Resources Manager  
 AGENCY Ellsworth Air Force Base

FOR SHPO USE ONLY. DO NOT WRITE OR INSERT ANYTHING HERE.

## SD SHPO SECTION 106 PROJECT REVIEW FORM

### 2. FEDERAL AGENCY FUNDING, LICENSING, OR ASSISTING THE PROJECT

A. AGENCY NAME: Department of the Air Force, Ellsworth AFB  
 B. AGENCY CONTACT PERSON: Gary Brundige  
 C. MAILING ADDRESS: 2125 Scott Dr, Ellsworth AFB, SD 57706  
 D. EMAIL ADDRESS: gary.brundige@us.af.mil  
 E. TELEPHONE NUMBER: 605-385-2690

### 3. STATE AGENCY FUNDING, LICENSING, OR ASSISTING THE PROJECT, IF APPLICABLE

A. AGENCY NAME: \_\_\_\_\_  
 B. AGENCY CONTACT PERSON: \_\_\_\_\_  
 C. MAILING ADDRESS: \_\_\_\_\_  
 D. EMAIL ADDRESS: \_\_\_\_\_  
 E. TELEPHONE NUMBER: \_\_\_\_\_  
 F. IF THIS IS A GRANT PROGRAM, PLEASE INCLUDE THE NAME OF THE PROGRAM (FOR EXAMPLE, CDBG OR SRF): \_\_\_\_\_

### 4. CONSULTANT CONTACT PERSON, IF APPLICABLE

A. COMPANY NAME: \_\_\_\_\_  
 B. CONTACT PERSON: \_\_\_\_\_  
 C. MAILING ADDRESS: \_\_\_\_\_  
 D. EMAIL ADDRESS: \_\_\_\_\_  
 E. TELEPHONE NUMBER: \_\_\_\_\_

### 5. PROJECT LOCATION

A. ADDRESS: Various sites including 1529, 1579, 1613 Hamilton Street (Addresses of Docks 60-62)  
 B. CITY: Ellsworth AFB  
 C. COUNTY: Pennington, Meade  
 D. TOWNSHIP: T2N E. RANGE R8E F. SECTION 1, 2, 12, 13  
T2N R9E 6, 7

G. Provide a USGS 7.5 minute quadrangle map of the project area. If the project is in an urban area, show the location(s) on a city map. Photocopies are acceptable, but poor quality maps or insufficient information will cause review delays. Do not enlarge or reduce the map.

Is a map showing the exact location of the project attached to this form? YES  or NO

## SD SHPO SECTION 106 PROJECT REVIEW FORM

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### 6. PROJECT DESCRIPTION

Describe all anticipated work associated with the project. Be specific. The description should include all ancillary facilities such as access roads, placement of utilities, additional outbuildings, fences, material borrow areas, staging areas, etc. Use as much space and as many pages as needed to clearly describe the project.

The beddown of the new bomber, the B-21 Raider, and the phasing out of the existing B-1 fleet at Ellsworth AFB will involve a number of actions to facilities, primarily around the flight line to accommodate the new mission.

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Continued on Page 8

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### 7. PROJECT PLANS

Plans, drawings, engineering specifications etc. should be included to help explain the project, but these cannot replace the above verbal description. If new construction is involved, elevation drawings and plans should be included.

Are plans, drawings, engineering specifications, or similar documents attached to this form?

YES  or NO

### 8. PHOTOGRAPHS

Provide several clear, original photographs of the project location. Also, include photographs of every affected buildings/structures, including an overall front view of each structure and other views necessary to describe fully the structures and the project. Streetscape photographs of surrounding buildings and structures should also be included. Photographs should be color and can be either printed or digital images submitted on a CD. Printed digital photographs should have a high dpi and clear resolution. Photographs should also either be labeled or include a key.

NOTE: Projects submitted with insufficient photographs will cause review delays.

Are photographs that clearly show the project location attached to this form? YES  or NO

### 9. PROJECT AREA OF POTENTIAL EFFECT (APE)

The APE consists of the geographic area or areas within which a project may directly or indirectly, cause changes in the character or use of historic properties. In most instances, the APE is not simply the project's physical boundaries or right-of-way. The APE also includes all ancillary facilities such as access roads, placement of utilities, additional outbuildings, fences, material borrow areas, staging areas, etc. The APE may include visual and audible effects.

Highlight the APE on a localized map.

A. Is a map highlighting the APE attached to this form? YES  or NO

B. Provide a written description of the APE. Describe the steps taken to identify the APE, and justify why the APE boundaries were chosen. If the APE has been previously disturbed, include an explanation of the previous ground disturbance.

The APE is defined as the disturbance limits of the action to beddown the new B-21 aircraft as defined in the Environmental Impact Statement under development.

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Continued on Page 8

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**SD SHPO SECTION 106 PROJECT REVIEW FORM**

**II. IDENTIFY HISTORIC PROPERTIES**

**10. IDENTIFICATION EFFORTS** (See 36 CFR 800.4)

Identification of historic properties may include, but is not limited to, any of the following identification methods. Check which steps were taken to identify historic properties in the APE. Check all that apply and describe the results.

A.  RECORD SEARCH

Conducted a record search through the Archaeological Research Center in Rapid City. Record searches are available for a fee by calling 605.394.1936. This will include a search of all previously-surveyed archaeological sites and structures within the APE and within one mile of the APE.

If a record search was conducted, is a copy of the results attached to this form? YES  or NO

B.  ON-THE-GROUND SURVEY

Survey by an archaeologist and/or an architectural historian of project area not previously surveyed. Survey type will depend on the scope of the project. A list of professionals is available at <http://history.sd.gov/Preservation/TechAssist/ConsultantsContractors.aspx>. Guidelines for surveys and reports are available at: [http://history.sd.gov/Preservation/PresLaws/r&c\\_guidelines.pdf](http://history.sd.gov/Preservation/PresLaws/r&c_guidelines.pdf) and <http://history.sd.gov/Preservation/OtherServices/HSArchitecturalSurveyManual2006.pdf>.

If a survey was conducted, is a copy of the survey report and/or survey forms attached to this form?  
YES  or NO

C.  SEARCHED THE NATIONAL REGISTER OF HISTORIC PLACES DATABASE

This database is available online at: <http://nrhp.focus.nps.gov/>. NOTE: This database only includes properties listed on the National Register of Historic Places. Properties that are eligible for the National Register must also be taken into consideration.

If the National Register database was searched, is a printout of any results attached to this form?  
YES  or NO

D.  BACKGROUND RESEARCH

Please describe sources reviewed and findings of research. This could include such things as reviewing county or city history books or conducting research at a local historical society, research facility, or county courthouse.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

E.  ORAL HISTORY INTERVIEWS

Please list who was interviewed and describe what was learned through the interviews.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## SD SHPO SECTION 106 PROJECT REVIEW FORM

### F. CONSULTATION

Please describe who was consulted and the results of the consultation. Examples include tribes, historic preservation commissions, the public, and local historical societies.

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### G. OTHER

Describe any other efforts undertaken to identify historic properties and the results of those efforts.

Historic properties on Ellsworth AFB have been identified through a number of surveys and consultation with SD SHPO. Twenty-one properties on EAFB have been identified as eligible for inclusion on the NRHP. Three of these properties are scheduled for demolition under this action.

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### 11. HISTORIC PROPERTIES FINDING

Based on the efforts described above to identify historic properties, please choose one finding for the project. There are (mark one):

- Historic Properties Present in the APE  
 No Historic Properties Present in the APE

## III. ASSESS EFFECTS

### 12. DETERMINATION OF EFFECT

The federal agency must submit a determination of effect for the SHPO to review this project. Based on the information provided above, the responsible agency official should make a determination of effect on historic properties for this project. Please select and mark one of the following determinations, then explain the basis for your decision.

**No Historic Properties Affected** [36 CFR 800.4(d)(1)] – For a determination of no historic properties affected, the agency official finds no historic properties present or that the undertaking will have no effect upon historic properties as defined in Sec. 800.16(i). Please explain.

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**Adverse Effect** [36 CFR Part 800.5(a)(1)] – For a determination of adverse effect, the undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Adverse effects may include reasonably foreseeable effects that may occur later in time, be farther removed in distance, or be cumulative. Please explain.

Three of the four hangars scheduled for demolition are considered eligible for the NRHP.

Continued on Page 8

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**No Adverse Effect** [36 CRF Part 800.5(b)] – For a determination of no adverse effect, the undertaking is modified or conditions are imposed to avoid adverse effects to a historic property. Please explain.

**SD SHPO SECTION 106 PROJECT REVIEW FORM**

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**Please print and mail completed form to:**

Review and Compliance Coordinator  
South Dakota State Historical Society  
900 Governors Drive  
Pierre, SD 57501

Questions about Section 106 can be directed to:

Paige Olson  
Review and Compliance Coordinator  
[Paige.Olson@state.sd.us](mailto:Paige.Olson@state.sd.us)  
605.773.6004

OR

Jenna Carlson Dietmeier  
Review and Compliance Archaeologist  
[Jenna.CarlsonDietmeier@state.sd.us](mailto:Jenna.CarlsonDietmeier@state.sd.us)  
605.773.8370

Questions about Section 106 projects on existing buildings or structures can be directed to:

Kate Nelson  
Restoration Specialist  
[Kate.Nelson@state.sd.us](mailto:Kate.Nelson@state.sd.us)  
605.773.6005

Project information submitted cannot be returned. This documentation is kept on file at the South Dakota State Historical Society. We review faxed and electronic submissions in the same manner as any other submission and with the same considerations for clarity and completeness. However, original documents with original signature must follow all faxed and electronic submissions. The submission of incomplete, unclear, or confusing information may result in unnecessary delays in the review process until adequate information is obtained.

## SD SHPO SECTION 106 PROJECT REVIEW FORM

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### Additional Resources

1. South Dakota State Historic Preservation Office <http://history.sd.gov/Preservation/>
  - a. Link to National and State Register Listed Properties:  
<http://history.sd.gov/Preservation/NatReg/NatReg.aspx>
  - b. Historic Contexts:  
[history.sd.gov/Preservation/OtherServices/SHPODocs.aspx](http://history.sd.gov/Preservation/OtherServices/SHPODocs.aspx)
  - c. *Guidelines for Cultural Resource Surveys and Survey Reports 2005*:  
[http://history.sd.gov/Preservation/PresLaws/r&c\\_guidelines.pdf](http://history.sd.gov/Preservation/PresLaws/r&c_guidelines.pdf)
2. Advisory Council on Historic Preservation: [www.achp.gov](http://www.achp.gov)
  - a. Link to National Historic Preservation Act of 1966 as amended
  - b. 36 CFR Part 800 – Protection of Historic Properties
3. National Park Service: [www.nps.gov/](http://www.nps.gov/)
  - a. National Register of Historic Places: [www.nps.gov/nr/](http://www.nps.gov/nr/)
  - b. Publications (National Register Bulletins, Preservation Briefs, etc.):  
[www.nps.gov/history/publications.htm](http://www.nps.gov/history/publications.htm)
4. Archaeological Research Center: [history.sd.gov/Archaeology/](http://history.sd.gov/Archaeology/) or 605.394.1936
  - a. Record Search Information
5. State Archives: [history.sd.gov/Archives/](http://history.sd.gov/Archives/) or 605.773.3804
  - a. Historic photographs
  - b. Research material

**SD SHPO SECTION 106 PROJECT REVIEW FORM****CONTINUATION SHEET****6. PROJECT DESCRIPTION - Continued**

Various facility projects to include construction, demolition, modernization, and expansion of facilities to accommodate a new mission at Ellsworth AFB. See attached Table (Facilities and Infrastructure for the Ellsworth AFB Alternative) for facility projects associated with this Project. Due to security constraints, locations of individual facility footprints is not available; however, construction limits that define the Area of Potential Effects (APE) are shown on the attached map (Ellsworth Alternative APE). Areas outlined in red will encompass all facilities projects itemized in the Table, with the exception of the Weapons Generation Facility (WGF). The WGF will be constructed in one of the two alternatives designated on the map in blue and labeled as North and South WGF Sites (determination to be made in the Final EIS). Map and Table are included in the Draft EIS. Four hangars, Docks 60-63 will be demolished ('Demolition associated with 60 row' in the Table) to provide space for specialized maintenance facilities for the new B-21 bomber. Three of the four Hangars on the 60 row (Docks 60-62) are eligible for listing on the NRHP. Other historic eligible buildings in the APE include the PRIDE hangar. A separate 106 consultation for actions involving the PRIDE hangar included in the Table has already been completed (see attached 'B7504 AGE SHPO Concur').

**9. PROJECT AREA OF POTENTIAL EFFECT (APE) - Continued**

The APE as defined in the Environmental Impact Statement under development includes 9 distinct locations that will encompass all construction, demolition, and staging areas with the exception of the Weapons Generation Facility (WGF). The attached map (Ellsworth Alternative APE) shows footprint for Table 2-3 projects in red. Other associated construction will include the WGF. The WGF will be sited in either the north location or the south location (delineated in blue on the map) dependent on completed environmental analysis in the Final EIS. Areas were selected based on USAF mission requirements and Course of Action alternative development and are being analyzed in the B-21 Main Operating Base 1 (MOB 1) Beddown EIS ([www.b2leis.com](http://www.b2leis.com)). The 3 hangars on the 60 row (Dock 60 – B7262, Dock 61 – B7260, Dock 62 – B7258) and the PRIDE Hangar (B7504) are the only eligible Cultural Resources in the APE.

**12. DETERMINATION OF EFFECT – Continued**

The proposed demolition project is located in the north ramp construction area adjacent to the flightline and taxiway. The three eligible hangars (Docks 60, 61, and 62) are proximate to the flight line. These 3 hangars are part of a group of 15 identical hangars added in the 1950's to support the incoming B-52 bombers. The fourth hangar to the east (Dock 63 – B7256) is also one of 15 identical hangars added in the 1950's. However, Dock 63's historical integrity is not intact due to modifications in the 1980's. None of the other 11 contemporary hangars in the vicinity of these buildings are considered eligible properties. The demolition of these hangars will have an adverse effect on Docks 60, 61, and 62.



MARCH 2021



June 23, 2020

Mr. Gary Brundige  
Cultural Resources Manager  
28CES/CEIEC  
2125 Scott Drive  
Ellsworth AFB, SD 57706

**SECTION 106 PROJECT CONSULTATION**

Project: 200127017F – Ellsworth AFB – Buildings 7258, 7260, 7262 – 60 Row Hangars – B-21 Beddown Demolition  
Location: Meade County  
(COE)

Dear Mr. Brundige:

Thank you for the opportunity to comment on the above referenced projects pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended). The South Dakota Office of the State Historic Preservation Officer (SHPO) concurs with your determination regarding the effect of the proposed undertaking on the non-renewable cultural resources of South Dakota.

