Final
Environmental Assessment
Airfield BASH Mitigation
Grand Forks Air Force Base, North Dakota

July 2024

Prepared for:
United States Air Force
319th Reconnaissance Wing

PRIVACY ADVISORY

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

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

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 Personal home addresses and phone numbers will not be published in the EA.

COMPLIANCE

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COVER SHEET
Final Environmental Assessment for Airfield BASH Mitigation
Grand Forks Air Force Base, North Dakota

a. *Responsible Agency:* United States Air Force

b. *Location:* Grand Forks Air Force Base, North Dakota

c. *Designation:* Final Environmental Assessment

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Abstract:

This Environmental Assessment (EA) has been prepared pursuant to provisions of the National Environmental Policy Act, Title 42 *United States Code*, §§ 4321 et seq., implemented by Council on Environmental Quality Regulations at Title 40, *Code of Federal Regulations* (CFR) Parts 1500–1508, and 32 CFR Part 989, *Environmental Impact Analysis Process (EIAP)*. Potentially affected environmental resources were identified in coordination with local, state, and federal agencies. Specific environmental resources with the potential for environmental consequences include noise, safety, air quality, biological resources, water resources, geology and soils, cultural resources, hazardous material and waste, and infrastructure, including transportation and utilities.

The purpose of the Proposed Action is to improve ground maintenance accessibility and operations to preserve war-fighting capabilities and support mission requirements. Vegetative cover within the project area must be maintained at a height between 7 and 14 inches and be converted to locally adapted vegetation species deemed unattractive to birds and other wildlife. The Proposed Action also includes replacement of the Installation's west perimeter fence.

The analysis of the affected environment and environmental consequences of implementing the Proposed Action concluded that by implementing standing environmental protection measures and best management practices, there would be no significant adverse impacts from the actions at Grand Forks Air Force Base (AFB) on the environmental resources. Grand Forks AFB is an active installation with equipment operations, demolition, and new construction actions currently underway as well as future development currently in the planning phase. Impacts associated with reconstructing the ground topography and the natural and man-made water features would be minor; therefore, significant cumulative impacts are not anticipated with implementation of the Proposed Action when considered in conjunction with past, present, and reasonably foreseeable environmental trends or future actions at Grand Forks AFB.

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LIST OF ACRONYMS AND ABBREVIATIONS

319 RW	319th Reconnaissance Wing
ACAM	Air Conformity Applicability Model
AFB	Air Force Base
AFCEC	Air Force Civil Engineer Center
AFFF	aqueous film forming foam
Air Force	United States Air Force
AFPD	Air Force Policy Directive
AMSL	above mean sea level
APZ	accident potential zone
AQCRs	Air Quality Control Regions
AST	aboveground storage tank
BASH	Bird/wildlife Aircraft Strike Hazard
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practice
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CERCLA	*Comprehensive Environmental Response, Compensation*
CES	Civil Engineer Squadron
CFR	Code of Federal Regulations
CO	Carbon monoxide
CO_2e	Carbon dioxide equivalent
CWA	Clean Water Act
CZ	clear zone
DAFI	Department of the Air Force Instruction
dB	decibel
dBA	A-weighted decibel
DNL	Day-Night Average Sound Level
DoD	Department of Defense
DoDI	Department of Defense Instruction
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act of 2007
EO	Executive Order
ERP	Environmental Restoration Program
ESA	Endangered Species Act
ESQD	explosives safety quantity-distance
°F	degree Fahrenheit
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FLE	Flight Line East
FLN	Flight Line North
FLS	Flight Line South
FLW	Flight Line West
FPPA	Farmland Protection Policy Act
FFRMP	Federal Flood Risk Management Standard
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
ft^2	square feet/foot
GHG	greenhouse gas
GWP	global warming potential
HAZMAT	hazardous materials
$\mu g/m^3$	micrograms per cubic meter
MBTA	Migratory Bird Treaty Act

NAAQS	National Ambient Air Quality Standards
NDDEQ	North Dakota Department of Environmental Quality
NDDH	North Dakota Department of Health
NDGFD	North Dakota Game and Fish Department
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSR	New Source Review
NWR	National Wildlife Refuge
OSHA	Occupational Safety and Health Administration
PCBs	polychlorinated biphenyls
PEM	palustrine emergent
PFAS	per- and polyfluorinated substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonic acid
PM_{10}	particulate matter equal to or less than 10 microns in diameter
$PM_{2.5}$	particulate matter equal to or less than 2.5 microns in diameter
ppm	part per million
PSD	Prevention of Significant Deterioration
PSS	palustrine scrub-shrub
RCRA	Resource Conservation and Recovery Act
ROAA	Record of Air Analysis
ROI	Region of influence
SAP	satellite accumulation point
SARA	Superfund Amendments and Reauthorization Act
SCP	species of conservation priority
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SPCC	spill prevention control and countermeasures
SO_2	sulfur dioxide
SWPPP	stormwater pollution prevention plan
TCP	Traditional Cultural Property
TSCA	Toxic Substances Control Act
UFC	United Facilities Criteria
US	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
VOC	volatile organic compound
WOTUS	Waters of the US

CHAPTER 1 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

The 319th Reconnaissance Wing (319 RW) at Grand Forks Air Force Base (AFB), North Dakota, is proposing to reconstruct the ground topography and the natural and man-made water features within the Aircraft Movement Area plus 500 feet and all areas inside the AFB airfield security fence (hereinafter, "project area"). The United States (US) Air Force (Air Force) prepared this Environmental Assessment (EA) to evaluate the potential environmental impacts of the proposed changes to the project area in compliance with the *National Environmental Policy Act of 1969* (Title 42 of the United States Code [USC] § 4321 et seq.) (NEPA); the Council on Environmental Quality (CEQ) regulations that implement NEPA (Title 40 *Code of Federal Regulations* [CFR] Parts 1500–1508);[1] and Air Force's Environmental Impact Analysis Process (EIAP) regulations at 32 CFR Part 989, *Environmental Impact Analysis Process (EIAP)*.

The scope of the Proposed Action includes construction activities across the project area, to include large-scale modification of landscape topography and hydrologic features, wetlands, structures, and infrastructure to provide adequate access for successful grounds maintenance and operational control functions. Specifically, the Air Force is proposing to resolve standing water and accumulation issues for the project area by improving and tiling problematic drainage areas as well as filling and leveling wetland areas. In addition, the Proposed Action would reconstruct the project area landscape (1,291 acres) by conducting field regrading and grubbing, replacing the west perimeter fence, and re-seeding with appropriate plant species adapted to local ecotype and unattractive to wildlife that will thrive under required control-of-vegetation height management between 7 and 14 inches, in accordance with Department of the Air Force Instruction (DAFI) 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program* (2023)

The 319 RW is made up of the 319th Operations Group, 319th Mission Support Group, 319th Medical Group, 14 squadrons, and 3 detachments. The Grand Forks AFB vision is to generate world-class support for the Global Hawk high-altitude intelligence, surveillance, and reconnaissance mission and seamlessly operate and sustain the High Frequency Global Communication System. The Grand Forks AFB mission is to provide decisional advantage to the Nation's warfighters and leaders through support of the Global Hawk high-altitude intelligence, surveillance and reconnaissance mission; ensure strategic command and control through operation of the High Frequency Global Communication System; afford Combatant Commanders with mission-ready Airmen anytime and anywhere; and provide Airmen and families of the Grand Forks AFB team—including geographically separated units—with responsive, tailored, and mission-focused support. The 319 RW also provides facilities and equipment support to the US Department of Homeland Security, Customs and Border Protection, and the Space Development Agency. The 319 RW is one of only two locations worldwide operating the High Frequency Global Communications System, providing operational support of senior leadership communications for all Department of Defense (DoD) agencies, including for the President of the United States.

Grand Forks AFB is in Grand Forks County, North Dakota, near the city of Grand Forks and the North Dakota-Minnesota state boundary (**Figure 1-1**). Grand Forks AFB encompasses 5,745 acres in an otherwise rural area. The southern edge of Grand Forks AFB is bounded by US Highway 2, which also separates the Base from the city of Emerado, a small community of an estimated 443 people (US Census Bureau, 2020).

[1] This EA was prepared in accordance with the 14 September 2020 version of CEQ NEPA regulations (see Volume 85 of the *Federal Register*, page 43304; 16 July 2020), as modified by the CEQ NEPA Implementing Regulations Revisions Final Rule that became effective 20 May 2022.

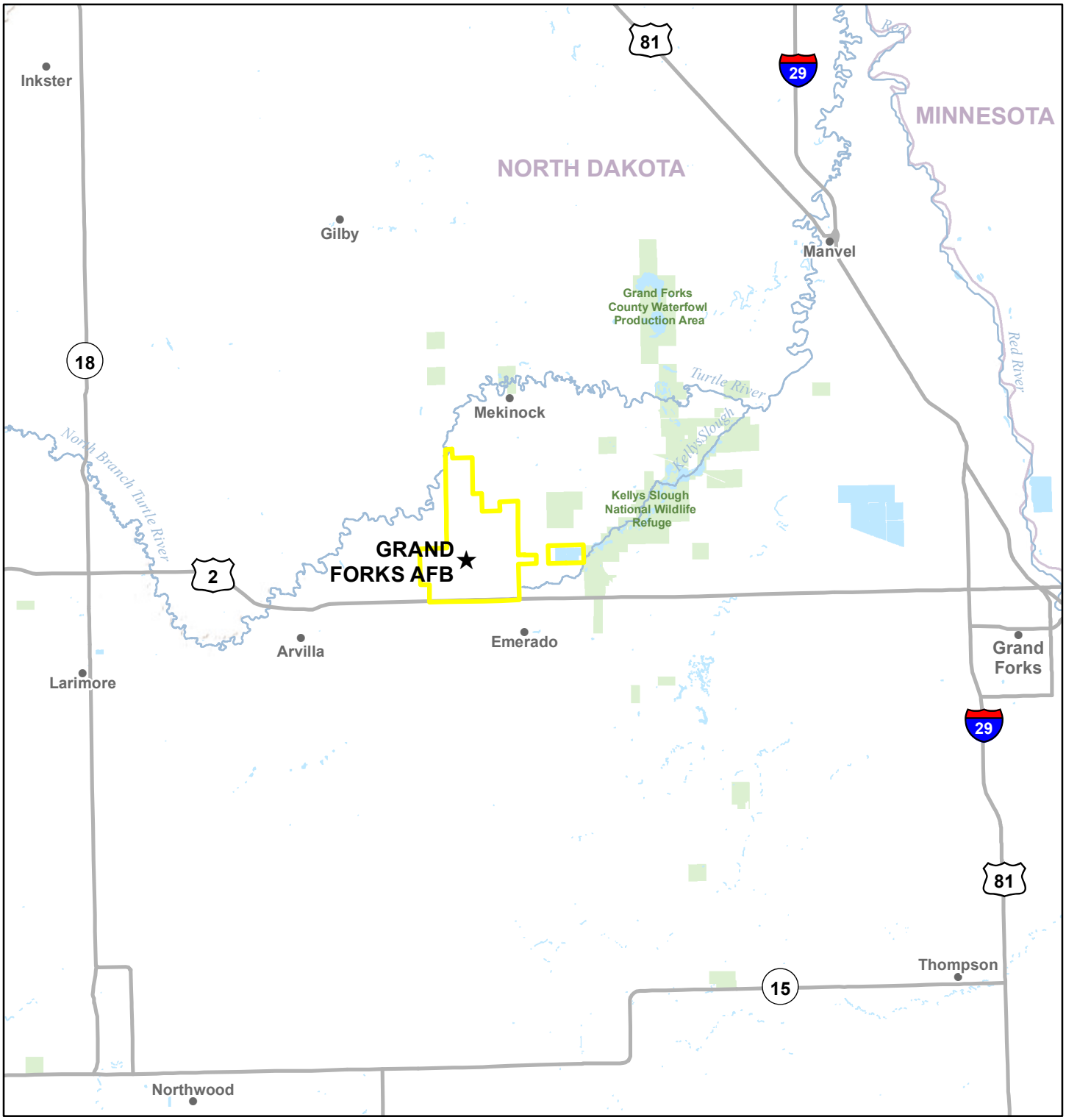


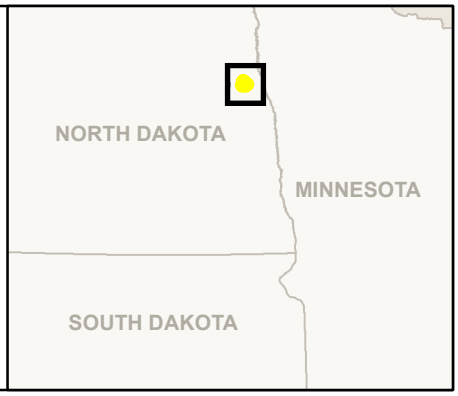
FIGURE 1-1
Regional Location

Installation Boundary

N

0 4 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N



1.2 PURPOSE OF THE ACTION

The purpose of the Proposed Action is to improve ground maintenance accessibility and operations to preserve war-fighting capabilities and support mission requirements. Vegetative cover within the project area must be maintained at a height between 7 and 14 inches and be converted to locally adapted vegetation species deemed unattractive to birds and other wildlife. The Proposed Action also includes replacement of the Installation's west perimeter fence.

1.3 NEED FOR THE ACTION

Grand Forks AFB needs to remove standing water, improve drainage, create unattractive habitat for wildlife, replace the western perimeter fence, control vegetation heights to bring the project area into compliance with DAFI 91-202, *The US Air Force Mishap Prevention Program* (2023), and DAFI 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program*. Grand Forks AFB needs to reduce standing water and improve drainage in order to access and maintain airfield grounds, which is made difficult by rough terrain and wet saline soils.

1.4 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

NEPA, which is implemented through the CEQ regulations, requires federal agencies to consider alternatives to the Proposed Action and to analyze potential impacts of alternative actions. Potential impacts of the Proposed Action and Alternatives described in this EA will be assessed in accordance with the CEQ regulations, which require that federal agencies analyze the potentially affected environment and degree of the effects of the action.

1.4.1 Intergovernmental Coordination, Public and Agency Participation

The EIAP, in compliance with NEPA guidance, includes public and agency review of information pertinent to a proposed action and alternatives. The Air Force's compliance with the requirement for intergovernmental coordination and agency participation begins with the scoping[2] process (40 CFR § 1501.9). Accordingly, and per Executive Order (EO) 12372, *Intergovernmental Review of Federal Programs*, the Air Force notified federal, state, and local agencies and tribal governments with jurisdiction that could potentially be affected by the Proposed Action and Alternatives via written correspondence throughout development of this EA. A mailing list of the recipients of this correspondence as well as a sample of the outgoing letters and all responses are included in **Appendix A**.

1.4.2 Government-to-Government Consultation

The *National Historic Preservation Act*, as amended (54 USC § 300101, et seq.) (NHPA) and its implementing regulations (36 CFR Part 800) direct federal agencies to consult with federally recognized Indian tribes when a proposed action or alternative may have an effect on tribal lands or on properties of religious and cultural significance to a tribe. Consistent with the NHPA, DoD Instruction (DoDI) 4710.02, *DoD Interactions with Federally Recognized Tribes*, and DAFI 90-2002, *Interactions with Federally Recognized Tribes*, the Air Force invited federally recognized tribes that are historically affiliated with lands in the vicinity of the Proposed Action and Alternatives to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal consultation process is distinct from NEPA consultation and requires separate notification of all relevant tribes. The timelines for tribal consultation are also distinct from those of other consultations. The Grand Forks AFB point of contact for Indian tribes is the 319 RW Vice Commander. The point of contact for the Tribal Historic Preservation Officer is the Installation Tribal Liaison Officer. A mailing list of the tribal government recipients of this invitation as well as a sample of the outgoing correspondence and all responses are included in **Appendix A**.

[2] Scoping is a process for determining the extent of issues to be addressed and analyzed in a NEPA document.

1.4.3 Agency Consultations and Coordination

Implementation of the Proposed Action involves coordination with several organizations and agencies. Compliance with Section 7 of the *Endangered Species Act of 1973*, as amended (16 USC § 1531 et seq.) (ESA), and implementing regulations (50 CFR Part 402) requires federal agencies to consider the potential impacts of their proposed actions on ESA-listed threatened and endangered species or habitat considered essential to their recovery, otherwise defined and designated as "critical habitat" under the ESA.

Consultations initiated under ESA Section 7 must be completed prior to the issuance of a NEPA decision document. Federal agencies must consult with the US Fish and Wildlife Service (USFWS) or National Oceanic and Atmospheric Administration, as applicable, for actions that may affect federally listed threatened and endangered species or their critical habitat. On 14 June 2023, the Air Force initiated Section 7 consultation under the ESA for the Proposed Action using the USFWS's Information for Planning and Consultation (IPaC) tool. Basic information concerning the location and nature of the projects included in the Proposed Action was input into IPaC to obtain an official species list from the USFWS. The list identifies threatened and endangered species and other protected species (e.g., migratory birds) with potential to be affected by the Proposed Action. This information is included in **Appendix A** and incorporated into this EA where applicable. The DAF did not receive a response from the USFWS regarding Section 7 consultation.

Other federal agencies the Air Force might coordinate with include the US Environmental Protection Agency (USEPA), Bureau of Land Management, National Park Service, US Forest Service, and Bureau of Indian Affairs.

Compliance with Section 106 of the NHPA and implementing regulations (36 CFR Part 800) was accomplished through the State Historic Preservation Office (SHPO). In a letter dated 15 December 2023 (**Appendix A**), the State Historical Society of North Dakota concurred with Grand Forks AFB's determination of "No Historic Properties Affected."

Similarly, the Air Force coordinated with the North Dakota Department of Environmental Quality (NDDEQ) for potential impacts to air and water quality, and the North Dakota Game and Fish Department (NDGFD) for concerns related to habitat and species of concern. A sample of agency correspondence and all responses are included in **Appendix A.**

1.5 Public and Agency Review

The Air Force invited the public, other interested stakeholders, and tribal governments to review and comment on the Draft EA via publishing a notice of availability of the Draft EA and Draft Finding of No Significant Impact (FONSI) in the *Grand Forks Herald* and the *Fargo Forum* on **20 and 23 March 2024** to commence a 30-day public comment period (**Appendix B**).