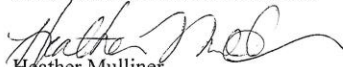
On January 27, 2020, we received your correspondence regarding the proposed base improvements to accommodate the new B-21 bomber on Ellsworth Air Force Base. Additional information was received on June 22, 2020. Based on the information provided, buildings 7262 (Dock 60), 7260 (Dock 61), and 7258 (Dock 62) are eligible for listing in the National Register of Historic Places. Pursuant to 36 CFR § 800.5 (Assessment of Adverse Effects), removal and replacement of these structures is an adverse effect. Therefore, we concur with your agency's determination of Adverse Effect for the undertaking.

Pursuant to 36 C.F.R. § 800.6, we look forward to continuing consultation with your agency. Please be sure to notify the Advisory Council on Historic Preservation of the Adverse Effect.

Should you require any additional information, please contact Heather Mulliner at (605) 773-6005 or [Heather.Mulliner@state.sd.us](mailto:Heather.Mulliner@state.sd.us).

Sincerely,

Jay D. Vogt  
State Historic Preservation Officer

  
Heather Mulliner  
Historic Preservation Specialist



January 22, 2021

Mr. Gary Brundige  
Cultural Resources Manager  
28CES/CEIEC  
2125 Scott Drive  
Ellsworth AFB, SD 57706

**SECTION 106 PROJECT CONSULTATION**

Project: 200127017F – Ellsworth AFB – B-21 Beddown Demolition  
Location: Meade County  
(COE)

Dear Mr. Brundige:

Thank you for the opportunity to comment on the above referenced projects pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended). The South Dakota Office of the State Historic Preservation Officer (SHPO) concurs with your determination regarding the effect of the proposed undertaking on the non-renewable cultural resources of South Dakota.

On January 27, 2020, we received your correspondence regarding the proposed base improvements to accommodate the new B-21 bomber on Ellsworth Air Force Base. Additional information was received on June 22, 2020. On June 23, 2020 SHPO concurred with a determination of “Adverse Effect” regarding the demolition of eligible hangars 7262 (Dock 60), 7260 (Dock 61), and 7258 (Dock 62) as part of this undertaking. On December 17, 2020 we received an updated APE that included 10 unevaluated structures impacted by this undertaking. SHPO requested additional survey data related to unevaluated structures be entered in SD SHPO Historic Sites Survey database CRGRID to provide concurrence on determinations of eligibility for the impacted structures. On January 21, 2021 SHPO received complete survey data for these structures.

We have made this consensus determination based on the information provided in the survey data:

- The 10 identified structures MD01800031 (Building 1911), MD01800032 (Building 7230), MD01800033 (Building 7232), MD01800034 (Building 7239), MD01800035 (Building 7240), MD01800036 (Building 7242), MD01800037 (Building 7244), MD01800038 (Building 7248), MD01800039 (Building 7430), MD01800040 (Building 7264) should be considered not eligible for listing on the National Register of Historic Places (NRHP).

Demolition of the previously identified eligible hangars 7262 (Dock 60), 7260 (Dock 61), and 7258 (Dock 62) is still considered an Adverse Effect, however, there are no newly identified eligible structures impacted by this undertaking.

900 GOVERNORS DR • PIERRE • SD 57501 • P {605 • 773 • 3458} F {605 • 773 • 6041} • HISTORY.SD.GOV

DEPARTMENT OF EDUCATION {DOE.SD.GOV}

Should you require any additional information, please contact Heather Mulliner at (605) 773-6005 or [Heather.Mulliner@state.sd.us](mailto:Heather.Mulliner@state.sd.us).

Sincerely,

Ted M. Spencer  
State Historic Preservation Officer



Heather Mulliner  
Historic Preservation Specialist

## F.2.3 Building Demolition ACHP Correspondence



August 4, 2020

Mr. Gary C. Brundige  
Ellsworth Air Force Base  
Department of the Air Force

Ref: *Proposed Main Operating Base #1 for the B-21 at Ellsworth Air Force Base  
Pennington and Meade Counties, South Dakota*

Dear Mr. Brundige:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the South Dakota State Historic Preservation Office (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact Ms. Katharine Kerr at 202-517-0216 or via e-mail at [kkerr@achp.gov](mailto:kkerr@achp.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Artisha Thompson".

Artisha Thompson  
Historic Preservation Technician  
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION  
401 F Street NW, Suite 308 • Washington, DC 20001-2637  
Phone: 202-517-0200 • Fax: 202-517-6381 • [achp@achp.gov](mailto:achp@achp.gov) • [www.achp.gov](http://www.achp.gov)

## F.2.4 South WGF Site SHPO Correspondence

After initiating NHPA Section 106 consultation with SHPO, it was determined that the South WGF Site Subalternative location required an Archaeological Survey because the land was acquired after the 1994 archaeological survey. An archaeological inventory conducted in late 2020 in the South WGF Site Subalternative location did not encounter any newly identified cultural resources; therefore no avoidance or further work was recommended. South Dakota SHPO reviewed these findings and concurred with the USAF's determinations on January 22, 2021.



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 28TH MISSION SUPPORT GROUP (AFGSC)  
ELLSWORTH AIR FORCE BASE SOUTH DAKOTA

14 December 2020

Gary Brundige  
Cultural Resources Manager  
28CES/CEIEC  
2125 Scott Drive  
Ellsworth AFB, SD 57706

Ms. Heather Mulliner  
Historic Preservation Specialist  
State Historic Preservation Office  
900 Governors Drive  
Pierre, SD 57501

Dear Ms. Mulliner,

As part of the Ellsworth Air Force Base (EAFB) improvements to accommodate the new B-21 bomber, facilities may be constructed on a more recently acquired parcel. This parcel is located in the southwest corner of EAFB, outside the secure perimeter, and is identified as the South Weapons Generation Facility location on the attached Area of Potential Effects map. This newly acquired parcel had not been surveyed for cultural resources.

The Air Force contracted Cultural Resource Analysts, Inc. to conduct an intensive cultural resource inventory on the 50.4 acre project area in support of the B-21 beddown Environmental Impact Statement and associated Section 106 consultation with the SD State Historic Preservation Office (SHPO). The completed inventory report is attached.

No newly identified cultural resources were encountered. No avoidance or further work is recommended, and a determination of no historic properties affected is recommended for this. I request the SD SHPO include the inventory of this 50.4 acre project area as part of the B-21 beddown Section 106 consultation and make a determination per Section 106 of the Historic Preservation Act within 30 days of receipt of this consultation request.

If you need any more information or have questions or concerns, please feel free to contact me at 605-385-2690 or by email at [gary.brundige@us.af.mil](mailto:gary.brundige@us.af.mil). Thank you for your continued support of our Cultural Resources Program.

Sincerely,

Gary Brundige

Enclosures:  
B-21 APE map  
CRA-Ellsworth AFB cultural resource survey report

*Global Power For America*



January 22, 2021

Mr. Gary Brundige  
Cultural Resources Manager  
28CES/CEIEC  
2125 Scott Drive  
Ellsworth AFB, SD 57706

**SECTION 106 PROJECT CONSULTATION**

Project: 200127017F – Ellsworth AFB –B-21 Beddown  
Location: Meade County  
(USAF)

Dear Mr. Brundige:

Thank you for the opportunity to comment on the above referenced project pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended). The South Dakota Office of the State Historic Preservation Officer (SHPO) has the following comments regarding the effect of the proposed undertaking on the non-renewable cultural resources of South Dakota.

On December 17, 2020, we received your letter and the report titled “An Intensive Cultural Resource Inventory in Support of the Environmental Impact Statement for the B-21 Main Operating Base 1 Beddown at Dyess Air Force Base, Texas or Ellsworth Air Force Base, South Dakota” by Colin R. Ferriman of Cultural Resource Analysts, Inc. Your letter and Mr. Ferriman’s report indicate that the survey was conducted of a 50.4-acre parcel which may be impacted by project activities at the South Weapons Generation Facility location. Mr. Ferriman’s report indicates that no properties were recording during the pedestrian survey and subsurface testing.

However, as the B-21 beddown undertaking also involves the demolition of three hangars which have been determined eligible for listing in the National Register of Historic Places, SHPO concurs with your previous determination of “Adverse Effect” for the proposed undertaking. Pursuant to 36 C.F.R. § 800.6, we look forward to continuing consultation with your agency to resolve the adverse effect of the undertaking.

Should you require any additional information, please contact Jenna Carlson Dietmeier at [Jenna.CarlsnDietmeier@state.sd.us](mailto:Jenna.CarlsnDietmeier@state.sd.us) or at (605)773-8370.

Sincerely,

Ted M. Spencer  
State Historic Preservation Officer

Jenna Carlson Dietmeier  
Review & Compliance Coordinator

## F.2.5 B-21 MOB 1 Beddown Memorandum of Agreement

### MEMORANDUM OF AGREEMENT

**BETWEEN THE UNITED STATES AIR FORCE, HEADQUARTERS 28TH BOMB WING,  
ELLSWORTH AIR FORCE BASE, SOUTH DAKOTA  
AND THE  
SOUTH DAKOTA STATE HISTORIC PRESERVATION OFFICER  
REGARDING THE B-21 BEDDOWN AT ELLSWORTH AIR FORCE BASE, SOUTH DAKOTA**

**WHEREAS**, the United States Air Force (USAF), Headquarters 28th Bomb Wing (28th BW) Ellsworth Air Force Base (EAFB), South Dakota plans to carry out the beddown of the new B-21 Raider Bomber (B-21) at EAFB (undertaking); and

**WHEREAS**, the undertaking consists of construction and demolition of facilities to support the new B-21 mission; and

**WHEREAS**, USAF has defined the undertaking's area of potential effects (APE) as 11 distinct locations (delineated in red and blue on Attachment A), encompassing all construction, demolition, and staging areas. The Weapons Generation Facility (WGF) location is dependent upon completed environmental analysis in the Final Environmental Impact Statement; and

**WHEREAS**, USAF has determined that the undertaking will have an adverse effect on Buildings 7258, 7260, and 7262, which are eligible for listing on the National Register of Historic Places (NRHP), and has consulted with the South Dakota State Historic Preservation Officer (SD SHPO) pursuant to 36 CFR Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

**WHEREAS**, in accordance with 36 C.F.R. § 800.6(a)(1), USAF has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation, and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii) (Attachment B); and

**NOW, THEREFORE**, USAF and the SD SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

### STIPULATIONS

USAF shall ensure that the following measures are carried out. All documentation will first be screened by EAFB Security Personnel, and any sensitive information will not be publicly released if doing so would create an unreasonable security risk or violates any valid Federal security law or regulation. Classified or national security sensitive information, if any, regarding building design or function shall not be posted in violation of Federal law. Any information provided is subject to future removal if valid Federal security laws or regulations change and such law or regulation prohibits such posting:

#### I. PHOTOGRAPHIC DOCUMENTATION

- A. USAF shall submit photographic documentation of Buildings 7258, 7260, and 7262 to the SD SHPO for inclusion in the SD State Archives where they will be available for public use and reproduction. This will include digital color photographs that meet the NRHP photograph standards described in the 2015 "National Register Photo Policy Factsheet." Digital photographs shall:

- i. be at least 2000 x 3000 pixels at 300 dots per inch (dpi), saved as Tag Image File Format (TIFF), and submitted on archival quality compact discs (CDs) or a Universal Serial Bus (USB) Flash Drive.
  - ii. minimally include full views of the buildings' primary elevations, close-ups of any decorative, character-defining, or structural features, and general views of the buildings and their environs.
  - iii. labeled according to the SD SHPO's naming requirements defined in the Photography Guidelines for the Purposes of Section 106 Mitigation (Attachment C).
- B. The USAF shall not demolish or alter Buildings 7258, 7260, and 7262 until SD SHPO has approved the photographic documentation.

## II. EXISTING RECORD SEARCH AND REPRODUCTION

- A. USAF shall conduct a search for any existing reports, photographs, drawings, plans, or similar documents related to Buildings 7258, 7260, and 7262. The search will include, but is not limited to, any USAF files, county or city government files, local historical society or museum files, or other repositories that may likely have records related to the buildings.
- B. If any publicly available documents related to Buildings 7258, 7260, and 7262 are found while completing Stipulation II.A., and those documents are not otherwise restricted by Federal or State law, USAF will reproduce the document. Any photographs (historic or more recent) of Buildings 7258, 7260, and 7262 found will be scanned at 600 dpi, saved as TIFFs.
- C. USAF shall submit a letter to SD SHPO documenting what repositories and/or files were searched and what documents were located and reproduced. Reproduced documents, including photographs, will be submitted on a CD or USB Flash Drive with the letter.
- D. The SD SHPO will make documents submitted available for public use and reproduction through the SD State Archives.

## III. POSSIBLE HISTORIC AMERICAN BUILDINGS SURVEY / HISTORIC AMERICAN ENGINEERING RECORD DOCUMENTATION

Should USAF determine, through ongoing consultation with the National Park Service (NPS), that Historic American Buildings Survey (HABS)/Historic American Engineering Record (HAER) documentation for buildings 7258, 7260, and 7262, is necessary to meet 54 U.S.C. Section 306103 and 302107 requirements, USAF shall notify SD SHPO within 48 hours of this decision. USAF shall also notify SD SHPO of the level of HABS/HAER documentation to be completed. Demolition of Buildings 7258, 7260, and 7262 may not commence until the NPS has approved the HABS/HAER documentation. Once the NPS has approved the HABS/HAER documentation, USAF will submit a copy of all HABS/HAER documentation to the SD SHPO. The SD SHPO will make the unclassified HABS/HAER documentation available for public use and reproduction through the SD State Archives. The documentation generated through HABS/HAER will be utilized to fulfill Stipulations I through II above, and USAF does not need to submit additional documentation specific to those stipulations.

## IV. DURATION

This Memorandum of Agreement (MOA) will expire if its terms are not carried out within five (5) years from the date of its execution and will be considered completed when the products stipulated have been received and accepted by the SD SHPO. Prior to such time, USAF may consult with SD SHPO to reconsider the terms of the MOA and amend it in accordance with Stipulation VI below.



#### **V. POST-REVIEW DISCOVERIES**

Pursuant to 36 CFR §800.13(b), if historic properties are discovered or unanticipated effects on historic properties found, USAF will notify SD SHPO and ACHP and make reasonable efforts to avoid, minimize or mitigate adverse effects to such properties. If human remains or cultural items are inadvertently discovered, USAF shall implement the discovery plan included as Attachment D of this MOA.

#### **VI. DISPUTE RESOLUTION**

Should any signatory to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, USAF shall consult with such party to resolve the objection. If USAF determines that such objection cannot be resolved, USAF will:

- A. Forward all documentation relevant to the dispute, including USAF's proposed resolution, to the ACHP. The ACHP shall provide USAF with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, USAF shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. USAF will then proceed according to its final decision.
- B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, USAF may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, USAF shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.
- C. USAF's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

#### **VII. AMENDMENTS**

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

#### **VIII. TERMINATION**

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation VII, above. If within thirty (30) days an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, USAF must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. USAF shall notify the signatories as to the course of action it will pursue.

#### **IX. ANTI-DEFICIENCY ACT**

All requirements set forth in this MOA requiring the expenditure of USAF funds are expressly subject to the availability of appropriations and the requirements of the Anti-Deficiency Act (31 U.S.C. §Section 1341). No obligation undertaken by USAF under the terms of this MOA will require or be interpreted to require a commitment to expend funds not obligated for a particular purpose.

If USAF cannot perform certain obligations set forth in the MOA due to the unavailability of funds, USAF and SD SHPO will strive for the remainder of the agreement to be executed. In the event that any obligation under the MOA cannot be performed due to the unavailability of funds, USAF agrees to utilize its best efforts to renegotiate the funding provision, and it may initiate consultation to develop a related amendment to this MOA.

Execution of this MOA by USAF and SD SHPO and implementation of its terms evidence that USAF has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

SIGNATORIES:

Ellsworth Air Force Base

DOSS.DAVID<sup>1</sup> Digitally signed by  
DOSS.DAVID.A.1049946151  
A.1049946151 Date: 2021.02.11 17:28:42  
-0700

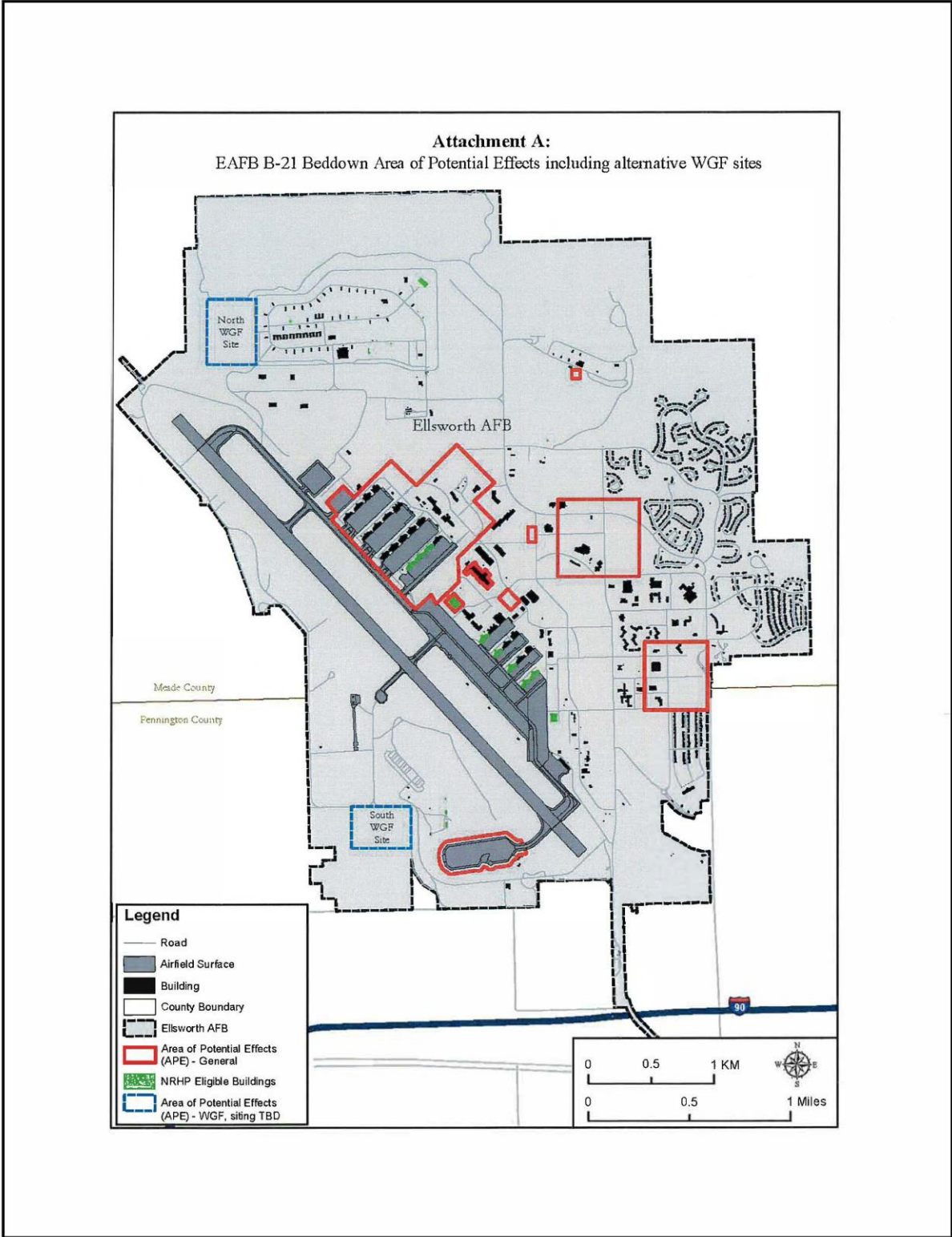
Date: 11 Feb 2021

DAVID A. DOSS, Colonel, USAF  
Commander, 28th Bomb Wing

South Dakota State Historic Preservation Officer

  
TED M. SPENCER  
South Dakota SHPO

Date: 2-16-2021



Attachment B

ACHP letter confirming notification of adverse effect and decision not to participate.



August 4, 2020

Mr. Gary C. Brundige  
Ellsworth Air Force Base  
Department of the Air Force

Ref: *Proposed Main Operating Base #1 for the B-21 at Ellsworth Air Force Base  
Pennington and Meade Counties, South Dakota*

Dear Mr. Brundige:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the South Dakota State Historic Preservation Office (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact Ms. Katharine Kerr at 202-517-0216 or via e-mail at [kkerr@achp.gov](mailto:kkerr@achp.gov).

Sincerely,

Artisha Thompson  
Historic Preservation Technician  
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION  
401 F Street NW, Suite 309 • Washington, DC 20001-2637  
Phone: 202-517-0200 • Fax: 202-517-6381 • [achp@achp.gov](mailto:achp@achp.gov) • [www.achp.gov](http://www.achp.gov)

A

## Attachment C



### PHOTOGRAPHY GUIDELINES FOR THE PURPOSES OF SECTION 106 MITIGATION

At a minimum, these guidelines reflect the recommendations of the South Dakota Office of the State Historic Preservation Officer (SHPO) when documenting historic properties affected by federal undertakings. These guidelines cannot be used to circumvent consultation with appropriate consulting parties as identified in the Section 106 process. These guidelines are based on National Park Service guidance to ensure consistency in the quality of photographic documentation.

#### Selecting a Digital Camera

**BEST:** Six megapixel or greater digital SLR camera

Acceptable: Two – five megapixel point-and-shoot digital camera

Not acceptable: Camera phones, disposable or single-use digital cameras, digital cameras with fewer than two megapixels of resolution

#### Taking the Picture

Image file format (Set the camera for highest image quality).

**BEST:** Tag Image File format (TIFF) or RAW format images. This allows for the best image resolution.

Acceptable: JPEGs converted to TIFFs, by a computer conversion process, are acceptable; however, JPEGs must not be altered in any way prior to conversion (other than renaming them).

Do not use the JPEG setting on the camera, if a higher quality setting is available.

RGB color digital TIFFs are preferred.

Digital Camera Resolution (Set the camera to the maximum or largest pixel dimension the camera allows).

**BEST:** Six megapixels or greater (2000 x 3000 pixel image)

Acceptable: Minimum two megapixels (1200 x 1600 pixel image)

### Renaming the digital TIFF image

All digital image files must be renamed using a standard naming format.

The TIFF file name must include:

State\_county\_property name (or district name or SHPO ID)\_0001  
(Use zeros in image numbers to create 4 digit number, e.g. 0002, 0003, etc.)

Example for individual properties: SD\_PenningtonCounty\_ElizabethBrown  
House\_0001

Example for district and farmstead labels:  
SD\_PenningtonCounty\_RapidCityCommercialHistoricDistrict\_0125

Example for individual properties using SHPO ID labels:  
SD\_PenningtonCounty\_PN00000123

Example for districts and farmsteads using SHPO ID labels: SD\_PenningtonCounty\_PN00400001  
SD\_PenningtonCounty\_PN00400002

### Burning the Images onto an Archival Disk

A CD/ DVD or flash drive must contain all TIFF images, the photograph log, and sketch map. The photograph log and sketch map must be saved as a PDF/A or PDF file.

Reminder: JPEGs converted to TIFFs, by a computer conversion process, are acceptable; however, JPEGs must not be altered in any way prior to conversion (other than renaming them). When image is open on your computer, right click and you will see the image properties (Dimensions, dpi, etc.).

**Acceptable: CD-R, DVD-R, flash drive, or any disk obtained from a commercial photo processor.**

Not acceptable: CD-RW or DVD-RW (if packaging says "rewriteable" do not use).

### Labeling the Disk

**Best: Labels printed directly on the disk or drive by laser printer (non-adhesive).**

Acceptable: Hand-written labels using CD/DVD safe markers OR other markers (Sharpies) or a label tag attached through the lanyard/keychain hole of the flash drive

Not Acceptable: Ammonia/solvent-based markers or adhesive stickers



Atch C -- Page 2

A October 7, 2020

### Photograph Log Page

The photograph Log and sketch map must be saved to the CD/DVD or flash drive.

#### Example of acceptable photo pages

Name of Property:	Henderson House
City or Vicinity:	Pierre
County:	Hughes County
State:	SD
Name of Photographer:	Mary Smith
Date of Photographs:	April 2015
Location of Original Digital Files:	411 E. 6th St., Rapid City, SD 57501
Photograph Number:	0001
SHPO Project Number:	150415001F

Photo #1 (SD\_HughesCounty\_HendersonHouse\_0001)  
South façade (left) and east elevation (right), camera facing northwest.

#### Sketch Map

Photographs must be keyed to a sketch map, see Attachment I for sample.

### Use of Photographs

All photographs submitted in accordance with the terms of a Memorandum of Agreement or Programmatic Agreement will be used as specified in the Agreement, which may include submission by the SHPO as official documentation to the South Dakota State Archives for public use and reproduction.

### Guidelines for Photographic Coverage

Photographs submitted as official documentation should be clear, well-composed, and provide an accurate visual representation of the property and its significant features. They must illustrate the qualities that make the property eligible for the National Register. Photographs should show historically significant features and any alterations that have affected the property's historic integrity.

The necessary number of photographic views depends on the size and complexity of the property. Submit as many photographs as needed to depict the current condition and significant features of the property. A few photographs may be sufficient to document a single building or object. Larger, more complex properties and historic districts will require a number of photos.

### Buildings, structures, and objects:

Photographs need to show the principal facades and the setting in which the property is located.

Additions, alterations, intrusions, and dependencies need to appear in the photographs.

Include views of interiors, outbuildings, landscaping, or unusual features if they contribute to the significance of the property.



**Historic and archaeological sites:**

Photographs need to show the condition of the site and any above-ground or surface features and disturbances.

If relevant to the evaluation of significance, include drawings or photographs illustrating artifacts that have been removed from the site.

At least one photograph must show the physical environment and topography of the site.

**Architectural, Historic Districts and Farmsteads (key all photographs to the sketch map for the district):**

Submit photographs showing major building types and styles, pivotal buildings and structures, and noncontributing resources.

Streetscapes and landscapes are recommended. Aerial views may also be useful. Views of significant topographic features and spatial elements should also be submitted.

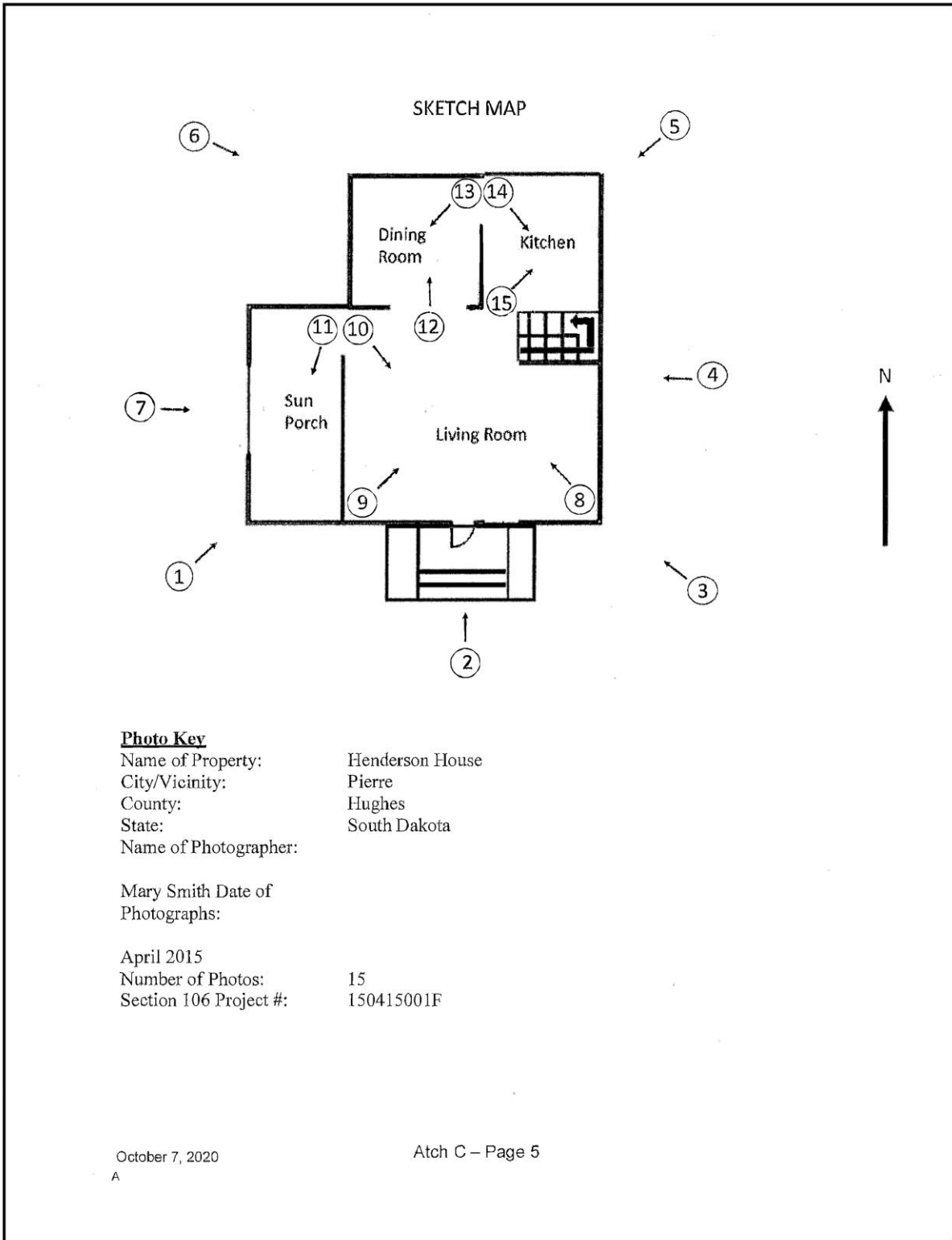
Views of individual buildings are not necessary if streetscape views clearly illustrate the significant historical and architectural qualities of the district.