The public comment period of the Draft EA and FONSI concluded on **26 April 2024**. During the public comment period, copies of the Draft EA and Draft FONSI were available upon request (see **Cover Sheet**) and placed at the following public libraries:

- Grand Forks Public Library, Grand Forks, ND
- University of North Dakota Legal Library (Thormodsgard Law Library), Grand Forks, ND
- North Dakota State University Library, Fargo, ND

The Air Force received one comment from the Leech Lake Band of Ojibwe, which stated that it does not have any known recorded sites of religious or culturally identified resources in the Proposed Action area (see **Appendix A**).

1.6 Scope of the Environmental Assessment

This EA evaluates the potential environmental consequences of implementing the Proposed Action or Alternatives and associated BASH management procedures at Grand Forks AFB, as described in

Section 1.1. This EA has been prepared in accordance with NEPA, CEQ regulations, and the EIAP. NEPA ensures that environmental information, including the anticipated environmental consequences of a proposed action, is available to the public, federal and state agencies, and the decision-maker before decisions are made and actions are taken.

The information presented in this document will serve as the basis for deciding whether the Proposed Action or Alternatives would result in a significant impact on the human environment, requiring the preparation of an Environmental Impact Statement (EIS), or whether no significant impacts would occur, in which case a FONSI would be issued. Because the Proposed Action or Alternatives would unavoidably affect floodplains and wetlands subject to EO 11988, *Floodplain Management*; EO 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*, as reinstated by EO 14030, *Climate-Related Financial Risk*, or EO 11990, *Protection of Wetlands* (see **Section 1.7**), a Finding of No Practicable Alternative (FONPA) was prepared in conjunction with the proposed FONSI.

To comply with the EOs noted above, the Air Force placed an early public notice in the *Grand Forks Herald* on 2 and 5 August 2023 regarding the Proposed Action and its potential to affect floodplain and wetland resources on Grand Forks AFB (**Appendix B**). No public comments in response to the notice were received.

1.7 APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS

EO 11988 directs federal agencies to determine whether a Proposed Action would occur within a floodplain and to avoid or minimize adverse impacts on floodplains. If an agency considers avoiding adverse impacts on a floodplain and determines that no practicable alternative to undertaking the action is feasible, EO 11988 requires minimizing impacts by design or modification. In such cases, agencies must also prepare and circulate a notice to explain how avoidance was not practicable and describe minimization measures. The planning and evaluation steps required by EO 11988 also apply to EO 11990, a similar directive requiring federal agencies to avoid or minimize adverse impacts on wetlands.

To implement EO 11988, processes for evaluating the impacts of federal actions in or affecting floodplains (and wetlands) are in place. EO 13690 creates a new flood risk reduction standard for federally funded projects, the Federal Flood Risk Management Standard (FFRMP). The FFRMP is a flexible framework for increasing resilience against flooding and preserving the natural-function benefits of floodplains. The incorporation of the FFRMP will expand federal management of actions that affect floodplains from the current base flood level to a higher vertical elevation and corresponding horizontal extent. EO 13690 also sets forth a process for further solicitation and consideration of public input.

Other laws and regulations applicable to the Proposed Action include:

- *Clean Water Act* (33 USC § 1251 et seq.) (CWA)
- *Resource Conservation and Recovery Act* (42 USC § 6901 et seq.) (RCRA)
- Section 438 of the *Energy Independence and Security Act of 2007* (Public Law 110-140) (EISA)
- *Comprehensive Environmental Response, Compensation, and Liability Act* (42 USC § 9601 et seq.) (CERCLA)
- Federal *Clean Air Act* (42 USC § 7401 et seq., as amended) (CAA)
- *Migratory Bird Treaty Act* (16 USC § 703 et seq.) (MBTA)
- *Toxic Substances Control Act* (15 USC § 2601 et seq.) (TSCA)
- EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (1994)
- EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (1997), as amended by EO 13296 (2003)
- EO 14096, Revitalizing Our Nation's Commitment to Environmental Justice for All (2023)

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CHAPTER 2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The 319 RW at Grand Forks AFB is proposing to reconstruct the ground topography and the natural and man-made water features within the project area totaling 1,291 acres (**Figure 2-1**). Grand Forks AFB would cultivate airfield vegetation unattractive to wildlife and maintain vegetation height between 7 and 14 inches within the project area to comply with DAFI 91-202, *The US Air Force Mishap Prevention Program,* and DAFI 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program*. Grand Forks AFB intends to remove standing water by regrading the airfield's West Ditch (up to 14,000 linear feet), conducting perimeter drainage maintenance, installing up to 35 acres of drain tile, and mitigating wetlands/floodplains. Reconstructing ground topography includes filling, clearing, grubbing, regrading (via heavy-equipment operation), landscaping, cultivating, and re-seeding no less than 150 acres of the project area to create both accessibility and functional grounds maintenance operations and unattractive wildlife habitat. Approximately 3,700 cubic yard of fill material, which could be acquired from off-Base sources, would be delivered with heavy trucks and used to fill the project area. The Proposed Action also would include replacement of the Installation's west perimeter fence (22,240 feet of fence line). Fence posts would be driven into the ground to a depth of 8 feet and 10 feet apart, with no digging or trenching required. Seed selection for the project area would include species adapted to the local area, deemed unattractive for wildlife, and that can thrive in the local ecotype withstanding repeated mowing to successfully meet DAFI compliance.

2.2 ALTERNATIVES SCREENING PROCESS

NEPA requires federal agencies to objectively explore and evaluate reasonable alternatives to a proposed action. Alternatives not found to be reasonable can be eliminated from evaluation provided the EA or EIS includes a brief rationale for their elimination (40 CFR § 1502.14(a)).

2.2.1 Selection Standards for Alternative Screening

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

1) Comply with DAFI 91-202 and DAFI 91-212 to be consistent with land use requirements, force protection, and planning concepts identified in the 2017 Installation Development Plan and other Air Force guidance.
2) Remove standing water/improve drainage.
3) Cultivate vegetation unattractive to wildlife.

2.2.2 Screening of Alternatives

The Air Force identified two action alternatives for evaluation and screening. These alternatives are described below.

2.2.2.1 Alternative 1 – Proposed Action

Alternative 1 is the Proposed Action, as described in **Section 2.1**. The 319 RW at Grand Forks AFB would reconstruct the ground topography and the natural and man-made water features within the project area (1,291 acres). The Proposed Action also would include replacement of the Installation's west perimeter fence. Alternative 1 meets all selection standards listed in Section 2.2.1 above.

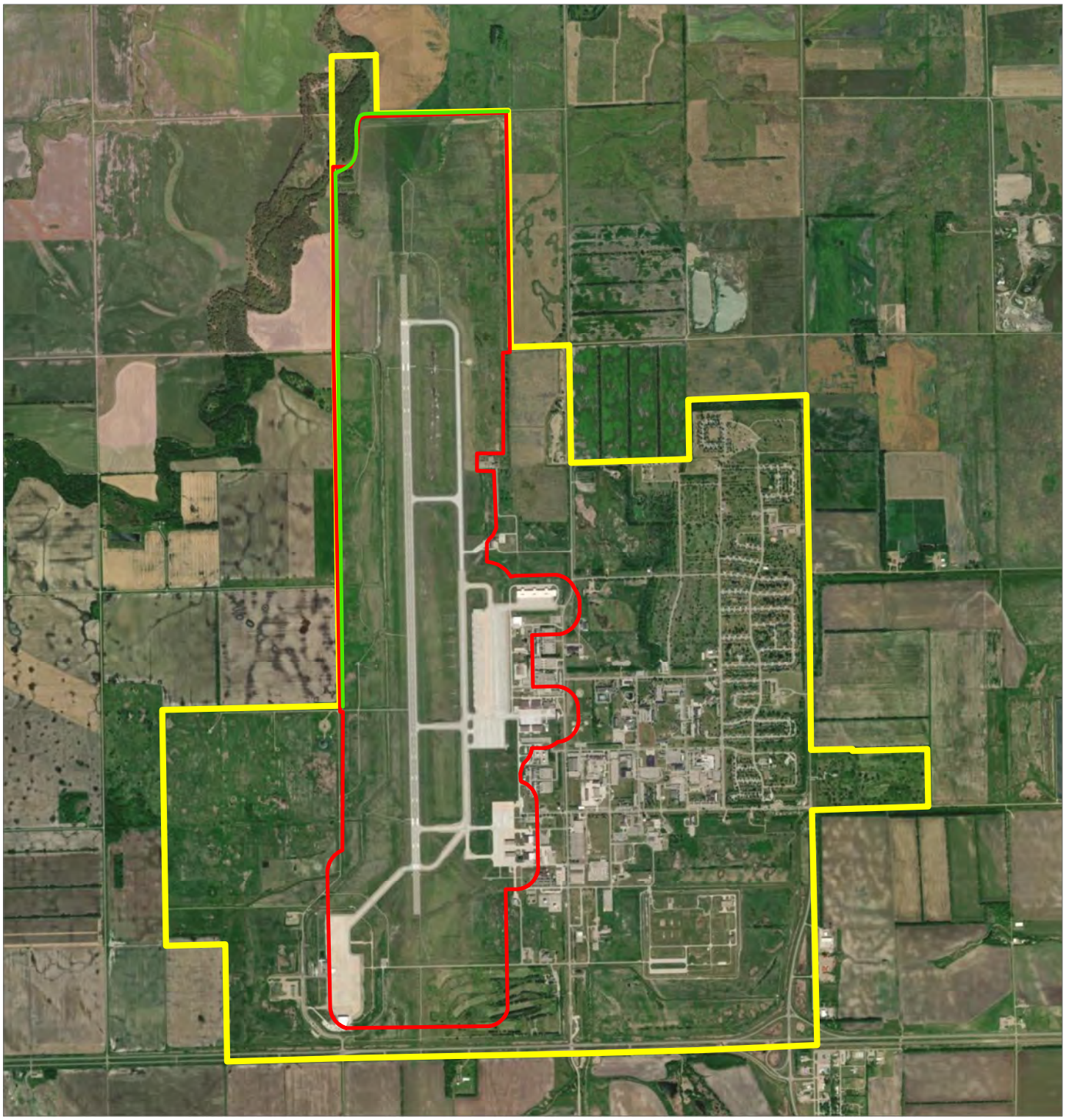


FIGURE 2-1
Proposed Project Area

Project Fence
Installation Boundary
Proposed Project Locations

N

0 0.5 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N

2.2.2.2 Alternative 2 – Hay Lease

Historically, Grand Forks AFB has provided various vegetation maintenance strategies to support the BASH program, including use of a hay lease on a portion of the airfield, occasional airfield controlled burning of a portion of the west airfield area, and a grounds maintenance contract for the infield areas plus 200 feet from all airfield pavements.

Under Alternative 2, the Air Force would renew airfield use of the hay lease to provide vegetation maintenance. Under terms of the traditional hay lease, grasses usually grew until mid-summer and then would be cut, baled, and removed. The lessee typically accomplished bailing actions once a year due to the clay and wet saline soils present, which prohibited appropriate maintenance functions to DAFI standards. Portions of the airfield located close to taxiways and runways would continue to be provided vegetation maintenance under the Base grounds contract and mowed frequently. Remaining western portions of the airfield contain rough, rocky, uneven terrain and thus would not be covered by either the grounds contract or the hay lease. This western portion would have no sustained annual vegetation control and would instead utilize only occasional controlled burning. In addition, limited tree and shrub removal would be conducted by either occasional contract funding or by in-house shop personnel as available in this area. Alternative 2 was eliminated from further consideration for the following reasons:

- Alternative 2 does not meet selection standards 1, 2, or 3. This alternative would provide some vegetation control and maintenance but would not satisfactorily comply with DAFI 91-202 and DAFI 91-212, as declared by the denied Grand Forks AFB waiver request from the Air Force Safety Center.
- Alternative 2 also would not provide improved drainage, would not remove ponding or standing water to DAFI standards, would not reconstruct landscape topography to create habitat unattractive to wildlife, and would not adequately provide access for grounds maintenance operations.

2.2.3 Alternatives Retained for Detailed Analysis

NEPA and CEQ regulations mandate the consideration of reasonable alternatives to the Proposed Action. “Reasonable alternatives” are those that also could be utilized to meet the purpose of and need for the agency action. The NEPA process is intended to support flexible, informed decision-making. The analysis provided in this EA and feedback from the public and other agencies will inform decisions made about whether, when, and how to execute the Proposed Action.

2.2.3.1 Proposed Action

Alternative 1 at Grand Forks AFB is the preferred alternative (as described in **Section 2.1**). No other action alternatives were carried forward for analysis.

2.2.3.2 No Action Alternative

CEQ regulations require evaluation of the No Action Alternative. The No Action Alternative serves as a baseline for evaluating the impacts of the Proposed Action and Alternatives.

Under the No Action Alternative, no action to the project area would be undertaken. The No Action Alternative would result in no potential adverse effects to wetland, floodplains, and wildlife; however, it would leave approximately 1,200 acres out of compliance with DAFI 91-202 and DAFI 91-212 regarding airfield vegetation as well as perpetuate an elevated risk of wildlife-caused aircraft mishaps due to the attractiveness of vegetation to preyed and predatory animals. Leaving the airfield in its current condition would greatly hinder the Wing’s ability to preserve present and future war-fighting capabilities through the reduction of wildlife hazards to aircraft operations.

2.3 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Table 2-1 summarizes the potential impacts associated with Proposed Action and the No Action Alternative. The summary is based on information discussed in detail in **Chapter 3** of this EA and provides a concise

description of the issues addressed and the potential environmental impacts for each resource area under each analyzed alternative.

Table 2-1.
Summary of Potential Environmental Consequences

Resource Area	Proposed Action	No Action Alternative
Noise	Noise in the area would not change from current conditions, and no significant impacts on noise-sensitive receptors would be anticipated.	Under the No Action Alternative, no project activities would occur on Grand Forks AFB. Noise in the area would not change from current conditions, and no significant impacts on noise-sensitive receptors would be anticipated.
Safety	The Proposed Action would have a beneficial impact to BASH safety, reducing the overall presence of birds and wildlife in the airfield. Improvements in BASH safety and a reduction of birds and wildlife in the airfield would help to minimize strikes, crashes, and other incidents related to the interaction of birds, wildlife, and aircraft.	Under the No Action Alternative, no action to the project area would be undertaken. There would be no changes to safety beyond baseline conditions. The No Action Alternative would leave the Installation out of compliance with DAFI 91-202 and DAFI 91-212 regarding airfield vegetation.
Air Quality	The effects of the Proposed Action on regional air quality would be expected to be minor. The estimated project emissions would not be anticipated to result in significant emissions of criteria pollutant air emissions, and thus, no adverse impacts would be expected to occur.	The No Action Alternative would not generate any new construction emissions and would not change emissions from current emissions levels in the ROI. As a result, no impacts would occur to regional air quality under the No Action Alternative.
Biological Resources	No federally listed threatened or endangered species have been observed on Grand Forks AFB, nor does critical habitat exist within Grand Forks AFB. The Proposed Action would not adversely affect any federally threatened or endangered species or their habitat. The Proposed Action would eliminate existing grassland habitat and would regrade and replace existing grasslands and wetlands with airfield vegetation unattractive to wildlife such as a monoculture of an herbaceous species adapted to drier conditions and tolerant to periodic mowing. As a result, the abundance of common mammals and bird species inhabiting the existing grasslands would be reduced. Many bird species and larger mobile mammal species would likely relocate to other areas of similar habitat in the vicinity of Grand Forks AFB. Birds that are obligate wetland species would be displaced from the project area to other similar habitats in the region.	Under the No Action Alternative, no reconstruction and replacement activities would occur. There would be no changes to biological resources beyond baseline conditions. The No Action Alternative would result in no potential adverse effects to vegetation, wildlife, or protected species; however, it would leave the Installation out of compliance with DAFI 91-202 and DAFI 91-212 regarding airfield vegetation. In the short term, military training and operations would continue at Grand Forks AFB in accordance with the status quo.
Water Resources	Under the Proposed Action, approximately 93 acres of wetlands (52.37 acres determined to be jurisdictional by the USACE) would be filled and leveled to resolve standing water and reduce habitat in the airfield and vicinity, resulting in a permanent adverse impact to affected wetlands. Wetland removal would	Under the No Action Alternative, no action to the project area would be undertaken. There would be no changes to water resources beyond baseline conditions. The No Action Alternative would leave the Installation out of compliance with DAFI 91-202 and DAFI 91-212 regarding airfield vegetation.

Resource Area	Proposed Action	No Action Alternative
	decrease habitat, landscape diversity, and connectivity among aquatic resources. Common indirect impacts of wetland removal include influx of surface water and sediments or changes in local drainage patterns. Increase in soil erosion and sedimentation could impact Turtle River. The process of regrading the West Ditch would include soil compaction, which would stabilize the soil and reduce its vulnerability to future erosion and sedimentation in the floodplain. The Proposed Action would also result in minor, long-term, beneficial impacts to floodplains due to more effective storm and floodwater conveyance that would be associated with the improved drainage environment.	
Soils	The underlying geology of the area occupied by Grand Forks AFB would not change under the Proposed Action. No direct or indirect impacts to geology would be anticipated to occur with implementation of the Proposed Action. Topography reconstruction activities would be limited to those necessary to maintain efficient drainage. Therefore, the Proposed Action would result in long-term, minor impacts to topography. Ground-disturbing activities under the Proposed Action would disturb soils in the project area; primarily, Gilby loam, Antler silty clay loam, Embden fine sandy loam, and Glyndon silt loam.	Under the No Action Alternative, no action to the proposed project area would be undertaken. There would be no changes to geological resources beyond baseline conditions. The No Action Alternative would leave the Installation out of compliance with DAFI 91-202 and DAFI 91-212 regarding airfield vegetation.
Cultural Resources	No archaeological resources within the project area have been identified as eligible for NRHP listing. Project activities would occur on land that has been previously disturbed. In the event that unidentified archaeological sites occur within these areas, standard operating procedures for the inadvertent discovery of archaeological resources or human remains detailed in the Integrated Cultural Resources Management Plan would be followed. No impacts to architectural properties would be anticipated to result from the Proposed Action.	Under the No Action Alternative, no action to the project area would be undertaken. The No Action Alternative would result in no change to cultural resources on the Installation. Taking no action would leave the Installation out of compliance with DAFI 91-202 and DAFI 91-212 regarding airfield vegetation.
Hazardous Materials and Wastes, Toxic Substances, and Contaminated Sites	Short-term, negligible-to-minor, adverse impacts would be anticipated to result from the use of hazardous materials and petroleum products during proposed project activities. No impacts to fuel storage would occur. No impacts on the Environmental Restoration Program would be anticipated in response to proposed projects. Herbicides would be used during the project activities.	Under the No Action Alternative, no action to the project area would be undertaken. There would be no changes to HAZMAT and hazardous wastes management beyond baseline conditions. The No Action Alternative would leave the Installation out of compliance with DAFI 91-202 and DAFI 91-212 regarding airfield vegetation.