**Archaeological Districts:**

Submit photographs of the principal sites and site types within the district following the guidelines for archaeological sites (see above).

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**Attachment D**  
**Post Review Discovery Plan**  
**excerpted from**  
**Ellsworth AFB Integrated Cultural Resources Management Plan**

Discoveries of cultural items, including traditional cultural properties, human remains and archaeological resources, may occur on AF controlled lands. When discoveries are made, the proper actions must be taken to minimize damage to resources and to ensure that applicable laws and requirements are identified and met.

All discoveries of Native American cultural items, including NAGPRA-defined objects, must comply with NAGPRA and 43 CFR 10, Native American Graves Protection and Repatriation Act Regulations.

It is a federal offense, under the provisions of Archaeological Resources Protection Act (ARPA) and 32 CFR 229, to excavate, remove, damage, or otherwise deface any archaeological resources located on federal lands. The provisions of ARPA apply to archaeological material greater than 100 years in age, regardless of the NRHP status of the site where they are found. Any person wishing to excavate or remove archaeological resources from an AF installation must apply for an ARPA permit. AF-contracted work is exempted from the permit provision of ARPA. In the event of a permit request, the Cultural Resources Manager (CRM) should notify the Air Force Civil Engineering Center Cultural Resources Subject Matter Expert.

In 1994, a comprehensive archeological survey was conducted at Ellsworth AFB. The survey project was designed to cover all significant tracts of undisturbed land within the base boundaries. Both pedestrian survey and soil auger testing were conducted. The survey did not reveal any significant archeological sites on Ellsworth AFB. The Base CRM provided notice of this finding to federally recognized tribes in the area. In the unlikely event significant archeological resources are discovered on the base, the following procedures will be followed.

**Inadvertent Discovery of Archeological Resources**

Native American human remains and cultural items may be discovered in either of two situations. The first is that in which a burial is exposed and removed in the course of a planned data recovery program, for example, mitigative excavation of an archeological site. The completion of the base archeological survey renders this eventuality unlikely. The second situation is that in which remains are inadvertently or accidentally, discovered in the course of an undertaking. In the latter case, the base will refer to the following steps.

*Procedure:*

AF or Contractor personnel that make a potential cultural discovery should:

- Immediately notify the CRM of the nature and location of the discovery.
- Immediately cease potentially damaging activities and take efforts to ensure protection of resources until arrival of the CRM or designee.

The CRM should:

- Ensure that all cultural items are left in place and that no further disturbance is permitted to occur.
- Sufficiently identify the location of the discovery to provide efficient relocation, yet take efforts to minimize the types of signs that could attract personnel and place the discovery in danger.
- Notify Security Forces of the discovery.

- Direct installation personnel and contractors to take efforts to resume mission-associated activities in a reasonable and timely manner.
- Security Forces should:
- Notify the Wing Commander regarding the location, nature, and circumstances of the discovery.
  - Provide security/protection for the site to prevent unauthorized disturbance, looting, or vandalism.

#### **Inadvertent Discovery of Native American Human Remains**

##### **Initial Notification and Identification**

- Discoverer notifies Base Cultural Resource Manager immediately
- Base CRM visits the site within 24 hours of initial notification
- Base CRM determines if the remains are human. The CRM contacts a qualified professional, such as a forensic anthropologist, to perform in situ identifications.
- Base CRM determines if remains are recent (i.e., less than 50 years) and a crime scene is involved. Coordinate jurisdiction with the installation Staff Judge Advocate and the Base Security Forces.
- Base CRM determines if the remains are Native American.

The results of these identification procedures will determine whether NAGPRA provisions apply. NAGPRA makes no distinction whether Native American human remains discovered on federal lands are recent or ancient, involved in a crime or not. These procedures combine the affirmative provisions of NAGPRA concerning tribal consultation with the conventional mandates to enforce federal criminal laws.

- Result 1: Recent non-Native American human remains.
- Result 2: Archeological non-Native American human remains.
- Result 3: Recent Native American human remains and cultural items (NAGPRA).
- Result 4: Archeological Native American human remains and cultural items (NAGPRA).

##### **Formal Notification, Consultation, Treatment, and Disposition Procedures**

- Result 1: Recent non-Native American human remains. Base CRM notifies Office of the Staff Judge Advocate (JA), Office of Special Investigations (OSI), and Security Forces Investigations (SFOI), which assign jurisdiction and responsibility. SFOI ensures that all base activities cease within a radius effective to protect the site (approx 30 meters), and declares the site off limits to everyone except authorized personnel. SFOI, together with the OSI, will investigate any potential criminal wrongdoing and carry the case to closure.
- Result 2: Archeological non-Native American human remains. Base CRM takes measures to protect the site, including entering the site into the Cultural Resource database and Management Plan and informing the State Historic Preservation Office of the discovery. If remains are removed from the site, the CRM will ensure their curation per the requirements of 36 CFR Part 79.
- Result 3: Recent Native American human remains and cultural items (NAGPRA). Base CRM notifies JA, OSI, SFOI, and the relevant tribal NAGPRA Coordinator(s) who together assign jurisdiction and responsibility. SFOI ensures that all base activities cease within a radius effective to protect the site (approx 30 meters), and declares the site off limits to everyone except authorized personnel. The SFOI, together with the OSI will investigate any potential criminal wrongdoing and carry the case to closure. Any criminal forensic examination of the remains will be conducted after consultation with the relevant Indian tribe. Final disposition of the remains will be arranged in consultations with the Indian tribe.

- Result 4: Archeological Native American human remains (NAGPRA).
  - The Base CRM shall immediately notify the Installation Commander or his/her official designee of the discovery. No later than forty-eight (48) hours after receipt of written notification, the Commander or his/her official designee will certify notification has been received and will forward this certification to higher headquarters.
  - The Base CRM shall notify the SHPO and the relevant NAGPRA coordinator of any inadvertent discovery of Native American human remains. The NAGPRA coordinator for EAFB is the State Archeological Research Center, Rapid City, SD (Tel: 605-394-1936). This shall be done as soon as possible, but no later than three (3) working days after the Commander has received written notification of the discovery of Native American human remains and/or cultural objects. The Base CRM will keep a list of official tribal contacts and update it annually. The list can be updated through the website; <http://web.cast.uark.edu/other/nps/nacd/> or by contacting the State Archeological Research Center.
  - The Base CRM shall write a field evaluation of the circumstances of the discovery, condition, and contents of burials (including any artifacts). The evaluation should state the primary context, antiquity, and significance of remains and artifacts. This evaluation may require the assistance of a professional archeologist and/or physical anthropologist.
  - The Base CRM shall provide as soon as practicable in written form to the Commander or his/her official designee the results of the field evaluation, intended consultation tasks, and possible disposition of discovered remains.
  - The Base CRM shall evaluate human remains and associated cultural objects in situ unless eroded from their original location or removed by accident or looting. If in situ identification is not possible, the Base CRM shall consult the tribe(s) to discuss further identification procedures.

Destructive analysis of bone shall be avoided if at all possible. Consult with the tribe(s) about noninvasive methods of analysis or photography.

If the remains can be attributed to lineal descendants, the Base CRM shall notify potential lineal descendants using the following procedures:

- Telephone and record in a phone log the date, time, and person contacted
- Document the telephone conversation in a Memorandum for Record
- Forward Memorandum of Notification of Installation Commander to higher headquarters
- Send written notification by certified mail to lineal descendant or Tribal Chairman and official tribal NAGPRA representative.
- Make follow-up phone calls to lineal descendants or the tribal NAGPRA representative to determine if written notification of discovery was received by the appropriate person and to ascertain how the tribe wishes to proceed in determining treatment and disposition of the human remains or cultural items.

The Base CRM shall protect the site of the remains, stabilizing or covering as necessary. Neither Ellsworth Air Force Base nor the tribe(s) shall disclose information concerning the nature and location of the site outside of their respective governmental authorities. However, federally recognized tribes other than those immediately contacted, which may have a claim of custody to these cultural items, can receive documentation upon request to the base.

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### F.3 PROGRAMMATIC AGREEMENT

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**PROGRAMMATIC AGREEMENT  
AMONG  
28<sup>th</sup> BOMB WING, ELLSWORTH AIR FORCE BASE,  
THE STATE HISTORIC PRESERVATION OFFICES OF  
MONTANA, NORTH DAKOTA, SOUTH DAKOTA AND WYOMING,  
AND  
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION  
REGARDING THE PROPOSED DEVELOPMENT, IMPLEMENTATION AND OPERATION  
OF THE POWDER RIVER TRAINING COMPLEX**

**WHEREAS**, the United States Air Force (AF), represented by the 28<sup>th</sup> Bomb Wing (hereafter “the 28 BW”), operates and maintains Ellsworth Air Force Base (EAFB), South Dakota, and

**WHEREAS**, the 28 BW is responsible for identifying and managing historic properties at EAFB and identifying and considering effects to historic properties in areas used by the base for training, pursuant to Section 106 of the National Historic Preservation Act (NHPA) (16 USC §470f) and its implementing regulation, 36 CFR Part 800 (hereafter jointly referred to as “Section 106”); and

**WHEREAS**, the 28 BW proposes to establish the Powder River Training Complex (PRTC) to provide suitable and realistic training for military aircrews of multiple B-1 and B-52 squadrons assigned primarily to EAFB and Minot AFB, North Dakota. It would restructure and reconfigure the existing Powder River Military Operations Areas (MOAs) and associated Air Traffic Control Assigned Airspaces (ATCAAs) and add airspaces to become the PRTC. The establishment, development, and operation of the PRTC (also referred to in this document as “the undertaking”) would overlay about 35,000 square miles or 22.5 million acres in South Dakota, North Dakota, Montana, and Wyoming (Attachment 1), the lands beneath the PRTC airspace constituting the area of potential effect to historic properties; and

**WHEREAS**, the PRTC would designate the following training areas: Powder River (PR)-1A through 1D, PR-2, PR-3, PR-4 MOA/ATCAA; GAP A, B, and C MOA/ATCAA; and Gateway East and West MOA/ATCAA, as depicted in Attachments 1 and 2; and

**WHEREAS**, the PRTC would not require construction or other ground disturbance within the complex or at the using installations; supersonic flights for both fighter and bomber aircraft within the PRTC would occur only during Large Force Exercises (LFEs) which could be held quarterly but total no more than ten (10) days per year; an altitude of 10,000 feet above ground level (AGL) is proposed as the supersonic floor for all fighter aircraft during LFEs and 20,000 feet above mean sea level (MSL) is proposed as the floor for B-1 supersonic flight during LFEs; chaff bundles and flares would be employed throughout the PRTC airspace for countermeasures training with flares being used only at or above 2,000 feet AGL and only if conditions are suitable; and

**WHEREAS**, some 240 National Register of Historic Places (NRHP) listed properties are located beneath the PRTC airspace, including several National Historic Landmarks (NHLs) and Monuments (Attachment 3), as well as hundreds of recorded and unrecorded NRHP eligible archaeological sites, ghost towns, historic ranches, cultural landscapes, and places of traditional, religious, and cultural importance; and

**WHEREAS**, 28 BW has determined that the undertaking may have potential adverse effects that cannot be identified or anticipated today, that the potential exists for discovery of new historic properties in the PRTC and for changes in how such properties are understood and appreciated; and

**WHEREAS**, the AF and the Federal Aviation Administration (FAA), Central Service Center agree that, pursuant to 36 CFR §800.2(a)(2), the AF is hereby designated as the lead federal agency for purposes of compliance with Section 106 for the PRTC undertaking and the FAA is an invited signatory to this programmatic agreement (hereafter “PA”); and

**WHEREAS**, the AF is the lead agency and the FAA is a cooperating agency under the National Environmental Policy Act (NEPA) for development of the Environmental Impact Statement (EIS) for the PRTC proposal; and

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**WHEREAS**, pursuant to 36 CFR §800.10(b) and 36 CFR §800.6(a)(1)(iii), the 28 BW has requested and received the participation of the Advisory Council on Historic Preservation (ACHP) in consultations leading to the development of this PA and to become a signatory to this PA; and

**WHEREAS**, the 28 BW has consulted with the State Historic Preservation Officers (hereafter "SHPOs") of Montana, North Dakota, South Dakota, and Wyoming to identify historic properties on lands within said states under the PRTC, and to discuss potential adverse effects from the proposed undertaking, and

**WHEREAS**, the 28 BW has consulted with the National Park Service (NPS) to identify historic properties on lands managed by it under the PRTC, and to assess adverse effects from overflights associated with the undertaking; and

**WHEREAS**, the 28 BW recognizes the additional requirements, per 36 CFR §800.10, for NHLs and specifically for Bear Butte, Frawley Historic Ranch, Deadwood Historic District, Deer Medicine Rocks, Wolf Mountains Battlefield/Where Big Crow Walked Back and Forth NHL, and Rosebud Battlefield which are situated on lands under or immediately adjacent to the existing training airspace of PRTC, and that the 28 BW requested and confirmed participation of the NPS and the ACHP in this consultation; and

**WHEREAS**, the U.S. Air Force Air Combat Command in June 2008 contacted tribes outside the APE that may have traditional cultural and religious affiliations to lands under the PRTC, including Spirit Lake Sioux Tribal Council, the Fort Peck Tribal Executive Board, the Fort Belknap Community Council, the Confederated Salish and Kootenai Tribe, the Oglala Sioux Tribal Council, the Arapaho Business Council, the Rosebud Sioux Tribe, the Eastern Shoshone Tribal Council, the Three Affiliated Tribes Business Council, the Turtle Mountain Tribal Council, and the Chippewa-Cree Business Committee; and

**WHEREAS**, the 28 BW consulted on the PRTC proposal since 2008 with the Cheyenne River Sioux Tribe, the Crow Tribe, the Northern Cheyenne Tribe, and the Standing Rock Sioux Tribe (hereafter, "Tribes"), each of which have tribal lands underneath the PRTC where military overflights, but no ground activities, would occur and provided each Tribe opportunities to consult on the development of and to become invited signatories to this PA; and

**WHEREAS**, the 28 BW has provided the Tribes opportunities to identify historic properties of traditional religious and cultural importance under the PRTC airspace, and on which the 28 BW will continue to consult through its devised continual approach to identify and evaluate properties of religious and cultural significance to Indian tribes in conjunction with the operation of the PRTC; and

**WHEREAS**, 28 BW solicited the views of the public on the PRTC through public hearings and other means associated with NEPA, in accordance with 36 CFR §800.2(d)(3) and 800.8(a); and

**WHEREAS**, the NPS, Intermountain Region, and the Little Bighorn Battlefield National Monument intend to undertake a multi-year acoustic monitoring program and a visitor use study that will survey visitors regarding sounds that a visitor would expect at a national battlefield and investigate particular military aircraft noises and associated annoyance levels as a result of the PRTC;

**NOW, THEREFORE**, the 28 BW, the FAA, the NPS, the SHPOs, and the ACHP agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.