Resource Area	Proposed Action	No Action Alternative
Infrastructure, including Transportation and Utilities	The Proposed Action would not impact the transportation systems on the Installation. Vehicular traffic would not increase as part of the Proposed Action The Proposed Action would not impact the communications systems on the Installation. The communications system is in good condition and meets current and future mission needs The Proposed Action would not impact the electricity and natural gas systems on the Installation. No impacts to the electricity and natural gas systems would be expected. The electricity and natural gas systems are in good condition and meet current and future mission needs. The Proposed Action would not impact the potable water systems on the Installation. No impacts to the potable water systems would be expected. The Proposed Action would not impact the sewage system on the Installation. No impacts to the potable water systems would be expected. The Proposed Action would not impact the solid waste management systems on the Installation. No impacts to the solid waste management systems would be expected.	Under the No Action Alternative, no projects under the Proposed Action would occur. The No Action Alternative would result in no change to the infrastructure and utilities systems on the Installation.

2.4 MITIGATION AND ENVIRONMENTAL COMMITMENTS

Because there is no practicable alternative for the Grand Forks AFB BASH project, mitigation would be required for potential impacts of the project on wetlands. Due to the location of several project components within existing wetland boundaries, the project would directly impact wetlands. As part of the US Army Corps of Engineers (USACE) permitting process, compensatory mitigation would be required for the unavoidable loss of jurisdictional wetlands to ensure the project would not result in a net loss of wetlands. Mitigation would be in the form of a purchase of credits from an off-site mitigation bank at a minimum 1:1 ratio.

Based upon the expected impacts to wetlands, a Section 404 CWA permit would be required prior to the commencement of project activities. The acquisition of the Section 404 permit would be part of the design and construction process. The Section 404 permit would be obtained prior to any ground-disturbing activities. Mitigation for wetlands impacts would be required. Mitigation could include constructing new wetlands or purchasing wetland credits from an approved wetland bank.

A Wetlands Mitigation Plan is provided as **Appendix C** of this document. The Wetlands Mitigation Plan was completed in accordance with the USACE and USEPA Compensatory Mitigation Final Rule, entitled *Compensatory Mitigation for Losses of Aquatic Resources* (73 FR 19594, 10 April 2008), which established a preference hierarchy for compensatory mitigation options.

CHAPTER 3 EXISTING CONDITIONS AND ENVIRONMENTAL CONSEQUENCES

3.1 FRAMEWORK FOR ANALYSIS

To provide a framework for the analyses in this EA, the Air Force defined a study area specific to each resource or sub-resource area. Referred to as a Region of Influence (ROI), these areas delineate a boundary where possible effects from the considered alternatives would have a reasonable likelihood to occur. Beyond these ROIs, potential adverse effects on resources would not be anticipated. For the purposes of analysis, potential effects are described as follows:

- **Beneficial –** positive effects that improve or enhance resource conditions
- **Adverse –** negative or harmful results
- **Negligible –** effects likely to occur but at levels not readily observable by evaluation
- **Minor –** observable, measurable, tangible effects qualified as below one or more significance threshold(s)
- **Moderate –** tangible effects that are readily apparent, qualified as below one or more significance threshold(s)
- **Significant –** obvious, observable, verifiable effects qualified as above one or more significance threshold(s); not mitigable to below significance

When relevant to the analyses in this EA, potential effects are further defined as direct or indirect; short- or long-term; and temporary, intermittent, or permanent.

Based upon the nature of the Proposed Action and the affected environment, both qualitative and quantitative thresholds were used as benchmarks to qualify effects. Further, each resource analysis section (i.e., **Sections 3.4–3.12**) concludes with a cumulative effects analysis considering the Proposed Action in conjunction with other past, present, and reasonably foreseeable environmental trends and planned actions at Grand Forks AFB.

Table 3-1 briefly describes the proposed or planned projects identified for consideration of potential cumulative impacts when combined with the Proposed Action at Grand Forks AFB and on a regional scale. Projects associated with the Proposed Action would all be located within the boundaries of Grand Forks AFB. The area immediately surrounding Grand Forks AFB is rural and agricultural in nature and development is minimal. Projects approved by the City of Grand Forks occur primarily within the city boundaries, located approximately 12 miles east of Grand Forks AFB. It is therefore unlikely that potential impacts associated with City projects would cause cumulative effects when combined with Proposed Action that would occur on the Installation.

3.2 RESOURCES ELIMINATED FROM DETAILED ANALYSIS

CEQ regulations state that federal agencies should "identify and eliminate from detailed study the issues which are not significant, or which have been covered by prior environmental review(s)" (40 CFR § 1501.9(f)(1)). Accordingly, the Air Force considered but eliminated from further analysis the following resource areas: land use, visual resources, socioeconomics, and environmental justice and protection of children. The Proposed Action would occur entirely within the Installation and would be consistent with existing land use and visual landscapes. No permanent change in personnel would occur, resulting in no socioeconomic impacts. No local populations or communities with environmental justice concerns would be impacted by the Proposed Action or Alternative.

Table 3-1.
Past, Present, and Reasonably Foreseeable Environmental Trends and Planned Actions

Name	Description	Timeframe	Approximate Distance from Base
Federal Projects			
Multiple projects at Grand Forks AFB as part of the Installation Development Plan	Demolition of existing facilities, renovation projects, and construction projects	NEPA complete, ongoing construction	On Base
Nodak Electric Cooperative Facility on Grand Forks AFB	Construction of a 5,000-square-foot building	NEPA complete, ongoing construction	On Base
Kelly Slough National Wildlife Refuge	Refuge includes 1,207 acres of land and water. Ongoing wetlands management.	Ongoing activity	Approximately 2 miles
Non-Federal Projects			
Mixed-Use Business Park on Enhanced Use Lease at GrandSKY Business Park	Development of a business park to support research, testing and evaluation, and operations of unmanned aerial systems, as well as activities centered on the development of sensor technology and data management	NEPA ongoing; ongoing construction	Leased Grand Forks AFB property
Grand Forks Airport Runway Construction	Improvements to the airport including reconstruction of the intersection of the two main runways and the lengthening of a secondary runway	Ongoing	Approximately 8 miles

AFB = Air Force Base; NEPA = National Environmental Policy Act

3.3 RESOURCES CARRIED FORWARD FOR DETAILED ANALYSIS

The Air Force considered Grand Forks AFB and its environs as the ROI for each environmental resource. None of the projects under the Proposed Action or Alternative would occur outside the boundaries of Grand Forks AFB. The following resources were carried forward for analysis: noise; safety; air quality; biological resources; water resources; geology and soils; cultural resources; hazardous materials and waste, toxic substances, and contaminated sites; and infrastructure, including transportation and utilities.

3.4 NOISE

3.4.1 Definition of the Resource

Sound is a physical phenomenon consisting of minute vibrations exhibited as waves, measured in frequency and amplitude, which travel through a medium, such as air or water, and are sensed by the human ear. Noise is generally described as unwanted sound. Unwanted sound can be based on objective effects (such as hearing loss or damage to structures) or subjective judgments (community annoyance). Noise analysis thus requires assessing a combination of physical measurement of sound, physical and physiological effects, and psycho- and socio-acoustic effects. The response of different individuals to similar noise events is diverse and influenced by the type of noise, the perceived importance of the noise, its appropriateness in the setting, the time of day, the type of activity during which the noise occurs, and the sensitivity of the individual. Noise may also affect wildlife through disruption of nesting, foraging, migration, and other life-cycle activities.

The ROI for noise is Grand Forks AFB.

Noise Metrics

Noise and sound levels are expressed in logarithmic units measured by decibels (dB). A sound level of 0 dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech equates to a sound level of approximately 60 dB; sound levels above 120 dB begin to be felt inside the human ear as discomfort, and sound levels between 130 and 140 dB are felt as pain (Berglund and Lindvall, 1995).

All sound contains a spectral content, which means the magnitude or level differs by frequency, where frequency is measured in cycles per second, or hertz. To mimic the human ear's non-linear sensitivity and perception of different frequencies of sound, the spectral content is weighted. For example, environmental noise measurements usually employ an "A-weighted" scale, denoted as dBA, that de-emphasizes very low and very high frequencies to better replicate human sensitivity. All sound levels presented in this document are A-weighted unless otherwise noted.

Leq is defined as the equivalent steady state sound level which in a stated period of time contains the same acoustic energy as the time varying sound level during the same time period. Leq(h) is defined as the hourly value of Leq in dBA is often used for construction noise analysis. A Leq(h) over 67 dBA would require mitigation measures for certain noise sensitive receptors (Department of Transportation, 2006).

3.4.2 Existing Conditions

The primary sources of noise on Grand Forks AFB are airfield operations, industrial activities, and vehicular traffic. Noise-sensitive receptors on the Base include the Medical Clinic; Education Center; Nathan Twining Elementary and Middle School; Dakota Lanes Bowling Alley; the Military and Family Readiness Center; and the residential communities, dormitories, administrative buildings, library, aquatic and fitness centers, playgrounds, and recreation trails. No noise sensitive off-base receptors are located within 1 mile of the project area.

Typical ambient sound levels on the Base have been modeled previously for a noise effects assessment as part of the *Final Supplemental EA for the Relocation of the North Dakota Air Branch to Grand Forks Air Force* Base (Air Force, 2017). Modeling results for that assessment indicate an existing DNL range from 65 to 75 dBA DNL across Grand Forks AFB.

3.4.3 Environmental Consequences

3.4.3.1 Evaluation Criteria

When evaluating noise effects, several aspects are examined:

- the degree to which noise levels generated by training and operations, as well as construction, demolition, and renovation activities, would be higher than the ambient noise levels;
- the degree to which there would be hearing loss and/or annoyance; and
- the proximity of noise-sensitive receptors (e.g., residences, schools, hospitals, parks) to the noise source.

An environmental analysis of noise includes the potential effects on the local population and estimates the extent and magnitude of the noise generated by the Proposed Action and Alternatives.

3.4.3.2 Proposed Action

Under the Proposed Action, all project activities would occur entirely on Grand Forks AFB property. The affected environment for noise effects from these activities and ongoing operations is narrowly focused and compact, and generally would include the area lying within 0.5 mile to 1 mile of the proposed projects. Most noise-sensitive receptors are located on the opposite side of the runway from the proposed project area and would be unlikely to experience noise impacts associated with reconstruction and fence replacement activities.

The Proposed Action would cause short-term, localized noise impacts during construction activities. Sound would be generated from construction equipment and traffic. Sound levels of typical construction equipment are listed in **Table 3-2**. However, the equipment would be operated intermittently during construction, and potential noise impacts would be short term and limited to daylight hours during the construction period. Noise from the operation of construction equipment would be generally short term, intermittent, and highly localized, with the loudest machinery typically producing peak sound pressure levels ranging from 86 to 95 dBA at a 50-foot distance from the source (**Table 3-2**). Sound typically attenuates at approximately 6 dBA per every doubling of the distance from the sound source. The presence of existing buildings also would help attenuate the sound level. At a distance of 1600 feet, the sound generated from construction equipment would be less than 67 dBA as recommend by the Department of Transportation (2006). Additionally, adherence to standard Air Force Occupational Safety and Health regulations that require hearing protection along with other personnel protective equipment and safety training would minimize the risk of hearing loss to construction workers. Therefore, noise associated with construction projects under the Proposed Action would not be anticipated to result in any significant direct or indirect impacts on noise-sensitive receptors.

Table 3-2.
Peak Sound Pressure Level of Construction Equipment from a Distance of 50 Feet

Equipment	Sound Pressure Level (dBA)
Bulldozer	85
Scraper	85
Front Loader	80
Backhoe	80
Grader	85
Crane	85

Source: Department of Transportation, 2006
Note:
dBA = A-weighted decibel

There would be no increases in operational noise with implementation of the Proposed Action.

3.4.3.3 Cumulative Impacts

Project activities associated with the Proposed Action would result in temporary, localized noise increases. Noise could be compounded by other construction projects occurring concurrently. All development would be implemented in areas already subject to a high level of noise from aircraft operations, which is the primary source of noise on Grand Forks AFB. In order to minimize disturbance to local residences, workplaces, and sensitive receptors, noise attenuation measures would be incorporated into design and implementation. No reconstruction or fence replacement activities would take place after 10 p.m. or prior to 7 a.m.

No operational change to the noise environment would occur as a result of the Proposed Action or any past, present, or reasonably foreseeable environmental trends and planned actions at Grand Forks AFB. Aircraft operations would continue to be the dominant source of noise. When considered in conjunction with past, present, and reasonably foreseeable environmental trends and planned actions at Grand Forks AFB, no significant cumulative impacts on the noise environment would be anticipated with implementation of the Proposed Action.

3.4.3.4 No Action Alternative

Under the No Action Alternative, no project activities would occur on Grand Forks AFB. Noise in the area would not change from baseline conditions, and no significant impacts on noise-sensitive receptors would be anticipated.

3.5 SAFETY

3.5.1 Definition of the Resource

This section discusses safety concerns associated with ground, explosives, and flight activities. Ground safety considers issues associated with ground operations and maintenance activities that support unit operations including arresting gear capability, jet blast/maintenance testing, and safety danger. Aircraft maintenance testing occurs in designated safety zones. Ground safety also considers the safety of personnel and facilities on the ground that may be placed at risk from flight operations in the vicinity of the airfield. Clear zones (CZs) and accident potential zones (APZs) around the airfield restrict the public's exposure to areas where there is a higher accident potential. Although ground and flight safety are addressed separately, in the immediate vicinity of the runway, risks associated with safety-of-flight issues are interrelated with ground safety concerns.

Explosives safety relates to the management and safe use of ordnance and munitions. Flight safety considers aircraft flight risks such as midair collision, BASH, and in-flight emergency. The Air Force adheres to safety procedures and aircraft-specific emergency procedures produced by the original equipment manufacturer. Basic airmanship procedures also exist for handling any deviations to air traffic control procedures due to an in-flight emergency; these procedures are defined in Volume 3 of DAFI 11-202, *General Flight Rules*, and established aircraft flight manuals. The Flight Crew Information File is a safety resource for Aircrew day-to-day operations and contains air and ground operation rules and procedures.

The primary federal statute addressing occupational hazards is the *Occupational Health and Safety Act* (29 USC §§ 651–678) which created the Occupational Safety and Health Administration (OSHA) and National Institute for Occupational Safety and Health. The Air Force is required to ensure the occupational health and safety of all personnel through implementation of Department of the Air Force Manual 91-203, *Air Force Occupational Safety, Fire, and Health Standards* (2022), and DAFI 91-202, *The US Air Force Mishap Prevention Program* (2023), which implements Air Force Policy Directive (AFPD) 91-2, *Safety Programs* (2019).

The ROI for safety is Grand Forks AFB.

3.5.2 Existing Conditions

3.5.2.1 Flight Safety

The primary safety concern for military aircraft activity is the potential for aircraft accidents. Research in accident potential conducted by the Air Force found that the majority of accidents occurred during takeoff or landing and were clustered along the runway and its extended centerline. This resulted in the designation of safety zones around airfields and restriction of incompatible land uses to reduce the public's exposure to safety hazards. CZs and APZs are designated rectangular safety zones extending outward from the ends of active military airfields that delineate areas recognized as having the greatest risk of aircraft accidents (**Figure 3-1**). Project activities under the Proposed Action would be located within the CZ and APZ I; therefore, APZ II is not analyzed further.

Clear Zones

The CZ extends to the north and south of the runway and has the highest accident potential of airfield safety zones, with 27 percent of airfield accidents studied occurring in this zone (Grand Forks AFB, 2018a). The CZ is a 3,000 x 3,000 square-foot area centered on and abutting each end of the north-south oriented runway, as required under Unified Facilities Criteria (UFC) 3-260-01, *Airfield and Helicopter Planning and Design*, which provides standardized airfield and airspace criteria for geometric layout, design, and construction (**Figure 3-1**). Open space (undeveloped) and agricultural uses (excluding raising livestock) are the only uses deemed compatible in a CZ; development within the 413 acres of CZ is prohibited, in accordance with UFC 3-260-01 (Grand Forks AFB, 2017).

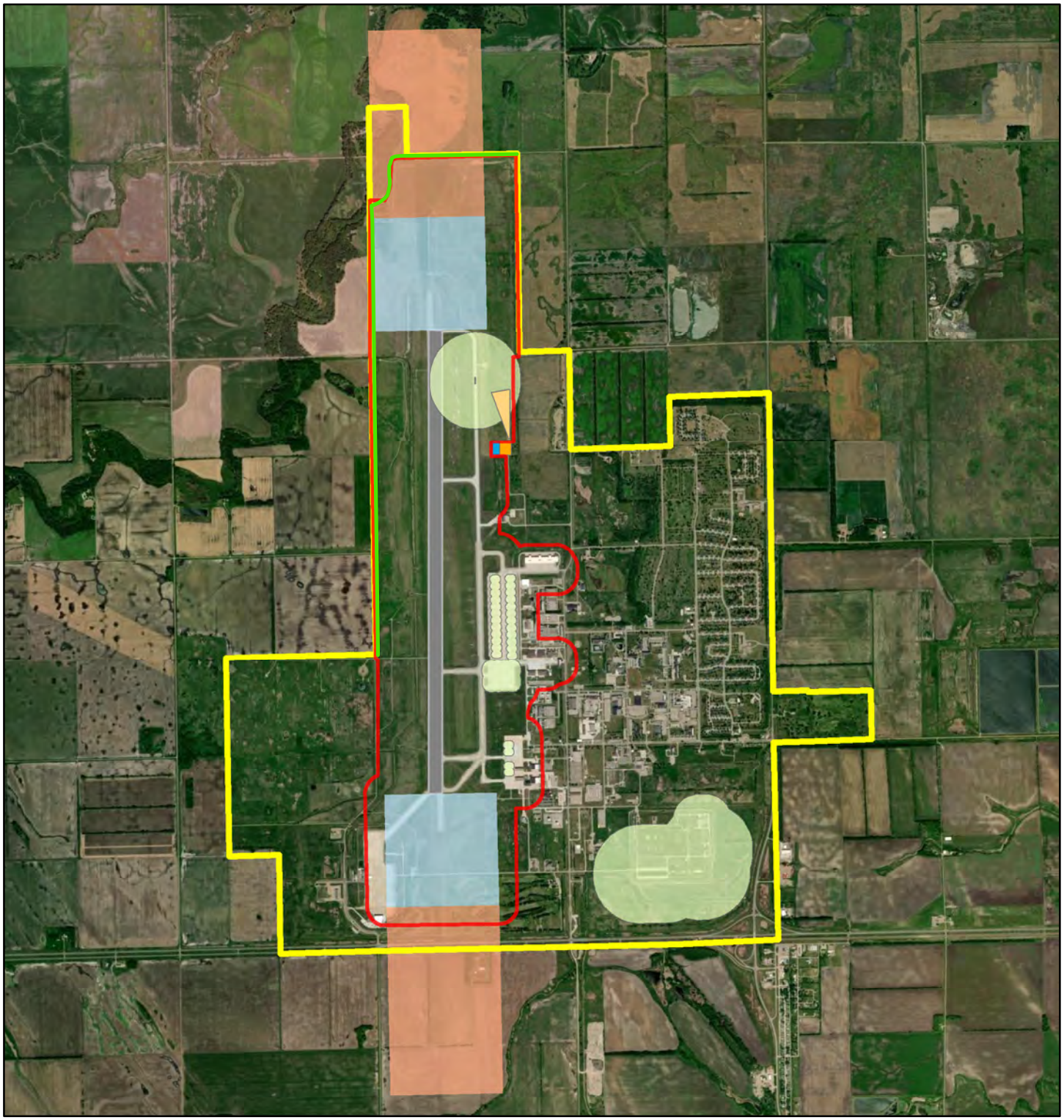


FIGURE 3-1
Safety Zones

- Fence Line
- Installation Boundary
- Proposed Project Area
- APZ I
- Clear Zone
- Machine Gun Range
- M203 Grenade Launch Range
- QD Arc
- Runway
- Small Arms Range

N

0 0.6 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N

Accident Potential Zone I

APZ I is an area with less accident potential than the CZ, with 10 percent of accidents studied occurring in this zone. While the potential for aircraft accidents in APZ I does not warrant land acquisition by the Air Force, land use planning and controls are strongly encouraged in these areas for the protection of the public.

APZ I extends across the Base boundary north and south of the Base, beginning where the CZ ends and extending an additional 5,000 feet. An Air Installation Compatible Use Zone Study conducted in 1995 indicated that land use within the APZs is undeveloped or in agricultural production, and current conditions are similar (Grand Forks AFB, 2017, 2018b).

Bird/Wildlife Air Strike Hazard

BASH constitutes a safety concern because of the potential for damage to aircraft or injury to aircrews or local populations should an aircraft crash occur in a populated area. The number of air strikes annually reported nationwide to the Federal Aviation Administration (FAA) has increased from 1990 to 2018. The increase in reporting is partly due to education initiatives by the FAA and technology upgrades making it easier to report such strikes. The number of damaging strikes has declined during this same time. It is noteworthy that the percentage of damaging wildlife strikes has averaged 8 percent over the same 29-year period; this number has declined from 20 percent in 1990 to 4 percent in 2018. It is suggested that the decline is due to mitigating efforts made at airports. Nationwide, waterfowl, gulls, and raptors are the species groups of birds with the most damaging strikes. Management actions at airports are prioritized based on the hazard level of species observed in the aircraft operating area (FAA and US Department of Agriculture [USDA], 2021).

From January 2010 through August 2023, Grand Forks AFB reported 28 wildlife strikes. These strikes have a tendency to peak at certain times of year, particularly in the spring and summer months (Grand Forks AFB, 2020b). This can be attributed to migrations of birds and peaks in overall populations due to natural reproduction. Gull species account for more than 20 percent of strikes at both Grand Forks International Airport and all North Dakota airports. Unknown bird species strikes account for the largest category of strikes in North Dakota. The wildlife struck at Grand Forks AFB from 2010 to 2023 comprise the following 18 species: passerines (15 strikes), shorebird (4 strikes), raptor (1 strike), upland (2 strikes), gulls (1 strike), icterid (2 strikes), apodiformes (1 strike), mammal (1 strike), and unknown (1 strike) (Grand Forks, 2023).White-tailed deer are also a potential hazard to aircraft operations.

Dispersal of wildlife from the airfield at Grand Forks AFB is currently accomplished using a variety of harassment techniques including pyrotechnics, firearms, and vehicles. In 2019, the BASH program added permitted trapping of raptors to the BASH prevention toolkit and was able to trap and relocate 17 raptors in a 3-month period during the first year (Grand Forks AFB, 2020b).

3.5.2.2 Explosives Safety

Defense Explosives Safety Regulation 6055.09_AFMAN 91-201, *Explosives Safety Standards,* establishes the size of the clearance zone around facilities used to store, handle, and maintain munitions based on the quantity-distance criteria. Defined distances are maintained between munitions storage areas and a variety of other types of facilities. These distances, called explosives safety quantity-distance (ESQD) arcs, are associated with the munitions storage and hot cargo pads, the CZs associated with the runway, and the noise zones associated with airfield operations (Grand Forks AFB, 2017). Within these ESQD arcs, development is either restricted or prohibited.

3.5.2.3 Construction Safety

Under 40 CFR § 989.27, the EIAP for an action must assess direct and indirect impacts of the proposed action and alternatives on the safety and health of Air Force employees and others at a work site. AFPD 91-2, *Safety Programs,* is implemented by DAFI 91-202, which manages risks to protect Air Force personnel from occupational deaths, injuries, or illnesses and minimize loss of Air Force resources. These standards, in addition to adherence to the Air Force's Mishap Prevention Program, serve to ensure that all Air Force workplaces meet federal safety and health requirements, and applies to all Air Force activities.

All construction contractors at Grand Forks AFB must follow ground safety regulations and worker's compensation programs to avoid posing any risks to workers or personnel on or off Base. Construction contractors are responsible for reviewing potentially hazardous workplace operations, monitoring exposure to workplace chemicals (e.g., asbestos, lead, hazardous materials), physical hazards (e.g., noise propagation, slips, trips, falls), and biological agents (e.g., infectious waste, wildlife, poisonous plants). Construction contractors are required to recommend and evaluate controls (e.g., preventative, administrative, engineering) to ensure that personnel are properly protected and to implement a medical surveillance program to perform occupational health physicals for those workers subject to any accidental chemical exposures.

3.5.3 Environmental Consequences

3.5.3.1 Evaluation Criteria

Impacts from the Proposed Action and Alternative are assessed according to the potential to increase or decrease safety risks to personnel, the public, property, or the environment. For the purposes of this EA, an impact is considered significant if Air Force OSHA criteria are exceeded or if established or proposed safety measures are not properly implemented, resulting in unacceptable safety risk to personnel.

3.5.3.2 Proposed Action

Under the Proposed Action, project activities would not result in a change to existing CZs, APZs, or ESQD arcs; therefore, no impacts to CZs, APZs, or ESQD arcs would be expected.

The Proposed Action would have a beneficial impact to BASH safety by meeting DAFI regulations and standards and would remove the noncompliance issue associated with the Installation's requested vegetation height waiver. Such actions would have the potential to help to minimize the risk of strikes, crashes, and other incidents related to the interaction of birds, wildlife, and aircraft. Grand Forks AFB primarily operates unmanned aerial vehicles/drones that cost millions of dollars to manufacture. Reducing the potential risk for bird and wildlife strikes would likewise reduce costs of replacing unmanned aerial vehicles damaged from bird/wildlife strikes.

Construction activities can potentially expose personnel to health and safety hazards from heavy-equipment operation, construction safety, hazardous materials and chemicals use, and working in noisy environments. Therefore, short-term, negligible-to-minor, adverse impacts on construction contractor health and safety would be anticipated as a result of proposed construction projects under the Proposed Action. To minimize health and safety risks, contractors would be required to use appropriate personal protective equipment and establish and maintain site-specific health and safety programs that follow all applicable OSHA regulations for their employees. Additionally, all construction contractors at Grand Forks AFB would be required to follow ground safety regulations and worker's compensation programs to avoid posing any risks to workers or personnel on or off Base.

3.5.3.3 Cumulative Impacts

When considered in conjunction with past, present, and reasonably foreseeable environmental trends and planned actions at Grand Forks AFB, the Proposed Action would not be expected to adversely impact ground safety, safety zones, explosives safety, and emergency response. Of the projects listed in **Table 3-1**, none would have long-term safety impacts within the ROI. Construction activities that would occur under the projects in **Table 3-1** would follow appropriate guidelines for the safety of construction workers and the public. Nearby construction at GrandSKY business park would have no cumulative impacts with construction safety at Grand Forks AFB.

Beneficial cumulative impacts to flight safety would be anticipated to occur with implementation of the Proposed Action. If future actions increase the number of planes and sorties, flight safety could be impacted proportionally to the increase in operations. Future actions would need to be evaluated for those impacts.

3.5.3.4 No Action Alternative

Under the No Action Alternative, no action to the project area would be undertaken. There would be no changes to safety beyond baseline conditions. The No Action Alternative would leave the Installation out of compliance with DAFI 91-202 and DAFI 91-212 regarding airfield vegetation.

Aircraft operations are expected to increase over time at Grand Forks AFB. The Base has grown from solely RQ-4 Global Hawk operations to include University of North Dakota flights with approximately 30 different types of small, unmanned aircraft systems flown by 10 different agencies and operators, as well as transient aircraft. This does not include any future Air Force aircraft that may become the primary mission after the projected divestment of the RQ-4 Global Hawk over the next 5 years. Under the No Action Alternative, an increased number of flights would increase potential flight safety concerns associated with BASH because airfield vegetation would not be removed. Therefore, the risk of an aircraft crash would continue to increase as the number of flights per day increases under the No Action Alternative.

3.6 AIR QUALITY

3.6.1 Definition of the Resource

Ambient air quality in a specified area or region is measured by the concentration of various pollutants in the atmosphere. Pollutant concentrations in the air are affected by the amount of pollutants in the atmosphere and the extent to which these pollutants can be transported and diluted in the air.

3.6.1.1 Criteria Pollutants

Under the CAA, the USEPA is required to develop, implement, and enforce strong regulations to ensure clean and healthy ambient air quality. In response, the USEPA developed numerical concentration-based standards known as the National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) to determine pollutant impacts to human health and the environment.

NAAQS are currently established for six criteria air pollutants: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, respirable particulate matter (i.e., particulates equal to or less than 10 microns in diameter [PM_{10}] and particulates equal to or less than 2.5 microns in diameter [$PM_{2.5}$]), and lead. The USEPA has established standards for both primary and secondary NAAQS. The primary NAAQS represent maximum levels of background air pollution that are considered safe, with an adequate margin of safety to protect public health. Secondary NAAQS represent the maximum pollutant concentration necessary to protect vegetation, crops, and other public resources in addition to maintaining visibility standards. The USEPA and NDDEQ regulate air quality in North Dakota. States can adopt standards stricter than those established by the USEPA. **Table 3-3** presents the USEPA NAAQS for federally listed criteria pollutants that the state follows, as well as the additional state-only standards as provided in North Dakota Administrative Code Chapter 33.1-15.02-07.

Ozone is not usually emitted directly into the air, but rather is formed in the atmosphere by photochemical reactions involving sunlight and previously emitted pollutants or "ozone precursors." Such ozone precursors consist primarily of nitrogen oxides and volatile organic compounds that are directly emitted from a wide range of emissions sources. For this reason, regulatory agencies limit atmospheric ozone concentrations by controlling volatile organic compound pollutants (also identified as reactive organic gases) and nitrogen oxides.

The USEPA has recognized that particulate matter emissions can have different health effects depending on particle size and, therefore, developed separate NAAQS for coarse particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$). The pollutant $PM_{2.5}$ can be emitted from emission sources directly as very fine dust and/or liquid mist or formed secondarily in the atmosphere as condensable particulate matter typically forming nitrate and sulfate compounds. Secondary (indirect) emissions vary by region depending upon the predominant emission sources located there and thus which precursors are considered significant for $PM_{2.5}$ formation and identified for ultimate control.

Table 3-3.
National and North Dakota Ambient Air Quality Standards

Pollutant	NAAQS		North Dakota AAQS
	Primary	Secondary	
Carbon Monoxide			
8-hour average	9 ppm	-	9 ppm
1-hour average	35 ppm	-	35 ppm
Nitrogen Dioxide			
Annual arithmetic mean	0.053 ppm	0.053 ppm	0.053 ppm
1-hour average[a]	0.100 ppm	-	0.100 ppm
Ozone			
8-hour average[b]	0.070 ppm	0.070 ppm	0.070 ppm
Lead			
3-month average[c]	0.15 µg/m^3	0.15 µg/m^3	0.15 µg/m^3
Particulate <10 Micrometers			
24-hour average[d]	150 µg/m^3	150 µg/m^3	150 µg/m^3
Particulate <2.5 Micrometers			
Annual arithmetic mean[d]	12 µg/m^3	15 µg/m^3	12 µg/m^3
24-hour average[d]	35 µg/m^3	35 µg/m^3	35 µg/m^3
Sulfur Dioxide			
1-hour average[e]	0.075 ppm	-	0.075 ppm
3-hour average[e]	-	0.5 ppm	0.5 ppm
Hydrogen Sulfide			
Instantaneous	-	-	10 ppm
1-hour average	-	-	0.2 ppm
24-hour average	-	-	0.1 ppm
Quarter (over 3-consecutive months)	-	-	0.02 ppm

Source: USEPA NAAQS table; NDDEQ AAQS table

AAQS = ambient air quality standards; NAAQS = National Ambient Air Quality Standards; $PM_{2.5}$ = particulate matter with a diameter equal to or less than 2.5 micrometers; PM_{10} = particulate matter with a diameter equal or less than 10 micrometers; µg/m^3 = microgram(s) per cubic meter; mg/m^3 = milligram(s) per cubic meter; ppb = part(s) per billion; ppm = part(s) per million; USEPA = United States Environmental Protection Agency

Notes:

a In February 2010, the USEPA established a new 1-hour standard for nitrogen dioxide at a level of 0.100 ppm, based on the 3-year average of the 98th percentile of the yearly distribution concentration, to supplement the then-existing annual standard.

b In October 2015, the USEPA revised the level of the 8-hour standard to 0.070 ppm, based on the annual 4th highest daily maximum concentration, averaged over 3 years; the regulation became effective on 28 December 2015. The previous (2008) standard of 0.075 ppm remains in effect for some areas. A 1-hour standard no longer exists effective June 15, 2005, for all areas in North Dakota.

c In November 2008, USEPA revised the primary lead standard to 0.15 µg/m^3. USEPA revised the averaging time to a rolling 3-month average.

d In October 2006, USEPA revised the level of the 24-hour $PM_{2.5}$ standard to 35 µg/m^3 and retained the level of the annual $PM_{2.5}$ standard at 15 µg/m^3. In 2012, USEPA split standards for primary & secondary annual $PM_{2.5}$. All are averaged over 3 years, with the 24-hour average determined at the 98th percentile for the 24-hour standard. USEPA retained the 24-hour primary standard and revoked the annual primary standard for PM_{10}.

e In 2012, the USEPA retained a secondary 3-hour standard, which is not to be exceeded more than once per year. In June 2010, USEPA established a new 1-hour sulfur dioxide standard at a level of 75 ppb, based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations.

3.6.1.2 Air Quality Control Regions

The USEPA has divided the country into geographical regions known as Air Quality Control Regions (AQCRs) to evaluate compliance with NAAQS. When a region exceeds the NAAQS for a pollutant, it is

classified as nonattainment for that pollutant. Where the air quality within the area is better than the NAAQS, or if there is not enough information to appropriately classify the area, the area is designated as attainment. Areas that have transitioned from nonattainment to attainment are designated as maintenance areas and are required to follow requirements in the state's maintenance plans to ensure continued compliance with NAAQS. Grand Forks AFB, located in Grand Forks County, North Dakota, is situated within the North Dakota AQCR. This region is designated by USEPA as attainment/unclassifiable for all criteria pollutants (40 CFR § 81.335).

The ROI for air quality includes Grand Forks AFB and its surrounding areas within the North Dakota AQCR.

3.6.1.3 General Conformity

Under the CAA, the USEPA established the General Conformity Rule (40 CFR Part 93) which applies to federal actions occurring in nonattainment or maintenance areas. The rule is designed to ensure that federal actions do not impede local efforts to achieve or maintain attainment with the NAAQS.

Federal actions are evaluated to determine if the total indirect and direct net emissions from the project are below *de minimis* levels for each of the pollutants as specified in 40 CFR § 93.153. If *de minimis* levels are not exceeded for any of the pollutants, no further evaluation is required. However, if net emissions from the project exceed the *de minimis* thresholds for one or more of the specified pollutants, a demonstration of conformity, as prescribed in the General Conformity Rule, is required.

3.6.1.4 Greenhouse Gas Emissions and Climate Change

Greenhouse gases (GHGs) are gases that trap heat in the atmosphere. These emissions are generated by both natural processes and human activities. The accumulation of GHGs in the atmosphere helps regulate the earth's temperature, and increases in GHG emissions due to human activities is believed to contribute to elevated global temperatures. GHGs include water vapor, carbon dioxide, methane, nitrous oxide, ozone, and several hydrocarbons and chlorofluorocarbons. Direct GHG emissions result from the operation of equipment and vehicles that burn fuels such as natural gas, diesel fuel, or gasoline. Purchased electricity that emits GHG emissions during energy generation is termed indirect GHG emissions.

Each GHG has an estimated global warming potential (GWP), which is a function of its atmospheric lifetime and its ability to absorb and radiate infrared energy emitted from the earth's surface. The GWP of a particular gas provides a relative basis for calculating its carbon dioxide equivalent (CO_2e). Carbon dioxide has a GWP of 1 and is, therefore, the standard by which all other GHGs are measured. The GHGs are multiplied by their GWP, and the resulting values are added together to estimate the total equivalent emissions of carbon dioxide (i.e., CO_2e).