**STIPULATIONS****I. Avoidance, Minimization, or Mitigation of Adverse Effects to Historic Properties under the PRTC**

- A. Great Sioux War Battlefields: Little Bighorn Battlefield National Monument (Monument), Montana
1. 28 BW shall:
    - a) Ensure that all military aircraft, when overflying the area of the Monument indicated on the map in Attachment 4 of this PA:
      - (1) Maintain an altitude of at least 5,000 feet AGL from one (1) hour before to one (1) hour after posted Hours of Operation of Little Bighorn Battlefield National Monument.
      - (2) Consider further restrictions of planned and potential PRTC activities during special events at the Monument.
    - b) Prohibit supersonic operation of aircraft when overflying the Little Bighorn Supersonic Avoidance Area above the area bounded by Powder River 1C, as indicated on the map in Attachment 4.
    - c) Coordinate on plans for multi-year acoustic monitoring in the Monument when requested by the NPS.
    - d) Coordinate on plans for a visitor use study when requested by the NPS.
  2. NPS shall promptly inform the 28 BW of military aircraft overflights of the Monument that are contrary to the stipulations immediately above, within 24 hours of the overflight event.
- B. Great Sioux War Battlefields historic properties in Montana, South Dakota, and North Dakota other than the Monument including, but not limited to, Deer Medicine Rocks and Wolf Mountains Battlefield/Where Big Crow Walked Back and Forth; and archaeological locations containing sensitive rock art throughout the area of potential effect, including the Tongue River Valley, Chalk Butte, and Slim Butte, Montana and North and South Cave Hills, South Dakota
1. 28 BW shall:
    - a) Work cooperatively with other federal and state agencies, tribal governments, and the public to minimize potential adverse effects to historic properties in the PRTC from routine operations or from LFEs.
    - b) Energetically comply with the procedures in Stipulations III through V. The effectiveness of these procedures depends in part on the actions of consulting parties and the public to inform the 28 BW of potential adverse effects from military operations or non-compliance with the requirements of this agreement; see Stipulation IX.B.
    - c) Consult with the relevant consulting parties on appropriate responses, if, as a result of notifications and follow on assessments by the 28 BW, further mitigating actions may be required.

**II. Avoidance, Minimization, or Mitigation of Adverse Effects to Historic Properties, Religious Ceremonies, and Important Tribal Events under the PRTC**

- A. The 28 BW shall continue to consult with the Tribes on appropriate ways to avoid, minimize, or mitigate adverse effects to historic properties, religious ceremonies, and events important to the Tribes.
1. This includes 28 BW authorizing reasonable temporary or seasonal avoidance areas for training objectives during the following events after consulting with the appropriate Tribe:
    - a) the “Crow Fair” of the Crow Tribe (PR-1A and PR-1C)
    - b) the “4th of July Chiefs Powwow” of the Northern Cheyenne Tribe (PR-1D)
    - c) the “Porcupine Powwow” of the Standing Rock Sioux Tribe (PR-4)
    - d) the “Fair Rodeo and Labor Day Powwow” of the Cheyenne River Tribe (PR-4); or
    - e) other events, now and in the future as identified by 28 BW in consultation with the Tribes.
  2. Within six (6) months of executing this PA, 28 BW shall appoint a senior-level installation person as a Tribal Liaison to serve as the primary point of contact in facilitation of the government-to-government relationships with the Tribes, and coordinating and directing the 28 BW’s participation in joint efforts.
    - a) Until such position is designated, the 28 BW Airspace Manager shall serve as the interim liaison.
    - b) The 28 BW will advise the Tribes within one (1) month of any changes to this liaison position.
  3. 28 BW shall meet with Tribal leaders at least annually to review PRTC-related activities that may affect historic properties of traditional and religious importance to the Tribes.
- B. A Tribe that is an invited signatory to this PA shall:
1. Designate a point of contact (POC) to act as liaison with the 28 BW Tribal Liaison to coordinate and direct tribal participation identified in this PA, and advise the 28 BW in a timely manner of any changes to this position.
  2. Provide appropriate information to the 28 BW regarding historic properties, to include properties of traditional religious and cultural importance, which may be affected by military aircraft training that would occur in the PRTC and adjacent areas, when requested by the 28 BW.
  3. Review and provide comments on draft Air Force plans, programs, and reports for PRTC training and operations, upon request by the 28 BW. Negative replies are requested if no comments will be forthcoming. Planning responsibilities often require 28 BW to set time lines for responses. The 28 BW leadership will consider all comments received within these time lines when making a decision. Responses received after a time line expires will be considered if practicable.

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**III. Awareness Training for Military Trainers and Aircrews Operating in the PRTC****A. 28 BW shall:**

1. Prepare, within three (3) months of executing this PA, a comprehensive in-brief presentation covering current operating procedures, to include cultural sensitivities and mitigation procedures for flying units preparing to train in the PRTC airspace prior to their training within the PRTC.
  - a) Ensure all military aircrews participating in the LFEs be certified by their Unit Commander that they have received this comprehensive in-brief.
  - b) Include a summary of all training provided in the annual report in accordance with Stipulation VII.
2. Host an annual Cultural Awareness class for military aircrews to ensure tribal, SHPO, and federal agency cultural concerns are communicated properly.
  - a) Invite each Tribe, SHPO, and federal agency that has signed this PA to produce and present at the Cultural Awareness classes and offer travel and per diem expenses.
  - b) Include summaries of recent classes in the annual and five year updates of the EAFB Integrated Cultural Resources Management Plan (ICRMP).

**IV. Avoidance Protocol**

- A. Within six (6) months of executing this PA, 28 BW shall develop and implement a program to accept requests from consulting parties to avoid training in portions of the PRTC.
- B. The 28 BW shall consider requests from consulting parties to avoid using portions of the PRTC, said requests to include dates and approximate locations, preferably with coordinates, that should be avoided, no later than seven (7) to ten (10) days prior to the date of avoidance being sought.

**V. Supersonic/Large Force Exercise (LFE) Notification**

The 28 BW shall notify consulting parties fifteen (15) days prior to the use of supersonic operations and an LFE. Supersonic operations will take place only during LFEs, which occur at a maximum of ten days a year.

**VI. Integrated Cultural Resource Management Plan (ICRMP) Revision**

The 28 BW shall incorporate the activities mandated by the stipulations of this agreement into the procedures, goals, and objectives of the base ICRMP, to be completed by the date of its next five year update, estimated to be 2016. The 28BW shall provide draft, updated versions of the ICRMP to the parties to this PA. These parties may review and comment on the ICRMP and/or provide additional relevant information relevant to PRTC operations and historic properties as they deem appropriate.

**VII. Monitoring and Reporting**

- A. On March 1, starting in 2015, the 28 BW shall send a request to consulting parties, except the ACHP, for information pertaining to any additional historic properties or adverse effects identified during the previous operational year of the PRTC by that consulting party.
- B. Each May 1, starting in 2015, the BW shall provide all consulting parties, except for the ACHP, a summary report detailing the following:

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- 1) the number of training exercises completed;
- 2) any scheduling changes proposed for military training in the PRTC;
- 3) any problems encountered with implementing the terms of this agreement;
- 4) any disputes or objections received as appropriate;
- 5) a summary of newly identified properties;
- 6) a summary of newly identified adverse effects; and
- 7) a meeting date to discuss the contents of the summary report.

#### VIII. Confidentiality

- A. Consistent with Section 304 of the NHPA, 36 CFR §800.11(c), the Archaeological Resources Protection Act (ARPA), and other applicable laws, 28 BW, after consultation with the Secretary of the Interior, shall withhold from public disclosure information about the location, character, or ownership of a historic property when disclosure may cause significant invasion of privacy, risk harm to a historic property, or impede the use of a traditional religious site by practitioners.
  1. Access to sensitive data, as defined in Section 304 of the NHPA, will be limited within 28 BW to individuals designated by the Wing Commander.
  2. Requests from parties external to this agreement for access to sensitive data on PRTC related historic and traditional properties held by the AF shall be considered jointly by 28 BW, SHPO/THPO, Tribes, and NPS as appropriate.
- B. All parties shall attempt to resolve disputes regarding access to sensitive data in a timely manner, not to exceed sixty (60) days. If a dispute regarding access to sensitive data cannot be resolved, 28 BW shall defer to the facility manager of public buildings, the land manager on public lands, the tribe on tribal lands, or in the case of privately owned lands, to the SHPO.

#### IX. Air Force Claims Program/Post Review Discovery

- A. The 28 BW, through its Public Affairs Office, shall, in the event of damages, injuries, or complaints associated with military operations in the PRTC, accept descriptive documentation and facilitate processing to the Air Force claims program. Contact the Public Affairs Office at (605) 385-5056 between 8:00 am and 5:00 pm, Monday through Friday, or via email at [28.bw.public.affairs@ellsworth.af.mil](mailto:28.bw.public.affairs@ellsworth.af.mil). The Public Affairs Office will immediately notify the Office of the Staff Judge Advocate of any potential claims. The Public Affairs Office shall maintain documentation of such reports and actions taken by the Air Force in response. This documentation will be summarized in a report and made available to the consulting parties annually, beginning one year after execution of this PA.
- B. In the event of the 28 BW becoming aware of a discovery within the PRTC APE of damage to historic properties as a result of PRTC operations, the discovery of previously unidentified adverse effects, or of non-compliance with the terms of this agreement by any consulting party, the 28 BW shall notify the appropriate SHPO/Tribe within 72 hours, providing a brief but detailed report. The 28 BW, after consultation with the appropriate SHPO/Tribe, will determine the appropriate response to any such discovery.

#### X. Duration

- A. This PA will be valid for five (5) years from the date of execution.

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- B. At the conclusion of five (5) years from the date of execution, the signatories and invited signatories to the PA may carry out a review of the PA in order to determine if revisions to the PA are needed and to determine if the PA may continue for an additional five (5) years. If the signatories and invited signatories agree to the extension, the agreement will be documented in an amendment to this PA which will be signed by the signatories and invited signatories in accordance with Stipulation XIII.

#### **XI. Compliance with the Anti-Deficiency Act**

Any requirement established by the PA for the expenditure of Department of the Air Force funds by the 28 BW shall be subject to the availability of appropriated funds, and no provision herein shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act (31 USC 1341). In the event that the 28 BW is unable to carry out one or more terms of this agreement due to the provisions of the Anti-Deficiency Act, the 28 BW shall advise the parties to this PA, and shall otherwise comply with pertinent requirements of this PA as appropriate.

#### **XII. Dispute Resolution**

Should any signatory or invited signatory to this PA object at any time to any actions proposed or the manner in which the terms of this PA are implemented, the 28 BW shall consult with such party to resolve the objection. If the 28 BW determines that such objection cannot be resolved, the 28 BW will:

- A. Forward all documentation relevant to the dispute, including the 28 BW's proposed resolution, to the ACHP. The ACHP shall provide the 28 BW with its advice on the resolution of the objection within thirty (30) calendar days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the 28 BW shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and consulting parties, and provide them with a copy of this written response. The 28 BW will then proceed according to its final decision.
- B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, the 28 BW may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the 28 BW shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and consulting parties to the PA, and provide them and the ACHP with a copy of such written response.
- C. The 28 BW's responsibility to carry out all other actions subject to the terms of this PA that are not the subject of the dispute remain unchanged.

#### **XIII. Amendments**

- A. Any signatory to this Agreement may request that it be amended or modified. Any resulting amendments or addenda shall be developed and executed in the same manner as this original PA.
- B. The amendment or addenda will become effective on the date a copy is signed by all signatories and is filed with the ACHP.

#### **XIV. Termination**

- A. If any signatory to this PA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation XIII above. If within (30) calendar days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may withdraw from the PA upon written notification to the other signatories. Withdrawal by a SHPO or Tribe will terminate this PA only with respect to matters within the jurisdiction of that SHPO or Tribe.

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- B. If any signatory withdraws from this PA, the remaining signatories shall consult and determine whether the PA shall continue in force with respect to matters within their jurisdiction. If said parties determine that the PA shall be terminated, the 28 BW must, as soon as practicable, either (a) execute a Memorandum of Agreement pursuant to 36 CFR §800.6, (b) execute a revised PA pursuant to 36 CFR §800.14(b)(3), or (c) request, take into account, and respond to the comments of the ACHP under 36 CFR §800.7. The 28 BW shall notify the signatories as to the course of action it will pursue. The parties agree that all flying activities and measures in this PA to resolve adverse effects will continue in effect while 28 BW implements its decision.

**XV. Signatories**

- A. This PA shall be executed in counterpart, with a separate page for each signatory and invited signatory, and when combined will constitute the whole agreement. 28 BW shall ensure that each party is provided with a fully executed copy. This PA will become effective regarding historic properties in Montana, North Dakota, South Dakota, and Wyoming on the date of the last signature by 28 BW, the SHPO for each of those states, and the ACHP.
- B. Additional federal agencies or federally recognized tribes may be included in this PA as an invited signatory without its amendment if 28 BW notifies the current signatories and invited signatories in writing of the proposal and there is no objection from the current signatories or invited signatories within thirty (30) days of 28 BW's written notice. If no response is received within thirty (30) days, 28 BW may assume concurrence with the addition of the federal agency or federally recognized tribe to this PA. 28 BW shall ensure that each consulting party is provided with an updated copy of the PA.
- C. If the Cheyenne River Sioux Tribe, the Crow Tribe, the Northern Cheyenne Tribe, or the Standing Rock Sioux Tribe chooses to sign this PA as an invited signatory after the execution of the PA, it may do so without an amendment to the PA if 28 BW notifies the current signatories and invited signatories in writing of the proposal. 28 BW shall ensure that each consulting party is provided with an updated copy of the PA.

**EXECUTION** of this PA and implementation of its terms evidence that the 28 BW has taken into account the effects of the PRTC undertaking on historic properties and afforded the ACHP an opportunity to comment.

9/30

**PROGRAMMATIC AGREEMENT  
AMONG  
28<sup>th</sup> BOMB WING, ELLSWORTH AIR FORCE BASE,  
THE STATE HISTORIC PRESERVATION OFFICES OF  
MONTANA, NORTH DAKOTA, SOUTH DAKOTA AND WYOMING,  
AND  
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION  
REGARDING THE PROPOSED DEVELOPMENT, IMPLEMENTATION AND OPERATION  
OF THE POWDER RIVER TRAINING COMPLEX**

**SIGNATORY**

28 BW, UNITED STATES AIR FORCE

By:  Date: 8 July 2014

KEVIN B. KENNEDY, COL, USAF  
Commander, 28 Bomb Wing

*PA Regarding Development, Implementation, and Operation of the Powder River Training Complex: 07 July 2014 Version*

PROGRAMMATIC AGREEMENT  
AMONG  
28<sup>th</sup> BOMB WING, ELLSWORTH AIR FORCE BASE,  
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THE ADVISORY COUNCIL ON HISTORIC PRESERVATION  
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SIGNATORY

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By: John M. Fowler  
JOHN M. FOWLER

Date: 9/4/14



11/30

PROGRAMMATIC AGREEMENT  
AMONG  
28<sup>th</sup> BOMB WING, ELLSWORTH AIR FORCE BASE,  
THE STATE HISTORIC PRESERVATION OFFICES OF  
MONTANA, NORTH DAKOTA, SOUTH DAKOTA AND WYOMING,  
AND  
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION  
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OF THE POWDER RIVER TRAINING COMPLEX

SIGNATORY

MONTANA STATE HISTORIC PRESERVATION OFFICE

By: Mark Bauml  
MARK BAUMLER  
State Historic Preservation Officer

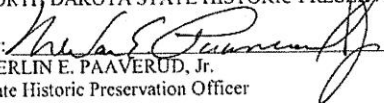
Date: 7/25/14

*PA Regarding Development, Implementation, and Operation of the Powder River Training Complex: 07 July 2014 Version*

PROGRAMMATIC AGREEMENT  
AMONG  
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AND  
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION  
REGARDING THE PROPOSED DEVELOPMENT, IMPLEMENTATION AND OPERATION  
OF THE POWDER RIVER TRAINING COMPLEX

SIGNATORY

NORTH DAKOTA STATE HISTORIC PRESERVATION OFFICE

By:  Date: 8-4-14  
MERLIN E. PAAVERUD, Jr.  
State Historic Preservation Officer

13/30

**PROGRAMMATIC AGREEMENT  
AMONG  
28<sup>th</sup> BOMB WING, ELLSWORTH AIR FORCE BASE,  
THE STATE HISTORIC PRESERVATION OFFICES OF  
MONTANA, NORTH DAKOTA, SOUTH DAKOTA AND WYOMING,  
AND  
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION  
REGARDING THE PROPOSED DEVELOPMENT, IMPLEMENTATION AND OPERATION  
OF THE POWDER RIVER TRAINING COMPLEX**

SIGNATORY

SOUTH DAKOTA STATE HISTORIC PRESERVATION OFFICE

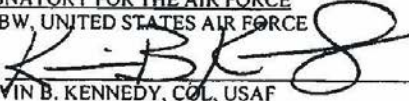
By: Jay D. Vogt Date: 07-11-2014  
JAY D. VOGT  
State Historic Preservation Officer

*PA Regarding Development, Implementation, and Operation of the Powder River Training Complex: 07 July 2014 Version*

**PROGRAMMATIC AGREEMENT  
AMONG  
28<sup>th</sup> BOMB WING, ELLSWORTH AIR FORCE BASE,  
THE STATE HISTORIC PRESERVATION OFFICES OF  
MONTANA, NORTH DAKOTA, SOUTH DAKOTA AND WYOMING,  
AND  
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION  
REGARDING THE PROPOSED DEVELOPMENT, IMPLEMENTATION AND  
OPERATION  
OF THE POWDER RIVER TRAINING COMPLEX**

- A. **Entirety of Agreement.** This PA, consisting of thirty (30) pages, represents the entire and integrated agreement between the parties and supersedes all prior negotiations, representations and agreements, whether written or oral, regarding compliance with Section 106 of the National Historic Preservation Act for those aspects of the Proposed Development, Implementation and Operation of the Powder River Training Complex throughout the visual APE that will or may have adverse effects on the settings of historic properties.
- B. **Prior Approval.** This PA shall not be binding upon any party unless this PA has been reduced to writing before performance begins as described under the terms of this PA, and unless the PA is approved as to form by the Attorney General or his representative.
- C. **Severability.** Should any portion of this PA be judicially determined to be illegal or unenforceable, the remainder of the PA shall continue in full force and effect, and any party may renegotiate the terms affected by the severance.
- D. **Sovereign Immunity.** The State of Wyoming and the WYSHPO do not waive their sovereign or governmental immunity by entering into this PA and each fully retains all immunities and defenses provided by law with respect to any action based on or occurring as a result of the PA.

SIGNATORY FOR THE AIR FORCE  
28 BW, UNITED STATES AIR FORCE

By:   
KEVIN B. KENNEDY, COL, USAF  
Commander, 28th Bomb Wing


Date: 31 July 2014

SIGNATORIES FOR THE STATE OF WYOMING  
WYOMING STATE HISTORIC PRESERVATION OFFICE

By:   
MARY HOPKINS  
State Historic Preservation Officer

Date: 8/20/14

WYOMING ATTORNEY GENERAL

By:  # 118477


Date: 8-19-14

15/30

**PROGRAMMATIC AGREEMENT  
 AMONG  
 28<sup>th</sup> BOMB WING, ELLSWORTH AIR FORCE BASE,  
 THE STATE HISTORIC PRESERVATION OFFICES OF  
 MONTANA, NORTH DAKOTA, SOUTH DAKOTA AND WYOMING,  
 AND  
 THE ADVISORY COUNCIL ON HISTORIC PRESERVATION  
 REGARDING THE PROPOSED DEVELOPMENT, IMPLEMENTATION AND OPERATION  
 OF THE POWDER RIVER TRAINING COMPLEX**

INVITED SIGNATORY

FEDERAL AVIATION ADMINISTRATION

By:  Date: 7-22-2014  
 KENT M. WHEELER  
 Manager  
 Operations Support Group  
 ATO Central Service Center, AJV-C2

*PA Regarding Development, Implementation, and Operation of the Powder River Training Complex: 07 July 2014 Version*

PROGRAMMATIC AGREEMENT  
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THE ADVISORY COUNCIL ON HISTORIC PRESERVATION  
REGARDING THE PROPOSED DEVELOPMENT, IMPLEMENTATION AND OPERATION  
OF THE POWDER RIVER TRAINING COMPLEX

INVITED SIGNATORY

NATIONAL PARK SERVICE

By: *Sue E. Masica*  
SUE E. MASICA  
Director, Intermountain Region

Date: 8/5/14

17/30

**PROGRAMMATIC AGREEMENT  
 AMONG  
 28<sup>th</sup> BOMB WING, ELLSWORTH AIR FORCE BASE,  
 THE STATE HISTORIC PRESERVATION OFFICES OF  
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 REGARDING THE PROPOSED DEVELOPMENT, IMPLEMENTATION AND OPERATION  
 OF THE POWDER RIVER TRAINING COMPLEX**

INVITED SIGNATORY

CHEYENNE RIVER SIOUX TRIBE

By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Name  
 Title

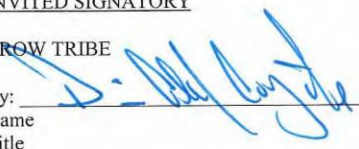
*PA Regarding Development, Implementation, and Operation of the Powder River Training Complex: 07 July 2014 Version*

PROGRAMMATIC AGREEMENT  
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THE STATE HISTORIC PRESERVATION OFFICES OF  
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OF THE POWDER RIVER TRAINING COMPLEX

INVITED SIGNATORY

CROW TRIBE

By: \_\_\_\_\_  
Name  
Title



Date: \_\_\_\_\_





19/30

**PROGRAMMATIC AGREEMENT  
 AMONG  
 28<sup>th</sup> BOMB WING, ELLSWORTH AIR FORCE BASE,  
 THE STATE HISTORIC PRESERVATION OFFICES OF  
 MONTANA, NORTH DAKOTA, SOUTH DAKOTA AND WYOMING,  
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 REGARDING THE PROPOSED DEVELOPMENT, IMPLEMENTATION AND OPERATION  
 OF THE POWDER RIVER TRAINING COMPLEX**

INVITED SIGNATORY

NORTHERN CHEYENNE TRIBE

By: \_\_\_\_\_ Date: \_\_\_\_\_  
 Name  
 Title

*PA Regarding Development, Implementation, and Operation of the Powder River Training Complex: 07 July 2014 Version*

**PROGRAMMATIC AGREEMENT  
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28<sup>th</sup> BOMB WING, ELLSWORTH AIR FORCE BASE,  
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OF THE POWDER RIVER TRAINING COMPLEX**

INVITED SIGNATORY

STANDING ROCK SIOUX TRIBE

By: \_\_\_\_\_ Date: \_\_\_\_\_  
Name  
Tribe

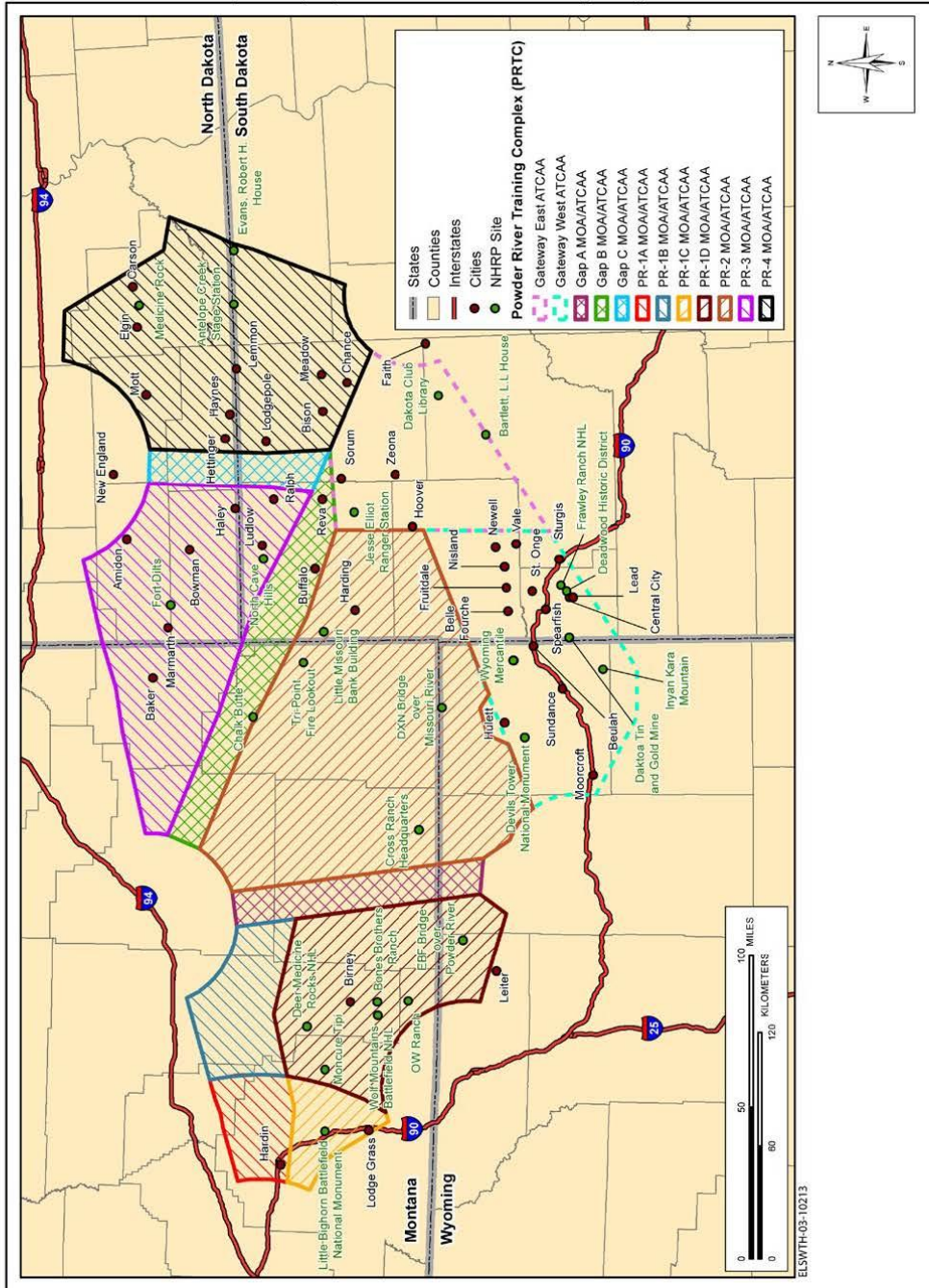
21/30

**LIST OF ATTACHMENTS**

1. Map of the proposed Powder River Training Complex (PRTC) and selected historic sites
2. Proposed PRTC MOA/ATCAA Complexes
3. Table describing National Register of Historic Places listed properties beneath the PRTC airspace (in multiple sub-tables)
4. Map of the Little Bighorn National Battlefield Monument Area per Stipulation I.A.1.