In North Dakota, the USEPA regulates GHG primarily through a permitting program known as the GHG Tailoring Rule. This rule applies to GHG emissions from larger stationary sources. In addition, the USEPA promulgated a rule requiring specific sources to report their GHG emissions if they emit 25,000 metric tons or more of CO_2e per year (40 CFR § 98.2(a)(2)). These requirements only apply to stationary sources of emissions.

Per the CEQ interim guidance released January of 2023, "Agencies should exercise judgment when considering whether to apply this guidance to the extent practicable to an ongoing NEPA process," (88 FR 1196). The Air Force guidance on applying and conducting a Social Cost of GHG Analysis is under development. The Air Force guidance will be released shortly and will provide specifics on applying Social Cost of GHG Analyses and ensure standardization across the Air Force. Therefore, no Social Cost of GHG Analysis will be conducted for EAs and EISs that are currently ongoing.

3.6.2 Existing Conditions

3.6.2.1 Regional Climate

Grand Forks AFB is in the northeastern part of North Dakota and its climate is representative of that of the Northern Great Plains. Its regional climate is characterized by cold winters and warm to hot summers and

experiences wide extremes in temperatures. The warmest month in the region is July, with average high and low temperatures of 81 degrees Fahrenheit (°F) and 56°F, respectively. January is the coldest month, with an average high temperature of 17°F and average low temperature of -3°F. The wettest month by average precipitation is July, with an average of 3.48 inches of rain. The driest month is February, with an average of 0.52 inch of precipitation. December and January are the months with the highest average snowfall of 11 inches (US Climate Data, 2019).

3.6.2.2 Air Quality Status and Existing Emissions

Grand Forks AFB is in Grand Forks County, which is in attainment/unclassifiable for all criteria pollutants (USEPA, 2023a). As a result, the General Conformity Rule does not apply to the Proposed Action and no conformity analysis is required. The NDDEQ owns and operates a network of eight ambient air quality monitoring sites located across the state. NDDEQ air quality monitoring data show that the air quality in the region, including Grand Forks County, is generally good and there were no exceedances of either the federal or state ambient air quality standards in calendar year 2021 for ozone, nitrogen oxides, or particulate matter (NDDEQ, 2022).

3.6.2.3 Climate Change Considerations

Ongoing global climate change has the potential to increase average temperatures and cause more frequent rainstorms in the Great Plains region of the US, including North Dakota (USEPA, 2016). These variations in regional climate patterns could result in changes to flooding frequency, vegetation types, and vegetation growth rates.

3.6.3 Environmental Consequences

3.6.3.1 Evaluation Criteria

Because the North Dakota AQCR is in an attainment or unclassifiable area for all NAAQS (40 CFR §81.335); the General Conformity Rule does not apply to the Proposed Action.

When the ROI is in attainment for all NAAQS, the Prevention of Significant Deterioration (PSD) value is used as a threshold for all criteria pollutants other than lead. Due to the toxicity of lead, the use of the PSD threshold as an indicator of potential air quality impact insignificance is not protective of human health or the environment. Therefore, the *de minimis* value is used instead. Based on guidance in Chapter 4 of the Air Force's Air Quality EIAP Guide, Volume II, *Advanced Assessments*, proposed project emissions are compared against the insignificance indicator of 250 tons per year (25 tons per year for lead). Insignificance indicators were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the NAAQS. These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action would not cause or contribute to an exceedance of one or more NAAQSs.

3.6.3.2 Methodology

The Air Conformity Applicability Model (ACAM), (version 5.0.17b), developed by the Air Force Civil Engineering Center, was used to estimate air emissions associated with fugitive dust from earth-disturbance activities and operation of heavy-duty construction equipment and vehicles under the Proposed Action (see **Section 2.1**). The ACAM was run assuming that all construction would occur within a 12-month period. By doing so, emissions are estimated for the Proposed Action activities using the most conservative timeline scenario. If emissions estimated using the conservative approach do not exceed any of the significant thresholds or indicators, it can be safely assumed that there would be no exceedances in air emissions calculated using any other alternative scenario timelines.

The ACAM summary report and assumptions of the data used in the ACAM to estimate emissions are included in **Appendix D**.

3.6.3.3 Proposed Action

Emissions from the Proposed Action would primarily result from project activities associated with the following key actions: reconstruction of ground topography, regrading airfield's West Ditch for drainage improvement, drainage system redesign, perimeter fence replacement. Emissions would also occur from construction related vehicles off-site, including the hauling of fill material. **Table 3-4** compares the annual estimated emissions from implementation of the Proposed Action with the insignificance indicator for each criteria pollutant. The highest annual emission rate from construction activities would be for PM_{10} (93.782 tons per year), which would be below the insignificance indicator value. Impacts from earthwork projects, such as grading and trenching, would be primarily localized, with emissions occurring only during construction. Less-than-significant effects on air quality would be anticipated from implementing the Proposed Action. The Proposed Action would result in short-term, moderate, adverse impacts to air quality within the ROI.

No new stationary sources of air emissions would be anticipated as part of the Proposed Action. The addition of any new stationary sources in the future would need to comply with air quality permitting and operating requirements that apply to Grand Forks AFB.

Table 3-4.
Annual Emissions under the Proposed Action Compared with Insignificance Indicator

Activity	Emissions (tons per year)							
	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_X	VOC	Lead	NH_3
Reconstructing ground topography	1.859	1.911	65.071	0.071	0.006	0.343	0.000	0.0007
Regrading airfield West Ditch	0.298	0.237	4.187	0.009	0.001	0.042	0.000	0.0001
Redesigning the drainage system	1.196	1.064	22.711	0.038	0.004	0.202	0.000	0.0004
Replacing fencing	0.653	0.629	1.813	0.023	0.002	0.116	0.000	0.000
Proposed Action Total[a,b]	4.006	3.841	93.782	0.14	0.013	0.703	0.000	0.001
Insignificance Indicator[c] (tpy)	250	250	250	250	250	250	25	250
Exceedance (Yes/No)	No	No	No	No	No	No	No	No

ACAM = Air Conformity Applicability Model; CO = carbon monoxide; NAAQS = National Ambient Air Quality Standards; NH_3 = ammonia; NO_x = nitrogen oxides; PM_{10} = particulate matter less than or equal to 10 microns in diameter; $PM_{2.5}$ = particulate matter less than or equal to 2.5 microns in diameter; SO_2 = sulfur dioxide; tpy = tons per year; VOC – volatile organic compound;

Notes:

a ACAM output results.

b Implementation for all construction projects is assumed to occur during one calendar year (2024).

c Insignificance indicator values are for attainment area criteria pollutants. The Installation is in an attainment/unclassified area for all criteria pollutants of federal NAAQS.

The North Dakota Administrative Code specifies non-permitting requirements, such as control of fugitive dust (Chapter 33-15-17) and prohibitions for open burning (Chapter 33-15-04). Grand Forks AFB and its contractors would comply with applicable regulations and take reasonable measures for mitigating dust that may become airborne during grading, excavating, and land-clearing activities.

Total CO_2e emissions from the Proposed Action would be approximately 1,264.1 tons from construction activities (**Table 3-5**). North Dakota's 2020 GHG emissions is reported to be approximately 54.3 million metric tons of CO_2e from all sectors (US Energy Information Administration, 2020), which translates to approximately 59.85 million tons of CO_2e (1 metric ton = 1.10231 tons). As such, the Proposed Action would account for about 0.002 percent of North Dakota's 2020 total GHG emissions, as reported.

The Proposed Action would contribute a small fraction of the state's GHG emissions and would not be expected to result in a significant impact on climate change in the region. Emissions from combustion sources would produce increases in GHG emissions, contributing to the regional GHG inventory, albeit minimal.

Table 3-5.
Estimated GHG Emissions from Proposed Projects

Proposed Projects	Estimated GHG Emissions (US tons of CO_2e)
Reconstructing Ground Topography	607.3
Regrading Airfield West Ditch	74.6
Redesign of the Drainage System	371.4
Fence Replacement	210.8
Proposed Action Total	1264.1

CO_2e = carbon dioxide equivalent; GHG = greenhouse gas

There would be no significant impacts to air quality from the Proposed Action; therefore, no mitigation would be required. Best Management Practices (BMPs) that apply to Grand Forks AFB for construction and demolition would include dust suppression techniques, such as water spraying, which would result in lower emissions than those estimated in this section (see **Table 3-4**).

3.6.3.4 Cumulative Impacts

Implementation of the Proposed Action would result in a short-term temporary increase in construction-related emissions. Should reconstruction activities at Grand Forks AFB occur at the same time as other construction, demolition, or renovation projects, temporary cumulative effects to air quality as a result of increased particulate matter and dust in the air could occur. However, implementation of the Proposed Action would be required to implement BMPs to reduce fugitive dust and combustion emissions during construction activities to acceptable levels. Annual construction emissions associated with the Proposed Action are not expected to exceed *de minimis* thresholds during any year of cumulative project implementation.

Of the projects listed in **Table 3-1**, none would be anticipated to result in significant operational air quality impacts. Air quality impacts associated with these projects would occur as a result of construction and would be temporary in nature. Because no operational impacts to air quality would occur, the Proposed Action and projects listed in **Table 3-1** would not contribute significantly to any potential cumulative impacts to air quality. When considered in conjunction with past, present, and reasonably foreseeable environmental trends and planned actions at Grand Forks AFB, no significant cumulative effects to air quality would be anticipated with implementation of the Proposed Action.

3.6.3.5 No Action Alternative

The No Action Alternative would not generate any new construction emissions and would not change emissions from current emissions levels in the ROI. As a result, no impacts would occur to regional air quality under the No Action Alternative.

3.7 BIOLOGICAL RESOURCES

3.7.1 Definition of the Resource

Biological resources include native or invasive plants and animals; sensitive and protected floral and faunal species; and the associated habitats, such as wetlands, forests, grasslands, cliffs, and caves in which they exist. Habitat can be defined as the resources and conditions in an area that support a defined suite of organisms. The following is a description of the primary federal statutes that form the regulatory framework for the evaluation of biological resources.

The ROI for biological resources is Grand Forks AFB.

3.7.1.1 Endangered Species Act

The ESA established protection for threatened and endangered species and the ecosystems upon which they depend. Sensitive and protected biological resources include plant and animal species listed as threatened, endangered, or special status by USFWS. The ESA also allows the designation of geographic areas as critical habitat for threatened or endangered species. Under the ESA, an "endangered species" is defined as any species in danger of extinction throughout all, or a large portion, of its range. A "threatened species" is defined as any species likely to become an endangered species in the foreseeable future. USFWS maintains a list of candidate species under evaluation for possible listing as threatened or endangered under the ESA. Although candidate species receive no statutory protection under the ESA, USFWS has attempted to advise government agencies, industry, and the public that these species are at risk and may warrant protection in the future under the ESA.

3.7.1.2 Migratory Bird Treaty Act

The MBTA makes it unlawful for anyone to take migratory birds or their parts, nests, or eggs unless permitted to do so by regulations. Per the MBTA, "take" is defined as "pursue, hunt, shoot, wound, kill, trap, capture, or collect" (50 CFR § 10.12). Birds protected under the MBTA include nearly all species in the US except for non-native/human-introduced species and some game birds.

EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, requires all federal agencies undertaking activities that may negatively impact migratory birds to follow a prescribed set of actions to further implement MBTA. EO 13186 directs federal agencies to develop a Memorandum of Understanding (MOU) with USFWS that promotes the conservation of migratory birds. The DoD has signed a MOU with the USFWS to promote the conservation of migratory birds while sustaining the use of military managed lands and airspace for testing, training, and operations. (DoD 2014). Under the terms of the MOU, operational safety takes precedence over conservation in airfield environments.

The *National Defense Authorization Act for Fiscal Year 2003* (Public Law 107-314, 116 Stat. 2458) provided the Secretary of the Interior the authority to prescribe regulations to exempt the Armed Forces from the incidental take of migratory birds during authorized military readiness activities. Congress defined military readiness activities as all training and operations of the US Armed Forces that relate to combat and the adequate and realistic testing of military equipment, vehicles, weapons, and sensors for proper operation and suitability for combat use. Further, in October of 2012, the Authorization of Take Incidental to Military Readiness Activities was published in the *Federal Register* (50 CFR § 21.15), authorizing incidental take during military readiness activities unless such activities may result in significant adverse effects on a population of a migratory bird species.

In December 2017, the US Department of the Interior issued M-Opinion 37050, *The Migratory Bird Treaty Act Does Not Prohibit Incidental Take*, which concluded that the take of migratory birds from an activity is not prohibited by the MBTA when the purpose of that activity is not the take of a migratory birds, eggs, or nests. On 11 August 2020, the US District Court, Southern District of New York, vacated M-37050. Thus, incidental take of migratory birds is again prohibited. The interpretation of the MBTA remains in flux, and additional court proceedings are expected.

3.7.1.3 Bald and Golden Eagle Protection Act

The *Bald and Golden Eagle Protection Act of 1940* (16 USC §§ 668–668d) (BGEPA) prohibits actions to "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle [or any golden eagle], alive or dead, or any part, nest, or egg thereof." Further, the BGEPA defines "take" as:

> *[P]ursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.*

The BGEPA defines "disturb" as:

> *[T]o agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, injury to an eagle, a decrease in productivity by substantially interfering with the eagle's normal breeding, feeding or sheltering behavior, or nest abandonment by substantially interfering with the eagle's normal breeding, feeding, or sheltering behavior.*

The BGEPA also prohibits activities around an active or inactive nest site that could result in disturbance to returning eagles.

3.7.1.4 Invasive and Noxious Weed Species

Invasive species are non-native species whose introduction causes or is likely to cause economic or environmental harm, or harm to human, animal, or plant health. EO 13751, *Safeguarding the Nation from the Impacts of Invasive Species*, requires federal agencies to identify actions that may affect invasive species; use relevant programs to prevent introductions of invasive species; detect, respond, and control such species; monitor invasive species populations; and provide for restoration of native species. Invasive species damage native habitat and impede management by outcompeting native species.

Noxious weeds in North Dakota are any plant propagated by either seed or vegetative parts and determined to be injurious to public health, crops, livestock, land, or other property by the state, county, or municipal authority (North Dakota Century Code § 4.1-47-02, *Control of Noxious Weeds*).

3.7.2 Existing Conditions

3.7.2.1 Ecoregion Description

Based on the US Forest Service's use of Bailey's Ecoregions, the ROI for the Proposed Action, is located within the Humid Temperate Domain (Grand Forks AFB, 2020b). The Humid Temperate Domain is influenced by both tropical and polar air masses. Within the Humid Temperate Domain, there are six divisions; Grand Forks AFB is located within the Prairie Division. Climates in the Prairie Division are subhumid and typically receive between 20 to 40 inches of rain per year. Grand Forks AFB is located entirely within the Lake Agassiz Plain Level III Ecoregion. Ecoregions are used to describe areas of similar type, quality, and quantity of environmental resources (USEPA, 2020). Ecoregions are assigned hierarchical levels to delineate regions spatially based on different levels of planning and reporting needs. Level III ecoregion descriptions provide a regional perspective and are specifically oriented for environmental monitoring, assessment and reporting, and decision-making (Commission for Environmental Cooperation, 1997). The vegetation and wildlife common within the ecoregion on Grand Forks AFB are described below.

Regional Environment

Several natural areas maintained by the State or Federal Government are located within 5–10 miles of Grand Forks AFB, totaling approximately 10,000 acres of grasslands with interspersed wetland and wetland complexes in this area to preserve and protect native and restored prairies. The largest area is the Kellys Slough National Wildlife Refuge (NWR) Greater Complex of more than 6,800 acres located approximately 2 miles east of the Base. This area serves as a major stopover point for migratory waterfowl and shorebirds, providing breeding habitat for several bird species.

The University of North Dakota owns a parcel of land adjacent to the western portion of the Base in Mekinock Township. This parcel runs northwestward from the Installation. Turtle River State Park, which is approximately 6 miles west of Grand Forks AFB on the Turtle River, contains approximately 784 acres of diverse habitat including upland hardwoods, wetlands, and prairie remnants.

3.7.2.2 Vegetation

Of the Base's 5,745 acres of land, much of it was historically agricultural land before construction of Grand Forks AFB in the mid-1950s. During that time, much of the Base was planted in a standard grass mix of smooth bromegrass (*Bromus inermis*), red fescue (*Festuca rubra*), and Kentucky bluegrass (*Poa pratensis*). Since then, some areas have been improved with native prairie species such as western wheat grass (*Pascopyrum smithii*), little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardii*), switchgrass (*Panicum virgatum*), sideoats gramma (*Bouteloua curtipendula*), and Indian grass (*Sorghastrum nutans*). However, there are no known natural prairie remnants on Installation property.

Native vegetation is uniquely adapted to growing conditions in this ecotype; introduced and turf-type grasses will not thrive in the combination of hydric soils, salinity, and temperature extremes at Grand Forks AFB. Ponding and open-water areas reduce root depth and vegetation often drowns, causing open, bare areas. These bare soil areas can be seen across Grand Forks AFB with visible white crusts indicating their saline nature.

The majority of the project area is cool-season grassland. Within the project area, unimproved vegetation receives various grounds maintenance management actions such as occasional mowing, woody vegetation removal, and/or prescribed burning actions to provide operational maintenance.

Wetlands cover approximately 93 acres in the project area (see **Section 3.8.2.2**). Most of the wetlands occur on the north end of the project area with a smaller area occurring along the west side. Wetlands are mostly dominated by herbaceous species including rushes (*Juncus* spp.), cattails (*Typhus* spp.), spike-rushes (*Eleocharis* spp.), chainmaker's bulrush (*Scirpus americanus*), hairy-fruit sedge (*Carex trichocarpa*), and prairie cordgrass (*Spartina pectinata*) (Grand Forks AFB, 2013a).

Woodland areas on the west sides of the airfield have been identified as a wildlife attractant due to tall trees (**Figure 3-2**). These locations were attractive to raptors to perch as they hunt on the airfield. Many other birds such as crows, blackbirds, sparrows, and songbirds would use this location for perching and loafing.

The Turtle River and associated riparian corridor that extends from Turtle River State Park past Grand Forks AFB is an important link connecting natural ecosystems in the region. The river and riparian area runs through the northwestern corner of the Base, within the project area. The river and its wooded banks serve as both habitat and as a corridor for native wildlife and plants (Grand Forks AFB, 2020b).