*PA Regarding Development, Implementation, and Operation of the Powder River Training Complex: 07 July 2014 Version*

Attachment 1: Map of the proposed Powder River Training Complex and selected historic sites



PA Regarding Development, Implementation, and Operation of the Powder River Training Complex: 07 July 2014 Version

Attachment 2. Proposed PRTC MOA/ATCAA Complexes	
MOA	Description
Powder River 1 MOA complex (PR-1)	Consists of PR-1A, PR-1B, PR-1C, and PR-1D MOAs, each of which would be stratified vertically into a Low MOA, a High MOA, and an ATCAA.*
Powder River 2 MOA complex (PR-2)	Consists of the PR-2 MOAs, which would be stratified vertically into a Low MOA, a High MOA, and an ATCAA*
Powder River 3 MOA complex (PR-3)	Consists of the PR-3 MOAs, which would be stratified vertically into a Low MOA, a High MOA, and an ATCAA*
Powder River 4 MOA	Consists of the PR-4 MOAs, which would be stratified vertically into a High MOA, and an ATCAA*
GAP A MOA	Separate PR-1 and PR-2, would consist of a Low MOA, a High MOA, and an ATCAA*
GAP B MOA	Separate PR-2 and PR-3, would consist of a Low MOA, a High MOA, and an ATCAA*
GAP C MOA	Separate PR-3 and PR-4, would consist of a Low MOA, a High MOA, and an ATCAA*
Gateway ATCAA	Modified and expanded to create the Gateway West and Gateway East ATCAAs*

\*Note: For the purposes of the definitions above: Low MOA = altitudes from 500 feet AGL up to, but not including 12,000 feet MSL High MOA = altitudes from 12,000 feet MSL up to, but not including 18,000 feet MSL ATCAA = altitudes from 18,000 feet MSL up to 26,000 feet MSL

PA Regarding Development, Implementation, and Operation of the Powder River Training Complex: 07 July 2014 Version

**Attachment 3: Historic Properties in the PRTC APE (in multiple sub-tables)**

<b>Table 3a. National Register Properties Under Proposed PRTC Airspace</b> An * indicates that the property is located within the ATCAAs with altitudes from 18,000 feet MSL to 60,000 feet		
Property Name	General Location (County/Town)	Airspace
<b>Wyoming</b>		
Arch Creek Petroglyphs*	Crook/Moorcroft	Gateway West ATCAA
DXN Bridge over Missouri River	Crook/Hulett	PR-2
EBF Bridge over Powder River	Sheridan/Leiter	PR-1
Entrance Road—Devils Tower National Monument*	Crook/Devils Tower	Gateway West ATCAA
Entrance Station—Devils Tower National Monument*	Crook/Devils Tower	Gateway West ATCAA
Inyan Kara Mountain*	Crook/Sundance	Gateway West ATCAA
McKean Archaeological Site*	Crook/Moorcroft	Gateway West ATCAA
Old Headquarters Area Historic District*	Crook/Devils Tower	Gateway West ATCAA
Ranch A	Crook/Beulah	Gateway West ATCAA
Sundance School*	Crook/Sundance	Gateway West ATCAA
Sundance State Bank*	Crook/Sundance	Gateway West ATCAA
Tower Ladder-Devils Tower National Monument	Crook/Devils Tower	Gateway West ATCAA
Vore Buffalo Jump*	Crook/Sundance	Gateway West ATCAA
Wyoming Mercantile	Crook/Aladdin	Gateway West ATCAA
<b>Montana</b>		
Baker Hotel	Fallon/Baker	PR-3
Baldwin House	Big Horn/Lodge Grass	PR-1
Bones Brother Ranch	Rosebud/Birney	PR-1
Boyum, John, House	Big Horn/Hardin	PR-1
Burke, Thomas H., House	Big Horn/ Hardin	PR-1
Camnocks's Hotel	Big Horn/Lodge Grass	PR-1
Chivers Memorial Church	Big Horn/Lodge Grass	PR-1
Commercial District	Big Horn/Hardin	PR-1
Cross Ranch Headquarters	Powder River/Broadus	PR-2
Deer Medicine Rocks National Historic Landmark	Rosebud	PR-1
Drew, J. W., Grain Elevator	Big Horn/Lodge Grass	PR-1
Ebeling, William, House	Big Horn/Hardin	PR-1
Eder, Charles S., House	Big Horn/Hardin	PR-1
Fallon County Jail	Fallon/Baker	PR-3
First Baptist Church	Big Horn/Hardin	PR-1
Haverfield Hospital	Big Horn/Hardin	PR-1
Kopriva, Francis, House	Big Horn/Hardin	PR-1
Little Bighorn Battlefield National Monument	Big Horn/Hardin	PR-1
Lodge Grass City Jail	Big Horn/Lodge Grass	PR-1
Lodge Grass Merchandise Company Store	Big Horn/Lodge Grass	PR-1
Moncure Tipi	Big Horn/Busby	PR-1
OW Ranch	Big Horn/Birney	PR-1
Pease's George, Second Store	Big Horn/Lodge Grass	PR-1
Ping, J. J., House	Big Horn/Hardin	PR-1
Reno Apartments	Big Horn/Hardin	PR-1
Residential District	Big Horn/Hardin	PR-1
Ryan's, John, House	Big Horn/ Lodge Grass	PR-1
Sharp's Jay, Store	Big Horn/Lodge Grass	PR-1
Simmonsens's House	Big Horn/Lodge Grass	PR-1
St. Joseph's Catholic Church	Big Horn/Hardin	PR-1
Stevens, Dominic House	Big Horn/Lodge Grass	PR-1
Sullivan Rooming House	Big Horn/Hardin	PR-1
Sullivan, James J., House	Big Horn/Hardin	PR-1
Trytten, J. M., House	Big Horn/Lodge Grass	PR-1
Tupper, J. S., House	Big Horn/Hardin	PR-1
Wolf Mountains Battlefield/Where Big Crow Walked Back and Forth NHL	Rosebud/Birney	PR-1

*PA Regarding Development, Implementation, and Operation of the Powder River Training Complex: 07 July 2014 Version*

<b>Table 3a. National Register Properties Under Proposed PRTC Airspace</b> An * indicates that the property is located within the ATCAAs with altitudes from 18,000 feet MSL to 60,000 feet		
Property Name	General Location (County/Town)	Airspace
<b>North Dakota</b>		
Adams County Courthouse	Adams/Hettinger	PR-4
Carson Roller Mill	Grant/Carson	PR-4
Cedar Creek Bridge	Adams/Haynes	PR-4
Fort Dilts	Bowman/Rhame	PR-3
Hettinger County Courthouse	Hettinger/Mott	PR-4
Hettinger U.S. Post Office –	Adams/Hettinger	PR-4
Hope Lutheran Church	Grant/Elgin	PR-4
H-T Ranch	Slope/Amidon	PR-3
Medicine Rock State Historic Site	Grant/Heil	PR-4
Mystic Theatre	Slope/Marmarth	PR-3
Neuburg Congregational Church	Hettinger/Mott	PR-4
Original Slope County Courthouse	Slope/Amidon	PR-3
Riverside	Hettinger/New England	PR-4
Schade, Emma Petznick and Otto, House	Bowman/Bowman	PR-3
Stern, John and Fredricka (Roth), Homestead	Hettinger/Mott	PR-4
<b>South Dakota</b>		
Ainsworth, Oliver N., House*	Lawrence/Spearfish	Gateway West ATCAA
Antelope Creek Stage Station	Corson/Morristown	PR-4
Archaeological Site No. 39HN1	Harding/Ludlow	PR-3
Archaeological Site No. 39HN5	Harding/Ludlow	PR-3
Archaeological Site No. 39HN17	Harding/Ludlow	PR-3
Archaeological Site No. 39HN18	Harding/Ludlow	PR-3
Archaeological Site No. 39HN21	Harding/Ludlow	PR-3
Archaeological Site No. 39HN22	Harding/Ludlow	PR-3
Archaeological Site No. 39HN26	Harding/Ludlow	PR-3
Archaeological Site No. 39HN30	Harding/Ludlow	PR-3
Archaeological Site No. 39HN50	Harding/Ludlow	PR-3
Archaeological Site No. 39HN53	Harding/Ludlow	PR-3
Archaeological Site No. 39HN54	Harding/Ludlow	PR-3
Archaeological Site No. 39MD81*	Meade/Sturgis	Gateway West ATCAA
Archaeological Site No. 39MD82*	Meade/Sturgis	Gateway West ATCAA
Archaeological Site No. 39HN121	Harding/Ludlow	PR-3
Archaeological Site No. 39HN150	Harding/Ludlow	PR-3
Archaeological Site No. 39HN155	Harding/Ludlow	PR-3
Archaeological Site No. 39HN159	Harding/Ludlow	PR-3
Archaeological Site No. 39HN160	Harding/Ludlow	PR-3
Archaeological Site No. 39HN162	Harding/Ludlow	PR-3
Archaeological Site No. 39HN165	Harding/Ludlow	PR-3
Archaeological Site No. 39HN167	Harding/Ludlow	PR-3
Archaeological Site No. 39HN168	Harding/Ludlow	PR-3
Archaeological Site No. 39HN171	Harding/Ludlow	PR-3
Archaeological Site No. 39HN174	Harding/Ludlow	PR-3
Archaeological Site No. 39HN177	Harding/Ludlow	PR-3
Archaeological Site No. 39HN198	Harding/Ludlow	PR-3
Archaeological Site No. 39HN199	Harding/Ludlow	PR-3
Archaeological Site No. 39HN205	Harding/Ludlow	PR-3
Archaeological Site No. 39HN207	Harding/Ludlow	PR-3
Archaeological Site No. 39HN208	Harding/Ludlow	PR-3
Archaeological Site No. 39HN209	Harding/Ludlow	PR-3
Archaeological Site No. 39HN210	Harding/Ludlow	PR-3
Archaeological Site No. 39HN213	Harding/Ludlow	PR-3
Archaeological Site No. 39HN217	Harding/Ludlow	PR-3
Archaeological Site No. 39HN218	Harding/Ludlow	PR-3
Archaeological Site No. 39HN219	Harding/Ludlow	PR-3
Archaeological Site No. 39HN227	Harding/Ludlow	PR-3

PA Regarding Development, Implementation, and Operation of the Powder River Training Complex: 07 July 2014 Version

<b>Table 3a. National Register Properties Under Proposed PRTC Airspace</b>		
<b>An * indicates that the property is located within the ATCAAs with altitudes from 18,000 feet MSL to 60,000 feet</b>		
<b>Property Name</b>	<b>General Location (County/Town)</b>	<b>Airspace</b>
Archaeological Site No. 39HN228	Harding/Ludlow	PR-3
Archaeological Site No. 39HN232	Harding/Ludlow	PR-3
Archaeological Site No. 39HN234	Harding/Ludlow	PR-3
Archaeological Site No. 39HN484	Harding/Ludlow	PR-3
Archaeological Site No. 39HN485	Harding/Ludlow	PR-3
Archaeological Site No. 39HN486	Harding/Ludlow	PR-3
Archaeological Site No. 39HN487	Harding/Ludlow	PR-3
Ashcroft, Thomas, Ranch	Harding/Bufalo	PR-2
Baker Bungalow*	Lawrence/Spearfish	Gateway West ATCAA
Bartlett, L. L., House*	Meade/Stoneville	Gateway East ATCAA
Bear Butte*	Meade/Sturgis	Gateway West ATCAA
Beckon, Donald, Ranch	Perkins/Zeona	Gateway East ATCAA
Belle Fourche Commercial District*	Butte/Belle Fourche	Gateway West ATCAA
Belle Fourche Dam*	Butte/Belle Fourche	Gateway West ATCAA
Belle Fourche Experiment Farm*	Butte/Newell	Gateway West ATCAA
Bethany United Methodist Church	Perkins/Lodgepole	PR-4
Blake Ranch House	Harding/Gustave	PR-2
Bolles, Charles, House*	Butte/Belle Fourche	Gateway West ATCAA
Butte County Courthouse and Historic Jail Building*	Butte/Belle Fourche	Gateway West ATCAA
Butte-Lawrence County Fairgrounds*	Butte/Nisland	Gateway West ATCAA
Carr No. 60 School	Perkins/Lodgepole	PR-4
Carr, Anna, Homestead	Perkins/Bison	PR-4
Cook, Fayette, House*	Lawrence/Spearfish	Gateway West ATCAA
Corbin, James A. House*	Lawrence/Spearfish	Gateway West ATCAA
Court, Henry, House*	Lawrence/Spearfish	Gateway West ATCAA
Dakota Club Library*	Dewey/Eagle Butte	Gateway East ATCAA
Dakota Tin and Gold Mine*	Lawrence/Spearfish	Gateway West ATCAA
Deadwood Historic District*	Lawrence/Deadwood	Gateway West ATCAA
Dickey, Eleazer C. and Gwinnie, House*	Lawrence/Spearfish	Gateway West ATCAA
Dickey, Walter, House*	Lawrence/Spearfish	Gateway West ATCAA
Ditchrider House*	Butte/Nisland	Gateway West ATCAA
Driskill, William D., House*	Lawrence/Spearfish	Gateway West ATCAA
Duck Creek Lutheran Church and Cemetery	Perkins/Lodgepole	PR-4
Emmanuel Lutheran Church and Cemetery	Harding/Ralph	PR-3
Episcopal Church of All Angels*	Lawrence/Spearfish	Gateway West ATCAA
Erskine School*	Meade/Sturgis	Gateway West ATCAA
Evans, Robert H., House*	Corson/	PR-4
Fort Manuel	Corson/ McIntosh	PR-4
Fort Meade District*	Meade/Sturgis	Gateway West ATCAA
Foster Ranch House	Perkins/Chance	PR-4
Fowler Hotel	Harding/Bufalo	PR-2
Frawley Historic Ranch*	Lawrence/Spearfish	Gateway West ATCAA
Frozenman Stage Station	Perkins/Bison	PR-4
Fruitdale School*	Butte/Fruitdale	Gateway West ATCAA
Fruitdale Store*	Butte/Fruitdale	Gateway West ATCAA
Galena School*	Lawrence/Lead	Gateway West ATCAA
Gartner, Carl Frederick, Homestead*	Butte/Newell	Gateway West ATCAA
Gay, Thomas Haskins, House*	Butte/Belle Fourche	Gateway West ATCAA
Giannonatti Ranch	Harding/Ludlow	PR-3
Golden Rule Department Store	Perkins/Lemmon	PR-4
Golden Valley Norwegian Church	Harding/Ralph	PR-3
Graf, Stephen and Maria, House*	Meade/Sturgis	Gateway West ATCAA
Halloran-Matthews-Brady House*	Lawrence/Spearfish	Gateway West ATCAA
Harriman, L. F., House	Perkins/Lemmon	PR-4
Harris, Fred S., House*	Butte/Belle Fourche	Gateway West ATCAA
Harvey, Jerome and Jonetta Homestead Cabin*	Lawrence/Lead	Gateway West ATCAA