3.7.2.3 Wildlife

A diversity of wildlife species is found on the Base nestled in a landscape of mixed-prairie, wetlands, and agricultural fields. Wildlife species observed range from small mammals, such as mice, to larger ungulates, such as white-tailed deer. Migratory birds are common, including waterfowl, neo-tropical migrants, and grassland birds. Mammals observed on Base are primarily small mammals common to grassland habitats, including the plains pocket gopher (*Geomys bursarius*), the Richardson's ground squirrel (*Spermophilus richardsonii*), the thirteen-lined ground squirrel (*Spermophilus tridecemlineatus),* the white-tailed jackrabbit (*Lepus townsendii*), eastern cottontail rabbit (*Sylvilagus floridanus*), and the striped skunk (*Mephitis mephitis*). The wetland areas also provide habitat for shrews, voles, muskrats, weasels, and foxes. All of these species are common to eastern North Dakota (Grand Forks AFB, 2020b).

The Turtle River, which runs through the northwestern corner of the Base, holds at least 14 species of fish (Grand Forks AFB, 2020). Four amphibian species and four reptile species have been identified on Base using available wetland and Turtle River riparian habitats. The identified amphibians include the American toad (*Bufo americanus*), Canadian toad (*Bufo hemiphrys*), northern leopard frog (*Rana pipiens*), and wood frog (*Rana sylvatica*). The reptiles found were the common garter snake (*Thamnophis sirtalis*), plains garter snake (*Thamnophis radix*), painted turtle (*Chrysemys picta*), and the common snapping turtle (*Chelydra serpentina*). There are 238 bird species known to occur on Grand Forks AFB. The Turtle River area provides habitat for a variety of woodland bird species. Grasslands are recognized as one of the most threatened ecosystems; the Installation's grasslands and wetlands provide habitat for various grassland birds (Grand Forks AFB, 2020b).

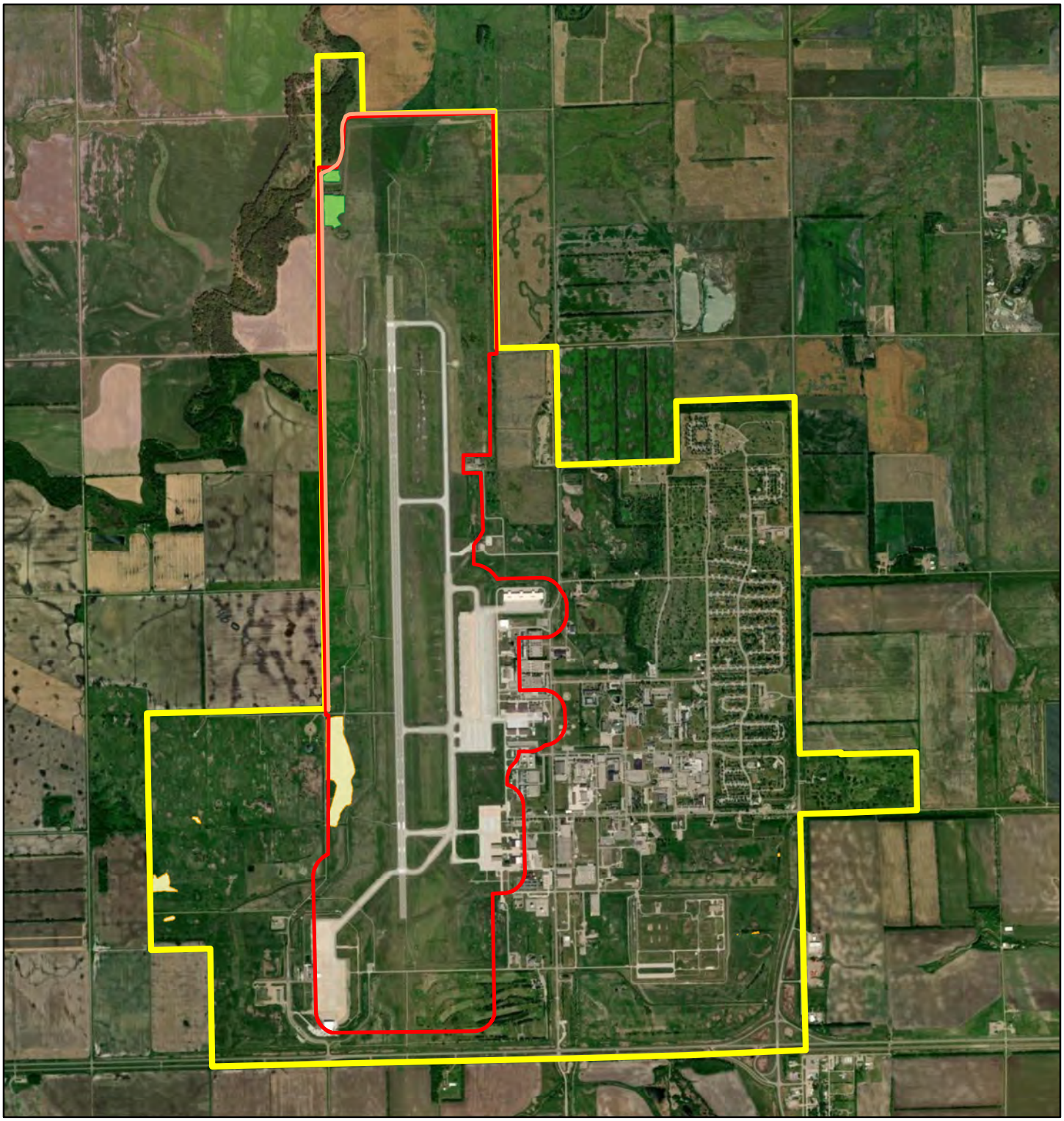


FIGURE 3-2
Vegetation

- Fence Line
- Installation Boundary
- Proposed Project Area
- Lesser Yellow and Small White Lady's Slipper
- Tree Area

N

0 0.5 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N

3.7.2.4 Threatened, Endangered, and Other Protected Species

Threatened and Endangered Species

Eight federally endangered, threatened, candidate, and critical habitat species are listed by the USFWS as known to occur in Grand Forks County, including the gray wolf (*Canis lupus*), whooping crane (*Grus americana*), northern long-eared bat (*Myotis septentrionalis*), red knot (*Calidris canutus rufa*), Dakota skipper (*Hesperia dacotae*), Poweshiek skipperling (*Oarisma poweshiek*), rusty patched bumble bee (*Bombus affinis*), and Sprague's pipit (*Anthus spragueii*) (Grand Forks AFB, 2020b). Through its Information for Planning and Consultation website, the USFWS, on 14 June 2023, identified the following species as potentially affected by activities at Grand Forks AFB: the northern long-eared bat and the monarch butterfly (*Danaus plexippus*), a candidate species (**Appendix A**).

Surveys for endangered, threatened, candidate, and other protected species and their habitats have been performed within the Installation boundaries. No federally listed threatened or endangered species have been observed on Grand Forks AFB, nor does critical habitat exist within Grand Forks AFB (Grand Forks AFB, 2020b). The Installation manages threatened and endangered species proactively to prevent potential listings as well as conserve species that are legally protected or of concern at the state or federal level. Whenever practicable within the constraints of the military mission, Grand Forks AFB will avoid/minimize impacts to the species and manage their habitats found on Base.

The northern long-eared bat has been sighted in North Dakota; however, there is no documentation of northern long-eared bats hibernating in the state. North Dakota is on the very western edge of their range. These bats are endangered primarily because of the white-nose syndrome fungus that is spreading rapidly throughout their range (Grand Forks AFB, 2020b).

The monarch butterfly is a candidate species being considered for protection under the ESA and occurs on Grand Forks AFB. Monarch butterflies feed on nectar from many flower species but breed only where there are milkweeds (*Asclepias* spp.). Monarchs are annual immigrants to North Dakota, arriving as early as mid-May. On Grand Forks AFB, monarch butterflies have been recorded nectaring at such sources as wild bergamot (*Monarda fistulosa*), hoary vervain (*Verbena stricta*), common milkweed (*Asclepias syriaca*), narrow-leaved coneflower (*Echinacea angustifolia*), and thistles (*Cirsium*) (Grand Forks AFB, 2014a).

Migratory Birds

Avian surveys have documented over 238 species of birds on Grand Forks AFB with 105 breeding species recorded, many of which are protected under the federal MBTA. Migratory bird species frequent the Base due to the available wetland and grassland habitat and are most likely to occur in the undeveloped areas of the Base. Migratory birds are common, including waterfowl, neo-tropical migrants, and grassland birds. Prairie pothole marshes, like those found on Grand Forks AFB and throughout the region, serve as breeding habitat for many waterfowl species and stopover sites for resting and feeding for all types of birds.

Sixty-two migratory birds classified as species of conservation priority (SCP) by the NDGFD occur on Grand Forks AFB in areas outside of the main cantonment area, including open grasslands, wetlands, and woodlands (Grand Forks AFB, 2020b). These include the bobolink (*Dolichonyx oryzivorus*), black-billed cuckoo (*Coccyzus erythropthalmus*), Le Conte's sparrow (*Ammodramus leconteii*), lark bunting (*Calamospiza melanocorys*), American bittern (*Botaurus lentiginosus)*, dickcissel (*Spiza americana*), black tern (*Chlidonias niger*), red-headed woodpecker (*Melanerpes erythrocephalus*), chestnut-collared longspur (*Calcarius ornatus*), grasshopper sparrow (*Ammodramus savannarum*), and Nelson's sparrow (*Ammodramus nelsoni*).

Kellys Slough NWR, approximately 2 miles from the Installation, serves as a migration stopover and staging area for shorebirds and waterfowl (e.g., ducks, geese, and swans) in the area. The closest bald eagle nest to Grand Forks AFB is on the west side of Kellys Slough NWR. A bald eagle was observed on the Installation in 2009 during the winter bird survey in the vicinity of the Turtle River riparian area, and golden eagles have been observed migrating through the Installation during the spring. The Base currently holds a permit to harass bald eagles for aviation safety concerns (Grand Forks AFB, 2020b).

Grand Forks Species of High Priority for Base Conservation

Numerous state SCP have been documented on the Installation. The list of SCPs prioritized by the Base for conservation includes species protected by the ESA, MBTA, and/or the BGEPA, and species that may have no or limited regulatory protection (Grand Forks AFB, 2020b) (**Table 3-6**). SCPs not protected under regulations but prioritized by the Base include the Canadian toad (*Bufo hemiophrys*), mapleleaf mussel (*Quadrula quadrula*), creek heelsplitter (*Lasmigona compressa*) regal fritillary (*Speyeria idalia*), Dutchman's breeches (*Dicentra cucullaria*), lesser yellow lady's slipper (*Cypripedium parviflorum var. parviflorum*), and white lady's slipper (*Cypripedium candidum*) (Grand Forks AFB, 2020b). A description of these species can be found in the Grand Forks AFB *Integrated Natural Resource Management Plan* (Grand Forks AFB, 2020b). The Canadian toad potentially occurs in wetland areas in the project area. The two mussel species occur in the Turtle River, outside the project area. The lesser yellow lady's slipper and the white lady's slipper orchids have been found growing in intermixing patches on Base, just west of the airfield within the project area and also in the southeastern portions of the Base (see **Figure 3-2**). The NDGFD lists both of these plants as imperiled/rare or uncommon (NDGFD, 2023).

3.7.2.5 Invasive and Noxious Weed Species

Surveys for invasive species and noxious weeds were conducted in 2003, 2008/2009, and 2013. Three invasive plant species are known to occur on Grand Forks AFB: field bindweed (*Convolvulus arvenis*), bull thistle (*Cirsium vulgare*), and perennial sowthistle (*Sonchus arvenis*) (Grand Forks AFB, 2013b). Six State-listed noxious weeds have been found on Base: absinth wormwood (*Artemisia absinthium*), Canada thistle (*Cirsium arvense*), leafy spurge (*Euphorbia esula*), musk thistle (*Carduus nutans*), spotted knapweed (*Centaurea maculosa*), and kochia (*Kochia scoparia*). Generally, Canada thistle and leafy spurge, along with the invasive species perennial sowthistle, are frequently found throughout the Installation. Weed removal is required under Air Force Manual 91-203, *Air Force Occupational Safety, Fire, and Health Standards* (2022), In addition, North Dakota Weed Law requires landowners to control and prevent the spread of noxious weeds from their properties. The Grand Forks County Weed Control Board is responsible for administering the Noxious Weed Control Program in Grand Forks County (Grand Forks AFB, 2020b; North Dakota Department of Agriculture, 2013).

3.7.3 Environmental Consequences

3.7.3.1 Evaluation Criteria

Evaluation criteria for potential impacts on biological resources are based on the following:

- importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource;
- proportion of the resource that would be affected relative to its occurrence in the region;
- sensitivity of the resource to the proposed activities; and
- duration of potential ecological impact.

Adverse impacts on biological resources would occur if the Proposed Action negatively affects species or habitats of high concern over relatively large areas or if estimated disturbances cause reductions in population size or distribution of a species of high concern.

As a requirement under the ESA, federal agencies must provide documentation that ensures that the agency's proposed actions would not adversely affect the existence of any threatened or endangered species. The ESA requires that all federal agencies avoid "taking" federally threatened or endangered species (which includes jeopardizing threatened or endangered species habitat).

Table 3-6.
Species of High Priority for Base Conservation

Common Name	Scientific Name	Federal Status	State Status (NDGFD SCP Level)[a]	Habitat
Amphibians				
Canadian toad	*Bufo hymiophyrs*	-	1	Shallow wetlands, streams and roadside ditches. Winters in burrows below frost line
Invertebrates				
Monarch butterfly	*Danaus plexippus*	-	1	Fields, roadside areas, open areas, wet areas, or urban gardens; milkweed and flowering plants are needed for monarch habitat
Regal fritillary	*Speyeria idalia*	-	1	Wet meadows and tallgrass prairie
Dakota skipper	*Hesperia dacotae*	T		Mixed and tallgrass prairie
Poweshiek skipperling	*Oarisma poweshiek*	E		Remnants of native prairie
Rusty patch bumble bee	*Bombus affinis*	T		Grasslands and tallgrass prairies
Mussels				
Mapleleaf	*Quadrula quadrula*	-	3	Large permanent streams. Located in the Turtle River (CE Park)
Creek heelsplitter	*Lasmigona compressa*	-	1	Large permanent streams. Located in the Turtle River (CE Park)
Plants				
Dutchman's breeches	*Dicentra cucullaria*	-	S1	Early spring bloomer, part shade, woodlands
Lesser yellow lady's slipper	*Cypripedium parviflorum*	-	S2/S3	Fields and open Areas, wet areas
White lady's slipper	*Cypripedium candidum*	-	S2/S3	Fields and open Areas, wet areas
Birds				
Bobolink	*Dolichonyx oryzivorus*	MBTA, BCC	2	Variety of grasslands including tall grass prairie, hay-land, and retired cropland
Black-billed cuckoo	*Coccyzus erythropthalmus*	MBTA, BCC	1	Groves of trees, forest edges, and thickets, frequently associated with water
Le Conte's sparrow	*Ammodramus leconteii*	MBTA, BCC	2	Fens, lowland tracts of tall grass prairie and wet meadows
Lark bunting	*Calamospiza melanocorys*	MBTA, BCC	1	Plains, prairies, meadows and sagebrush
American bittern	*Botaurus lentiginosus*	MBTA, BCC	1	Bogs, marshes, and wet meadows
Dickcissel	*Spiza americana*	MBTA, BCC	2	Alfalfa, sweet clover, and other brushy grasslands, irruptive species – 2007 on Base
Black tern	*Chlidonias niger*	MBTA, BCC	1	Shallow freshwater marshes with emergent vegetation, including prairie slough, lake margins and occasionally river or island edges
Red-headed woodpecker	*Melanerpes erythrocephalus*	MBTA, BCC	1	Open forests with clear understories, tree-rows in agricultural areas
Chestnut-collared longspur	*Calcarius ornatus*	MBTA, BCC	1	Mixed-grass and short grass uplands. Open prairie and cropland
Grasshopper sparrow	*Ammodramus savannarum*	MBTA, BCC	1	Open grasslands and prairies with patches of bare ground
Nelson's sparrow	*Ammodramus nelsoni*	MBTA, BCC	1	Freshwater prairie marshes and meadows

Source: Grand Forks AFB, 2020b; NDGFD, 2023
BCC = Birds of Conservation Concern; MBTA = Migratory Bird Treaty Act. NDGFD = North Dakota Game and Fish Department; SCP = Species of Conservation Priority; T&E = threatened and endangered
Notes:
a Plant rankings are obtained from the North Dakota Natural Heritage Program and are as follows: S1 = State-listed critically imperiled; S2 = State-listed imperiled; S3 = State-listed rare or uncommon;

3.7.3.2 Proposed Action

Vegetation

Vegetation in the project area would be converted to a drier monoculture of grass including approximately 93 acres of wetlands, existing areas with native prairie grasses, and 8 acres of woodland. The areas designated for project activities under the Proposed Action total 1,291 acres. Much of this area is identified as cool-season grassland that is dominated by introduced grasses including Kentucky bluegrass and smooth bromegrass. As part of the Proposed Action, the Base would cultivate airfield vegetation unattractive to wildlife such as a mown monoculture of grass without vertical habitat structure and minimal standing water. Vegetation height would be maintained between 7 and 14 inches. As a result, any grasslands within the project area would be regraded and replaced. Seed selection for the project area would include species adapted to the local area, deemed unattractive for wildlife, able to assist with infiltration rates to aid the removal of standing water, and that can thrive in the local ecotype (and soil types) withstanding repeated mowing to successfully meet DAFI compliance.

Grass species might not grow in bare, saline locations in the areas that are self-improved. The regrading and installation of drainage tile would replace the existing wetland vegetation in the project area with an herbaceous species that is adapted to drier conditions and periodic mowing. This would reduce the attractiveness of the area near the airfield to a wide variety birds adapted to wetlands and a diverse mixture of upland and wetland vegetation. Approximately 8 acres of woodland areas on the west side of the airfield that have been identified as a wildlife attractant would be removed under the Proposed Action (see **Figure 3-2**). The Proposed Action would have permanent, moderate, adverse impacts to vegetation within the ROI.

Two State-listed S2/S3-imperiled/vulnerable species of concern, the lesser yellow lady's slipper and the white lady's slipper orchids, occur within the project area. Under the Proposed Action, approximately 50 acres of lesser yellow lady's slipper and white lady's slipper orchids would likely be uprooted and removed during reconstruction activities in the project area. The Proposed Action would have permanent, moderate adverse impacts on lesser yellow lady's slipper and the white lady's slipper orchids within the ROI.

The Proposed Action would occur adjacent to the rare and significant ecological communities of the Turtle River and the associated lowland woodland community. Plant species of priority within the Turtle River lowland woodlands/riparian forest include the Dutchman's breeches, which is State-listed as S1-critically imperiled. Impacts to this community and this species could occur from runoff from the project area toward Turtle River or if construction boundaries crossed into the area of the Turtle River lowland woodlands/riparian forest.

Overall, the Proposed Action would be anticipated to have permanent, moderate, adverse impacts to vegetation within the ROI.

Wildlife

The conversion of the vegetation within the project area to a drier monoculture of grass would reduce the diversity of wildlife species that currently exists in the mixture of grassland, wetlands, and woodland areas. The Proposed Action would eliminate existing grassland habitat and would regrade and replace existing grasslands and wetlands with airfield vegetation unattractive to wildlife, such as a monoculture of an herbaceous species adapted to drier conditions and tolerant to periodic mowing.

Under the Proposed Action, wildlife would be adversely affected by reducing the quality of available habitat and could relocate to find more attractive habitat on Base or in adjacent landscapes to Grand Forks AFB. The woodland area that would be cleared is adjacent to larger woodland areas along the Turtle River, which may provide suitable habitat for displaced species. The number of common mammals and bird species inhabiting the existing grasslands could be reduced. Many bird species and larger mobile mammal species would likely relocate to other areas of similar habitat in the vicinity of Grand Forks AFB, such as the University of North Dakota Oakville Prairie Field Station, which contains 900 acres of upland and lowland prairie and is located approximately 4 miles southeast. Birds that are obligate wetland species would be displaced from the project area to other similar habitats in the region such as the five waterfowl production areas and the Kelly's Slough National Wildlife Refuge that are 3 to 8 miles east of the project area.

The Proposed Action also would include replacement of the Installation's west perimeter fence (22,240 feet of fence line). Fence posts would be driven into the ground 8 feet deep and 10 feet apart, requiring no digging or trenching. The proposed fence would not be specifically designed to keep out wildlife; rather, it would function as a security fence. Impacts on wildlife from the construction of the perimeter fence would be negligible.

Overall, the Proposed Action would be anticipated to result in permanent, minor, adverse impacts to wildlife, which would relocate to other suitable habitat regionally.

Threatened, Endangered, and Other Protected Species

No federally listed threatened or endangered species have been observed on Grand Forks AFB, nor does critical habitat exist within Grand Forks AFB. The Air Force has determined the Proposed Action would have "no effect" on federally threatened or endangered species.

The quality of habitat available to migratory birds, including the state SCP, would be reduced by removal of wetland habitat and the replacement of existing grassland with a monocultural herbaceous species less attractive to birds. The number of migratory birds, including the bobolink, black-billed cuckoo, Le Conte's sparrow, lark bunting, American bittern, dickcissel, black tern, red-headed woodpecker, chestnut-collared longspur, grasshopper sparrow, and Nelson's sparrow, would be reduced within the project area. To the extent available, migratory birds may use similar habitat in the surrounding region.

The SCP lesser yellow lady's slipper and the white lady's slipper orchids within the project area would be removed and replaced with vegetation unattractive to wildlife under the Proposed Action. Additionally, the SCP in the Turtle River area, including Dutchman's breeches, the Canadian toad, and two mussels (maple leaf and creek heelsplitter), could be impacted by the adjacent construction through water quality issues caused by runoff from the grading and construction. BMPs would be implemented during construction to minimize sedimentation and erosion with the potential to impact water quality. Common, indirect impacts of wetland removal would include an influx of surface water and sediments or changes in local drainage patterns (see **Section 3.8.3.2**). Increases in soil erosion and sedimentation could impact the Turtle River and the species found there.

Invasive and Noxious Weed Species

Soil disturbance during project activities would create potential sites for establishment of invasive and noxious weed species. However, the Proposed Action would cultivate airfield vegetation unattractive to wildlife and maintain vegetation height between 7 and 14 inches. The planting and maintenance of that vegetation could aid in preventing the establishment of invasive species and noxious weeds by eliminating existing invasive species within the project area. BMPs, such as checking construction sites for presence of invasive plants and noxious weeds, would also be employed. The use of off-Base fill material could increase the risk of invasive plants and noxious weeds. If invasive plants and noxious weeds are present, steps could be taken to lessen the probability of spreading seeds throughout the Installation, such as mechanical or chemical treatment of the plants, avoiding areas of invasive plants and noxious weeds, and thoroughly cleaning and inspection of equipment and work clothing before moving off Base. With implementation of the BMPs such as those in the Grand Forks AFB *Noxious and Invasive Weed Survey and Control Plan* (Grand Forks AFB, 2013b), impacts from invasive plants and noxious weeds would not be expected.

3.7.3.3 Cumulative Effects

Impacts to biological resources would be expected to wetlands, migratory birds, and other SCPs. Much of the surrounding land that was historically grasslands and wetlands has previously been converted to agricultural land. Regionally, Kellys Slough NWR (**Table 3.1**) provides habitat for migratory waterfowl and shorebirds. Refuge staff manage the NWR water levels to meet those needs, providing wetlands with a variety of water levels and open mudflats. In addition to the 6,800 acres of NWR lands and waters, there are several USFWS-owned waterfowl production areas and a State-owned wildlife management area adjacent to and nearby the NWR that provide additional grassland and wetland habitat. A reduction in wetland and grassland habitat at Grand Forks AFB could cause birds that are obligate wetland species to

be displaced from the project area to other similar habitats in the region, like those found at Kellys Slough NWR. Also, development within GrandSKY Business Park may result in filling of wetlands within the GrandSKY property. However, the amount of wetlands potentially impacted by construction has not yet been determined.

When considered in conjunction with past loss of wetland and grassland habitat and reasonably foreseeable environmental trends and planned actions at Grand Forks AFB, the Proposed Action would have moderate, adverse cumulative effects to biological resources. However, improvements to grassland and mitigations that may be implemented under a Section 404 permit for conversion of wetlands would reduce the cumulative impacts of the Proposed Action.

3.7.3.4 No Action Alternative

Under the No Action Alternative, no reconstruction and replacement activities would occur. There would be no changes to biological resources beyond baseline conditions. The No Action Alternative would leave the Installation out of compliance with DAFI 91-202 and DAFI 91-212 regarding airfield vegetation.

3.8 WATER RESOURCES

3.8.1 Definition of the Resource

Water resources include surface water, groundwater, stormwater, wetlands, and floodplains. The *Federal Water Pollution Control Act of 1948*, as amended by CWA, was enacted to protect water resources vulnerable to contamination and quality degradation. The CWA provides the authority to establish water quality standards, control discharges into surface and subsurface waters (including groundwater), develop waste treatment management plans and practices, and issue permits for discharges. A National Pollutant Discharge Elimination System (NPDES) permit under Section 402 of the CWA is required for discharges into navigable waters. The USEPA oversees the state's issuance of NPDES permits at federal facilities as well as water quality regulations (CWA, Section 401) for both surface- and groundwater.

The ROI for water resources is Grand Forks AFB and areas downstream that are entirely within the Lower Red Drainage Basin, and the Turtle Watershed.

3.8.1.1 Surface Water and Stormwater

The USACE and USEPA define surface waters as Waters of the US (WOTUS), which are primarily lakes, rivers, estuaries, coastal waters, and wetlands. WOTUS, or jurisdictional waters, including surface water resources as defined in 33 CFR § 328.3, are regulated under Sections 401 and 404 of the CWA and Section 10 of the *Rivers and Harbors Act*. Man-made features not directly associated with a natural drainage, such as upland stock ponds and irrigation canals, are generally not considered jurisdictional waters.

3.8.1.2 Stormwater

Stormwater is surface runoff generated from precipitation and has the potential to introduce sediments and other pollutants into surface waters. Stormwater is regulated under the CWA Section 402 NPDES program. Impervious surfaces such as buildings, roads, parking lots, and even some natural soils increase surface runoff. Stormwater management systems are designed to contain runoff on site during construction and to maintain predevelopment stormwater flow characteristics following development through either the application of infiltration or retention practices. Section 438 of the EISA (Public Law 110-140) establishes stormwater design requirements for development and redevelopment projects. Under these requirements, federal facility projects larger than 5,000 ft^2 must maintain or restore, to the maximum extent feasible, the predevelopment hydrologic conditions of the property with respect to the water temperature, rate, volume, and duration of flow.

3.8.1.3 Groundwater

Groundwater is water that exists in the saturated zone beneath the earth's surface in pore spaces and fractures and includes aquifers. Groundwater is recharged through water on the ground's surface seeping

downward through small holes and openings (e.g., precipitation and surface water bodies) and via the upward movement of water in lower aquifers through porous soil and rock. Groundwater is an essential resource that can be used for drinking, irrigation, and/or industrial processes, and can be described in terms of depth from the surface, aquifer or well capacity, water quality, recharge rate, and surrounding geologic formations. Groundwater quality and quantity are regulated under several different programs, including the *Safe Drinking Water Act* (Public Law 93-523; 42 USC 300f–300j), which helps protect aquifers that are critical to water supply.

3.8.1.4 Wetlands

The USACE (33 CFR § 328.3) and the USEPA (40 CFR § 230.3(o)) define wetlands as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands are a subset of WOTUS, and those deemed "jurisdictional" are regulated under Section 404 of the CWA. When a federal agency's proposed action requires a Section 404 wetlands permit, states are provided authority to enforce surface-water-quality standards under Section 401 of the CWA by review of the proposed action and permit application. The natural-function benefits of wetlands include flood control, groundwater recharge, maintenance of biodiversity, wildlife habitat, recreational opportunities, and maintenance of water quality.

3.8.1.5 Floodplains

Floodplains are areas of low-level ground along rivers, stream channels, or coastal waters that provide a broad area to fill with, and temporarily store, floodwater. In their natural vegetated state, floodplains slow the rate at which the incoming overland flow reaches the main water body. Floodplains are subject to periodic or infrequent inundation due to rain or melting snow. The risk of flooding is influenced by local topography, the frequency of precipitation events, and the size and characteristics of the watershed that contains the floodplain.

The Federal Emergency Management Agency (FEMA) evaluates and maps flood potential, which defines the 100-year (regulatory) floodplain. The 100-year floodplain is the area that has a 1-percent annual chance of inundation by floodwater. FEMA uses letter designations for flood zone classification. Zone A designates 100-year floodplains where flood depths (base flood elevations) have not been calculated and further studies are needed. Zone AE floodplains include calculated base flood elevations, which are the minimum elevation standards for buildings in a floodplain. Zone X indicates areas outside of the FEMA 100-year regulatory floodplain that have a low risk of flooding hazards (FEMA, 2020). Federal, state, and local regulations often limit floodplain development to passive uses, such as recreational and preservation activities, to reduce the risks to property and human health and safety.

EO 11988, *Floodplain Management*, provides guidelines that agencies should follow as part of their decision-making process on projects that have potential impacts to, or within, the floodplain. This EO requires that federal agencies avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and avoid direct and indirect support of floodplain development wherever there is a practicable alternative. As its title implies, EO 13690, *Establishing a Flood Risk Management Standard and Process for Further Soliciting and Considering Stakeholder Input*, provided a means for stakeholder involvement; however, this EO was later revoked by Section 6 of EO 13807, *Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure*. EO 13807 did not revoke or otherwise alter EO 11988.

3.8.2 Existing Conditions

3.8.2.1 Surface Water

Grand Forks AFB is located within the approximately 40,200-square-mile Red River Basin, which spans parts of eastern North Dakota, northwestern Minnesota, and northeastern South Dakota in the US and southern Manitoba in Canada. Within the Red River Basin, Grand Forks AFB is located in the Turtle

Watershed, which is approximately 683 square miles[3] (North Dakota Department of Health [NDDH] 2018a, 2018b).

No surface water is located within the proposed project area. The Turtle River, which flows through the northwest corner of the Installation (outside of the project area), is a perennial stream tributary to the Red River (**Figure 3-3**). It is the only primary surface water present on Grand Forks AFB and is listed by the NDDH as fully supporting, but threatened, with respect to fish and other aquatic biota beneficial uses due to elevated cadmium and selenium (NDDH, 2019). The Turtle River cannot be used as drinking water without further treatment, but can be used for irrigation, water recreation, and propagation of resident fish species (Grand Forks AFB, 2020b). Kellys Slough, an intermittent stream tributary to Turtle River that flows through the Kellys Slough NWR, is located approximately 2 miles east of the Base. The NDDH has not assigned beneficial uses or established water quality criteria for Kellys Slough.

3.8.2.2 Wetlands

There are approximately 412 acres of wetlands on Grand Forks AFB. A wetlands survey and delineation of the project area was conducted in 2021 and a full report of the findings was completed in February of 2022. A total of 1,291 acres was surveyed and 92.81 acres of wetlands were identified. Approximately 98 percent, or 91.07 acres of the area surveyed, are classified as palustrine emergent wetlands, and 2 percent, or 1.74 acres are classified as palustrine scrub-shrub (Grand Forks AFB, 2022). Palustrine emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes (i.e., aquatic plants), excluding mosses and lichens. Palustrine scrub-shrub wetlands include wetland areas dominated by woody vegetation less than 20 feet tall. The majority of wetlands at Grand Forks AFB also are prairie potholes, a type of wetland that forms in shallow depressions in the land. Prairie potholes generally receive the majority of their water from snowmelt runoff in the spring with secondary sources emanating from warm season precipitation.

A total of 48.8 acres of wetlands appear to have a connection to WOTUS. The remaining 43.93 acres of wetlands identified in the project area appeared to be surrounded by upland with no discernable overland connection to other WOTUS.

As described in the 2022 survey report, 92.81 acres of wetlands were identified within the project area (Grand Forks AFB, 2022). In a letter dated 4 June 2024, the USACE, Omaha District, determined that 52.37 acres of the 92.81 acres identified in the 2021 survey were jurisdictional.

For this delineation, the project area was divided into four major areas: Flight Line North (FLN), Flight Line South (FLS), Flight Line East (FLE), and Flight Line West (FLW) (**Tables 3-7–3-10** and **Figures 3-4–3-9)**.

Approximately 41 percent of the wetlands delineated within the project area were located in FLN. The area that comprises FLN has a high prevalence of wetlands, in part because this area is underlain by a predominantly hydric soil, Ojata silty clay loam (I176A) (see **Section 3.9** of this EA). Additionally, it is one of the lower-lying portions of the project area, with a gentle slope from the west to the northeast. A total of 22 wetlands (38.06 acres) were mapped in FLN (**Table 3-7** and **Figure 3-4**). Nine of these wetlands were alongside or within ditches. One such wetland, FLN-06j, is in the Northwest Ditch, which runs along 22nd Avenue NE and connects with the Turtle River, a WOTUS, through a culvert system.

Approximately 11 percent of the wetlands delineated within the project area were located in FLS. The FLS area is underlain by Lankin loam, which is a predominantly non-hydric soil, and is characterized by mixed grasslands to the south and southeast of the runway. The survey identified 10 wetlands in this area totaling 10.19 acres, all of which are classified as palustrine emergent wetlands (**Table 3-8** and **Figure 3-5**). No wetlands in FLS have discernable aboveground connections to any WOTUS.

Approximately 14 percent of the wetlands delineated within the project area were located in FLE. The FLE area is the most developed of the survey areas and includes buildings, maintenance docks, plane storage hangars, and large areas of concrete. The survey identified 20 wetlands totaling 12.62 acres within FLE, all of which are classified as palustrine emergent wetlands (**Table 3-9** and **Figures 3-6** and **3-7**). No wetlands within FLE have discernable aboveground connections to any WOTUS.