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<b>Table 3a. National Register Properties Under Proposed PRTC Airspace</b>		
<b>An * indicates that the property is located within the ATCAAs with altitudes from 18,000 feet MSL to 60,000 feet</b>		
<b>Property Name</b>	<b>General Location (County/Town)</b>	<b>Airspace</b>
Hay Creek Bridge*	Butte/Belle Fourche	Gateway West ATCAA
Hewes, Arthur, House*	Lawrence/Spearfish	Gateway West ATCAA
Homestake Workers House*	Lawrence/Spearfish	Gateway West ATCAA
Hoover, Alexander House*	Butte/Hoover	Gateway East ATCAA
Hoover Store*	Butte/Hoover	Gateway East ATCAA
Immanuel Lutheran Church*	Perkins/Zeona	Gateway East ATCAA
Jesse Elliott Ranger Station	Harding County	Gateway East ATCAA
Johnson, Axel, Ranch	Harding/Reva	Gap B MOA
Johnson, William, House*	Butte/Fruitdale	Gateway West ATCAA
Keets, Henry, House*	Lawrence/Spearfish	Gateway West ATCAA
Kenaston, William G., House*	Butte/Newell	Gateway West ATCAA
Knight, Webb, S., House*	Lawrence/Spearfish	Gateway West ATCAA
Kroll Meat Market and Slaughterhouse*	Lawrence/Spearfish	Gateway West ATCAA
Langdon School*	Butte/Nisland	Gateway West ATCAA
Lead Historic District	Lawrence/Lead	Gateway West ATCAA
Lemmon Petrified Park	Perkins/Lemmon	PR-4
Lemmon, G. E., House	Perkins/Lemmon	PR-4
Lightning Spring	Harding/Ludlow	PR-3
Lincoln School*	Butte/Belle Fourche	Gateway West ATCAA
Little Missouri Bank Building	Harding/Camp Crook	PR-2
Livingston, John and Daisy May, Ranch	Perkins/Sorum	Gateway East ATCAA
Lown, William Ernest, House*	Lawrence/Spearfish	Gateway West ATCAA
McLaughlin Ranch Barn*	Lawrence/Spearfish	Gateway West ATCAA
Minnesela Bridge*	Butte/Belle Fourche	Gateway West ATCAA
Mount Theodore Roosevelt Monument*	Lawrence/Deadwood	Gateway West ATCAA
Newell Depot Bridge*	Butte/Newell	Gateway West ATCAA
Newell High School*	Butte/Newell	Gateway West ATCAA
Nisland Bridge*	Butte/Nisland	Gateway West ATCAA
Old Finnish Lutheran Church*	Lawrence/Lead	Gateway West ATCAA
Old Redwater Bridge*	Lawrence/Spearfish	Gateway West ATCAA
Old Spearfish Post Office*	Lawrence/Spearfish	Gateway West ATCAA
Olson Bridge*	Butte/Belle Fourche	Gateway West ATCAA
Peace Valley Evangelical Church and Cemetery	Harding/Ralph	PR-3
Quillian, Thomas, House*	Lawrence/St. Onge	Gateway West ATCAA
Raskob, Jacob and Elizabeth Ranch*	Meade/Sturgis	Gateway West ATCAA
Richards Cabins*	Perkins/Faith	Gateway East ATCAA
Riley, Almira, House*	Lawrence/Spearfish	Gateway West ATCAA
Rockford No. 40 School	Perkins/Bison	PR-4
Scotney, John Aaron, House*	Butte/Belle Fourche	Gateway West ATCAA
Shevling, L. W., Ranch	Harding/Harding	PR-2
Sittner Farm	Perkins/Meadow	PR-4
Small, Charles and Eleanor House*	Butte/Belle Fourche	Gateway West ATCAA
Snoma Finnish Cemetery*	Butte/Fruitdale	Gateway West ATCAA
Soper-Behymer Ranch*	Butte/Belle Fourche	Gateway West ATCAA
Sorum Cooperative Store	Perkins/Sorum	Gateway East ATCAA
Sorum Hotel	Perkins/Sorum	Gateway East ATCAA
South Dakota Department of Transportation Bridge No. 10-109-360*	Butte/Belle Fourche	Gateway West ATCAA
South Dakota Department of Transportation Bridge No. 10-270-338*	Butte/Newell	Gateway West ATCAA
Spearfish City Hall*	Lawrence/Spearfish	Gateway West ATCAA
Spearfish Filling Station*	Lawrence/Spearfish	Gateway West ATCAA
Spearfish Fisheries Station*	Lawrence/Spearfish	Gateway West ATCAA
Spearfish Historic Commercial District*	Lawrence/Spearfish	Gateway West ATCAA
Spring Creek School*	Perkins/Zeona	Gateway East ATCAA
Stokes, Oliver O., House	Harding/Harding	PR-2
Stonelake Bridge*	Butte/Newell	Gateway West ATCAA
Stomprude Trail Ruts	Perkins/Bison	PR-4

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Table 3a. National Register Properties Under Proposed PRTC Airspace		
An * indicates that the property is located within the ATCAAs with altitudes from 18,000 feet MSL to 60,000 feet		
Property Name	General Location (County/Town)	Airspace
Sturgis Commercial Block*	Meade/Sturgis	Gateway West ATCAA
Sturgis High School*	Meade/Sturgis	Gateway West ATCAA
St. Onge Schoolhouse*	Lawrence/St. Onge	Gateway West ATCAA
St. Onge State Bank*	Lawrence/St. Onge	Gateway West ATCAA
St. Lawrence O'Toole Catholic Church*	Lawrence/Central City	Gateway West ATCAA
Tallent, Annie, House*	Meade/Sturgis	Gateway West ATCAA
The Mail Building*	Lawrence/Spearfish	Gateway West ATCAA
Toomey House*	Lawrence/Spearfish	Gateway West ATCAA
Tri-State Bakery*	Butte/Belle Fourche	Gateway West ATCAA
Uhlig, Otto L., House*	Lawrence/Spearfish	Gateway West ATCAA
Vale Bridge*	Butte/Vale	Gateway West ATCAA
Vale Cut Off Belle Fourche River Bridge	Butte/Belle Fourche	Gateway West ATCAA
Vale School*	Butte/Vale	Gateway West ATCAA
Veal, Thomas J., Ranch	Perkins/Chance	PR-4
Vessey School	Harding/Haley	PR-3
Viken, Nicholas Augustus Homestead	Butte/Newell	Gateway West ATCAA
Walsh Barn*	Lawrence/Spearfish	Gateway West ATCAA
Walton Ranch*	Lawrence/Spearfish	Gateway West ATCAA
Wenke, John G., House*	Meade/Sturgis	Gateway West ATCAA
Whitewood Historic District*	Lawrence/Whitewood	Gateway West ATCAA
Whitney, Mary, House*	Lawrence/Spearfish	Gateway West ATCAA
Wide Awake Grocery Building*	Butte/Belle Fourche	Gateway West ATCAA
Wolzmuth, John, House*	Lawrence/Spearfish	Gateway West ATCAA
Woodmen Hall*	Lawrence/St. Onge	Gateway West ATCAA

Table 3b. National Monuments Under Proposed PRTC Airspace		
Name	General Location	Airspace
<b>Wyoming</b>		
Devils Tower	Devils Tower	Gateway West ATCAA
<b>Montana</b>		
Little Bighorn Battlefield	Garryowen	PR-1

Table 3c. National Historic Landmarks Under Proposed PRTC Airspace		
Landmark Name	General Location	Airspace
<b>Montana</b>		
Deer Medicine Rocks	Rosebud County	PR-1
Wolf Mountains Battlefield/Where Big Crow Walked Back and Forth	Birney, Rosebud County	PR-1
<b>South Dakota</b>		
Bear Butte	Sturgis	Gateway West ATCAA
Deadwood Historic District	Deadwood	Gateway West ATCAA
Frawley Ranch	Whitewood	Gateway West ATCAA

Table 3d. Historic Ranches Under Proposed PRTC Airspace			
Name	General Location	Status	Airspace
<b>Wyoming</b>			
Ranch A	Beulah	National Register Property	Gateway West
<b>Montana</b>			
Bones Brothers Ranch	Rosebud/Birney	National Register Property	PR-1

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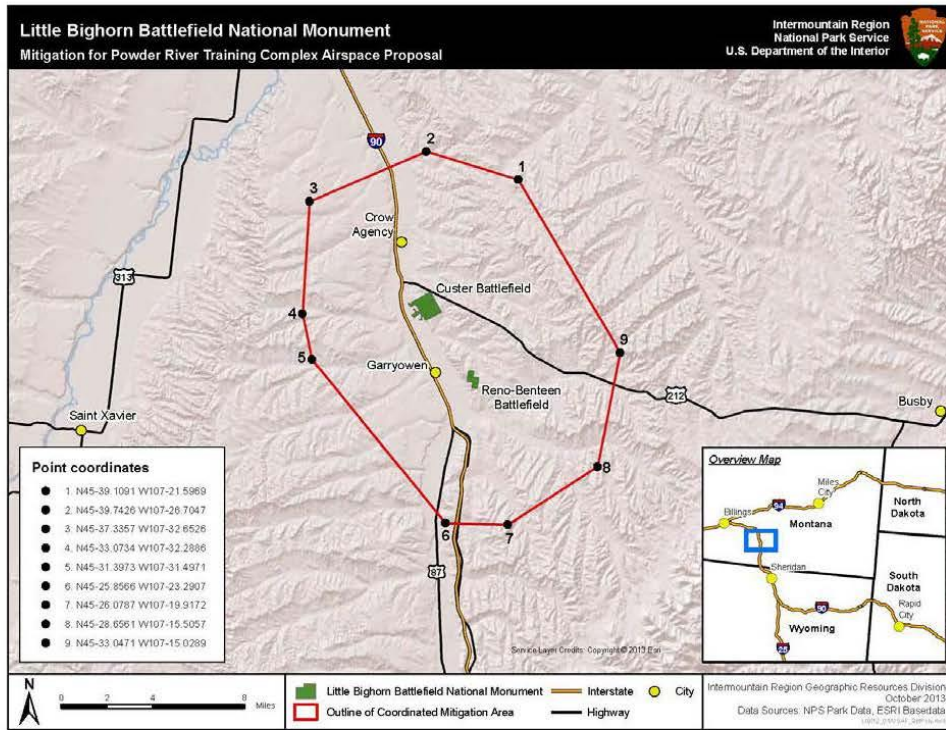
<b>Table 3d. Historic Ranches Under Proposed PRTC Airspace</b>			
<b>Name</b>	<b>General Location</b>	<b>Status</b>	<b>Airspace</b>
Cross Ranch Headquarters	Powder River/Broadus	National Register Property	PR-2
Drew, J. W., Grain Elevator	Big Horn/Lodge Grass	National Register Property	PR-1
Lee Homestead	Big Horn/Decker	National Register Property	PR-1
OW Ranch	Big Horn/Birney	National Register Property	PR-1
<b>North Dakota</b>			
H-T Ranch	Slope/Amidon	National Register Property	PR-3
<b>South Dakota</b>			
Ashcroft, Thomas, Ranch	Harding/Buffalo	National Register Property	Gap B MOA
Beckon, Donald, Ranch	Perkins/Zeona	National Register Property	Gateway East
Blake Ranch House	Harding/Gustave	National Register Property	PR-2
Carr, Anna, Homestead	Perkins/Bison	National Register Property	PR-4
Foster Ranch House	Perkins/Chance	National Register Property	PR-4
Frawley Ranch	Lawrence	National Historic Landmark	Gateway West
Gartner, Carl Frederick, Homestead	Butte/Newell	National Register Property	Gateway West ATCAA
Giannonatti Ranch	Harding/Ludlow	National Register Property	PR-3
Johnson, Axel, Ranch	Harding/Reva	National Register Property	Gap B MOA
Livingston, John and Daisy May, Ranch	Harding/Sorum	National Register Property	Gateway East ATCAA
McLaughlin Ranch Barn	Lawrence/Spearfish	National Register Property	Gateway West
Raskob, Jacob and Elizabeth Ranch	Meade/Sturgis	National Register Property	Gateway West ATCAA
Shevling, L.W., Ranch	Harding/Harding	National Register Property	PR-2
Soper-Behymer Ranch	Butte/Belle Fourche	National Register Property	Gateway West
Veal, Thomas J., Ranch	Perkins/Chance	National Register Property	PR-4
Viken, Nicholas Augustus Homestead	Butte/Newell	National Register Property	Gateway West ATCAA
Walsh Barn	Lawrence/Spearfish	National Register Property	Gateway West
Walton Ranch	Lawrence/Spearfish	National Register Property	Gateway West
William Holst Farmstead	Meade/Vale	South Dakota State Register Property	Gateway West ATCAA

<b>Table 3e. Traditional Cultural Properties Under Proposed PRTC Airspace</b>		
<b>Area Name</b>	<b>General Location</b>	<b>Airspace</b>
<b>Wyoming</b>		
Devils Tower National Monument	Devils Tower	Gateway West ATCAA
Inyan Kara Mountain	South of Sundance	Gateway West ATCAA
Unnamed 1	North of Gillette	Gateway West ATCAA
Unnamed 2	Northwest of Hulett	PR-2
<b>Montana</b>		
Chalk Buttes	Ekalaka	Gap B MOA
Wolf Mountains Battlefield/Where Big Crow Walked Back and Forth NHL	Tongue River	PR-1
<b>South Dakota</b>		
Bear Butte NHL	Sturgis	Gateway West ATCAA

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Table 3f. Nominated Cultural Landscape Under Proposed PRTC Airspace in Montana		
Area Name	General Location	Airspace
Tongue River Valley	Ashland	PR-1

Attachment 4: Map of the Little Bighorn Battlefield National Monument Area per Stipulation I.A.1.



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