[3] See the North Dakota Hydrologic Units Interactive map, https://www.arcgis.com/apps/View/index.html?appid=1af4ba1cfe6249a29d43cb5426ecbfe7

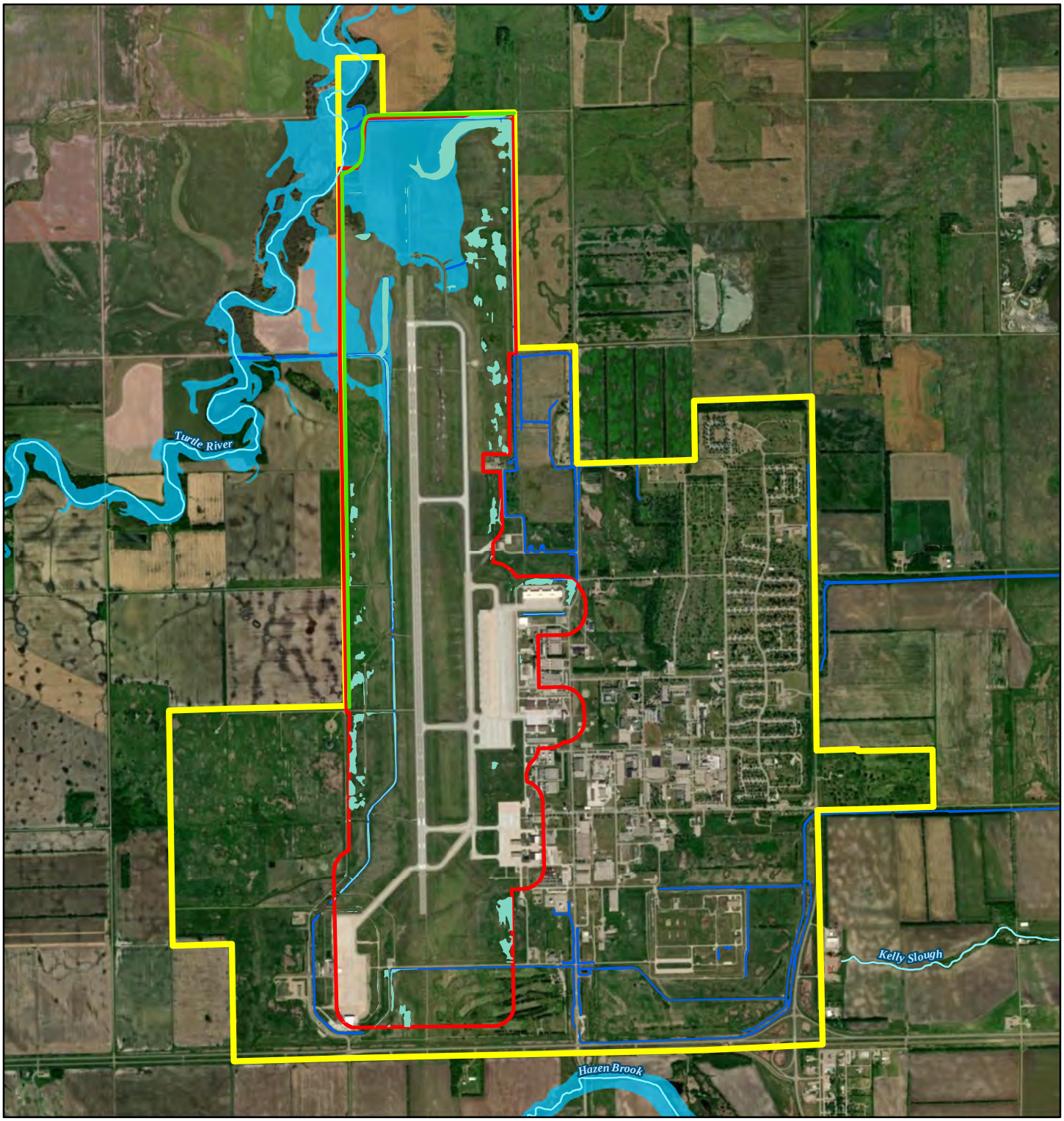


FIGURE 3-3
Surface Waters and Floodplains

- Drainage Ditch
- Fence Line
- River/Stream
- Installation Boundary
- Proposed Project Area
- Wetlands
- 100-Year Floodplain

N

0 0.5 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N

Table 3-7.
Wetlands – Flight Line North

Wetland ID	Type	Wetland Type	Jurisdictional	Area (acres)
FLN-01	Freshwater Emergent; pond	PEM	-	0.83
FLN-06b	Freshwater Emergent	PEM	Yes	19.81
FLN-06h	Freshwater Emergent; ditch	PEM	Yes	1.79
FLN-06j	Freshwater Emergent; ditch	PEM	Yes	2.51
FLN-08	Freshwater Emergent; ditch	PEM	-	3.19
FLN-09	Freshwater Emergent	PEM	-	3.77
FLN-12	Freshwater Emergent	PEM	-	1.29
FLN-13	Freshwater Emergent	PEM	-	1.46
FLN-14	Freshwater Emergent	PEM	-	0.73
FLN-15	Freshwater Emergent	PEM	-	0.24
FLN-17	Freshwater Emergent	PEM	-	1.04
FLN-18	Freshwater Emergent	PEM	-	0.39
FLN-19	Freshwater Emergent	PEM	-	0.24
FLN-20	Freshwater Emergent	PEM	-	0.17
FLN-21	Freshwater Emergent	PEM	-	0.06
FLN-22	Freshwater Emergent	PEM	-	0.14
FLN-23	Freshwater Emergent; ditch	PSS	-	0.09
FLN-24a	Freshwater Emergent; ditch	PEM	-	0.04
FLN-24b	Freshwater Emergent; ditch	PEM	-	0.01
FLN-24c	Freshwater Emergent; ditch	PEM	-	0.11
FLN-24d	Freshwater Emergent; ditch	PEM	-	0.06
FLN-24e	Freshwater Emergent; ditch	PEM	-	0.10
TOTAL				**38.06**

Source: Grand Forks AFB, 2022
FLN = Flight Line North; PEM = palustrine emergent; PSS = palustrine shrub-scrub

Table 3-8.
Wetlands – Flight Line South

Wetland ID	Type	Wetland Type	Jurisdictional	Area (acres)
FLS-16	Freshwater Emergent; ditch	PEM	Yes	0.74
FLS-17	Freshwater Emergent; ditch	PEM	Yes	1.17
FLS-18	Freshwater Emergent	PEM	-	0.07
FLS-25	Freshwater Emergent	PEM	-	4.05
FLS-31a	Freshwater Emergent; ditch	PEM	-	0.12
FLS-31c	Freshwater Emergent; ditch	PEM	-	0.05
FLS-31d	Freshwater Emergent; ditch	PEM	-	0.05
FLS-31h	Freshwater Emergent; ditch	PEM	-	0.29
FLS-45	Freshwater Emergent	PEM	-	1.89
FLS-51	Freshwater Emergent	PEM	-	1.76
TOTAL				**10.19**

Source: Grand Forks AFB, 2022
FLS = Flight Line South; PEM = palustrine emergent; PSS = palustrine shrub-scrub

Table 3-9.
Wetlands – Flight Line East

Wetland ID	Type	Wetland Type	Jurisdictional	Area (acres)
FLE-01	Freshwater Emergent	PEM	-	0.46
FLE-05	Freshwater Emergent	PEM	-	2.07
FLE-07i	Freshwater Emergent; ditch	PEM	Yes	0.21
FLE-11	Freshwater Emergent	PEM	-	0.23
FLE-12	Freshwater Emergent	PEM	-	0.85
FLE-14	Freshwater Emergent	PEM	-	0.42
FLE-16	Freshwater Emergent	PEM	-	0.45
FLE-19	Freshwater Emergent	PEM	Yes	3.64
FLE-20	Freshwater Emergent; ditch	PEM	Yes	0.43
FLE-25	Freshwater Emergent	PEM	-	0.03
FLE-27	Freshwater Emergent	PEM	-	0.01
FLE-28	Freshwater Emergent	PEM	-	0.07
FLE-31	Freshwater Emergent	PEM	-	0.01
FLE-32	Freshwater Emergent	PEM	-	0.52
FLE-33	Freshwater Emergent	PEM	-	0.12
FLE-34	Freshwater Emergent	PEM	-	0.42
FLE-35	Freshwater Emergent	PEM	-	2.03
FLE-36	Freshwater Emergent	PEM	-	0.32
FLE-37	Freshwater Emergent; ditch	PEM	Yes	0.16
FLE-38	Freshwater Emergent	PEM	-	0.17
TOTAL				**12.62**

Source: Grand Forks AFB, 2022
FLE = Flight Line East; PEM = palustrine emergent; PSS = palustrine shrub-scrub

Table 3-10.
Wetlands – Flight Line West

Wetland ID	Type	Wetland Type	Jurisdictional	Area (acres)
FLW-01a	Freshwater Emergent; ditch	PEM	Yes	12.04
FLW-01b	Freshwater Emergent; ditch	PEM	Yes	1.59
FLW-01c	Freshwater Emergent; ditch	PEM	Yes	2.25
FLW-01d	Freshwater Emergent; ditch	PEM	Yes	1.67
FLW-01e	Freshwater Emergent; ditch	PEM	Yes	0.04
FLW-02	Freshwater Emergent; ditch	PEM	-	2.19
FLW-03	Freshwater Emergent; ditch	PEM	-	0.36
FLW-05	Freshwater Emergent; ditch	PEM	-	0.51
FLW-06	Freshwater Emergent; ditch	PEM	Yes	0.36
FLW-07	Freshwater Emergent	PEM	Yes	3.91
FLW-08	Freshwater Emergent	PEM	-	0.56
FLW-09	Freshwater Scrub-Shrub	PSS	-	0.94
FLW-10	Freshwater Emergent	PEM	-	1.52
FLW-47	Freshwater Emergent; ditch	PEM	Yes	0.03
FLW-65	Freshwater Emergent; ditch	PEM	Yes	0.05
FLW-72	Freshwater Emergent	PEM	-	0.49
FLW-73	Freshwater Emergent	PEM	-	1.05
FLW-74	Freshwater Emergent	PEM	-	0.05
FLW-75	Freshwater Emergent	PEM	-	0.03
FLW-76a	Freshwater Emergent	PEM	-	0.47
FLW-76b	Freshwater Emergent; ditch	PEM	-	0.07
FLW-76c	Freshwater Emergent	PEM	-	0.06
FLW-77	Freshwater Emergent	PEM	-	0.60
FLW-78	Freshwater Emergent	PEM	-	0.10
FLW-79	Freshwater Emergent	PEM	-	0.10
FLW-80a	Freshwater Scrub-Shrub; ditch	PSS	-	0.29
FLW-80b	Freshwater Scrub-Shrub; ditch	PSS	-	0.06
FLW-80c	Freshwater Scrub-Shrub; ditch	PSS	-	0.06
FLW-80d	Freshwater Scrub-Shrub; ditch	PSS	-	0.30
FLW-81	Freshwater Emergent	PEM	-	0.20
TOTAL				**31.94**

Source: Grand Forks AFB, 2022
FLW = Flight Line West; PEM = palustrine emergent; PSS = palustrine shrub-scrub

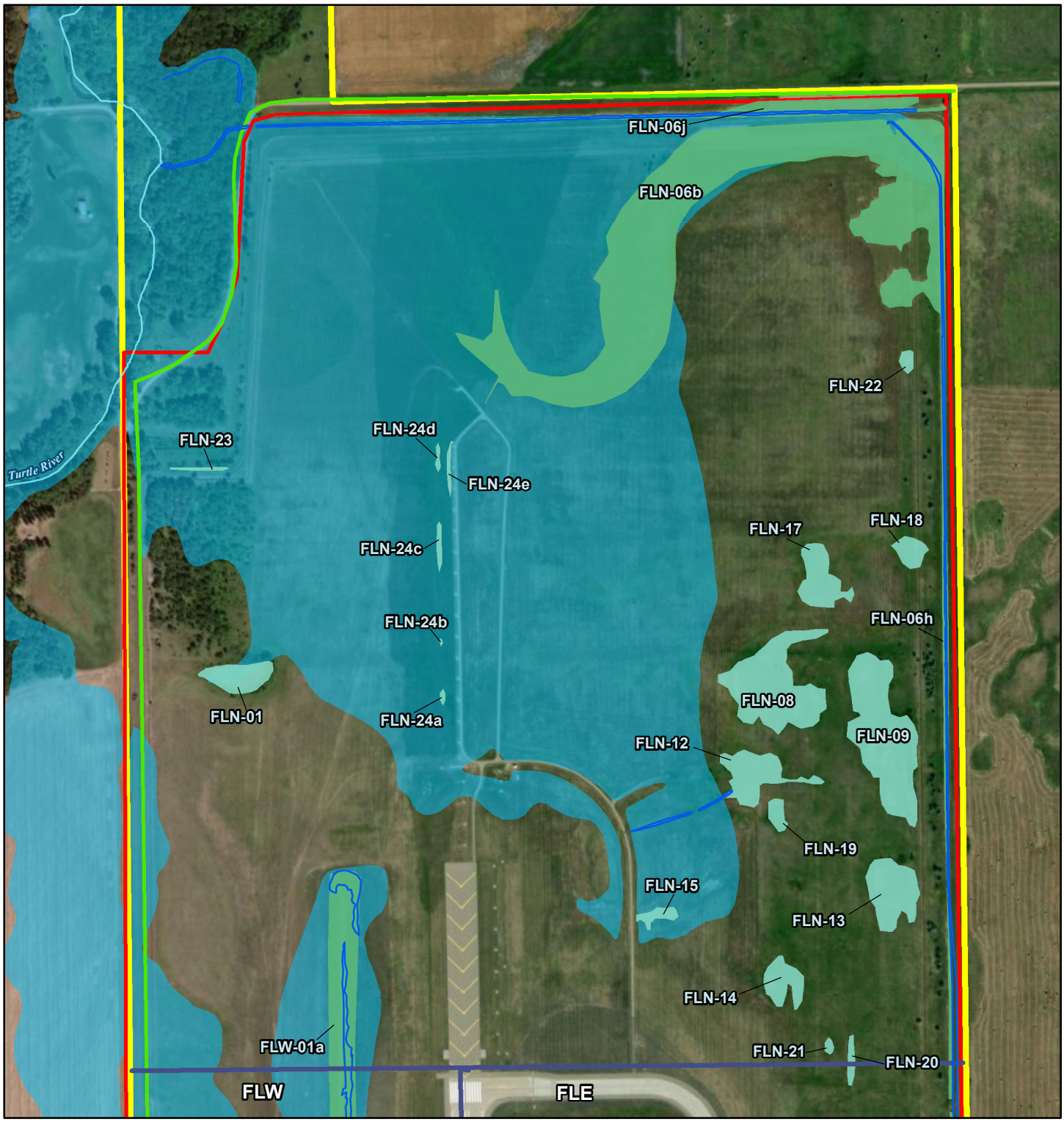


FIGURE 3-4

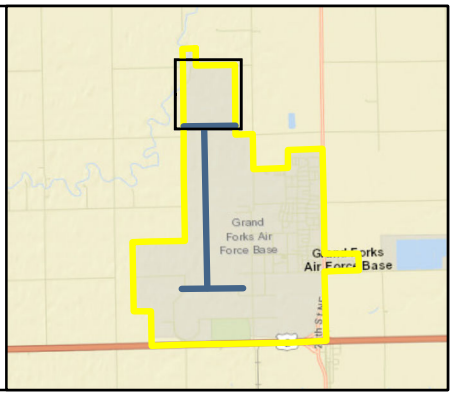
Wetlands Identified in the FLN Area

- Drainage Ditch
- Fence Line
- Flight Line Area Division
- River
- Installation Boundary
- Proposed Project Area
- Jurisdictional Wetlands
- Non-Jurisdictional Wetlands
- 100-Year Floodplain

N

0 0.1 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N



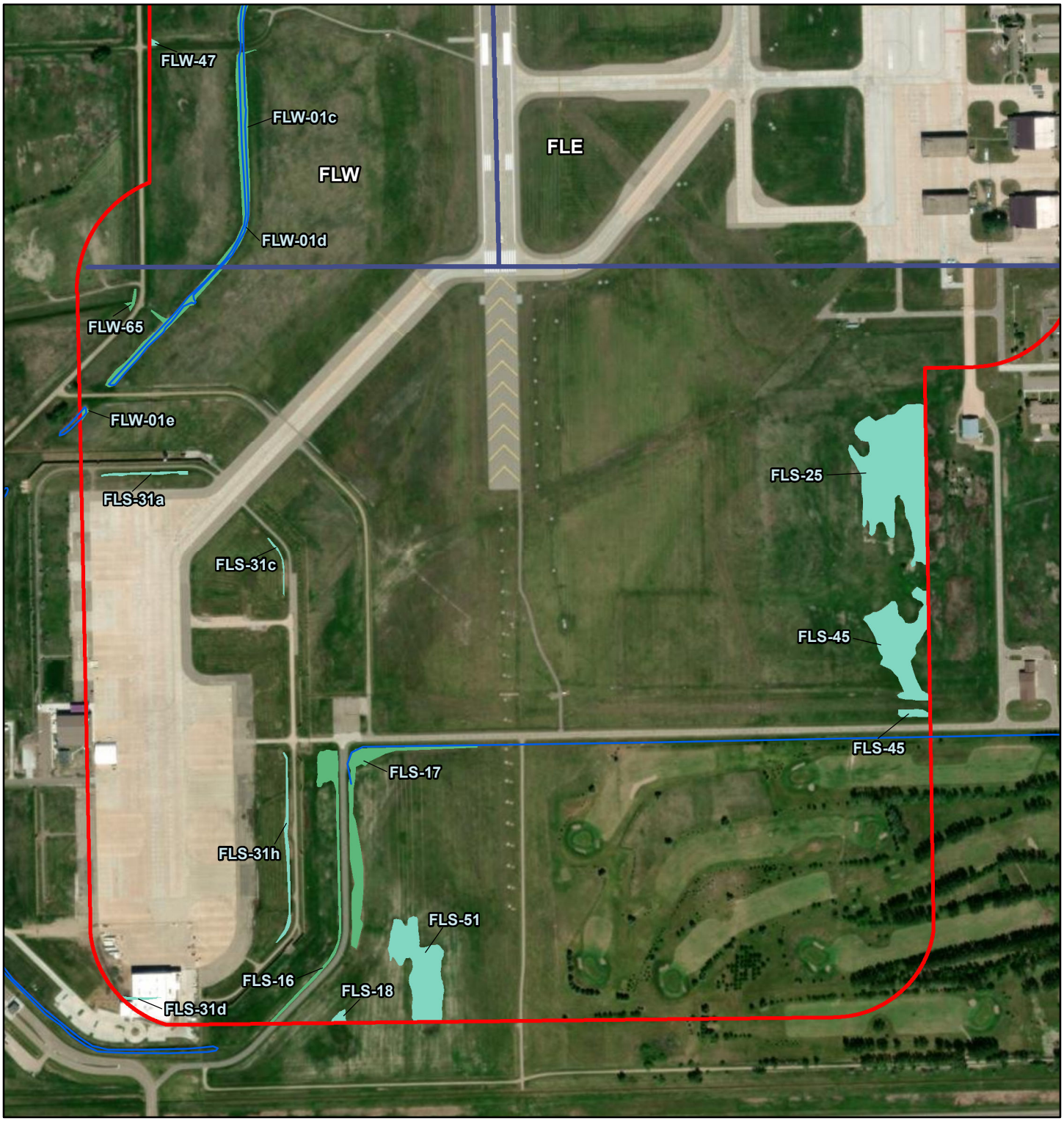


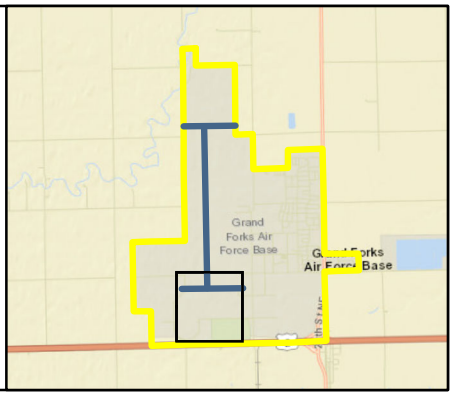
FIGURE 3-5
Wetlands Identified in the FLS Area

- Drainage Ditch
- Flight Line Area Division
- Proposed Project Area
- Jurisdictional Wetlands
- Non-Jurisdictional Wetlands

N

0 0.1 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N



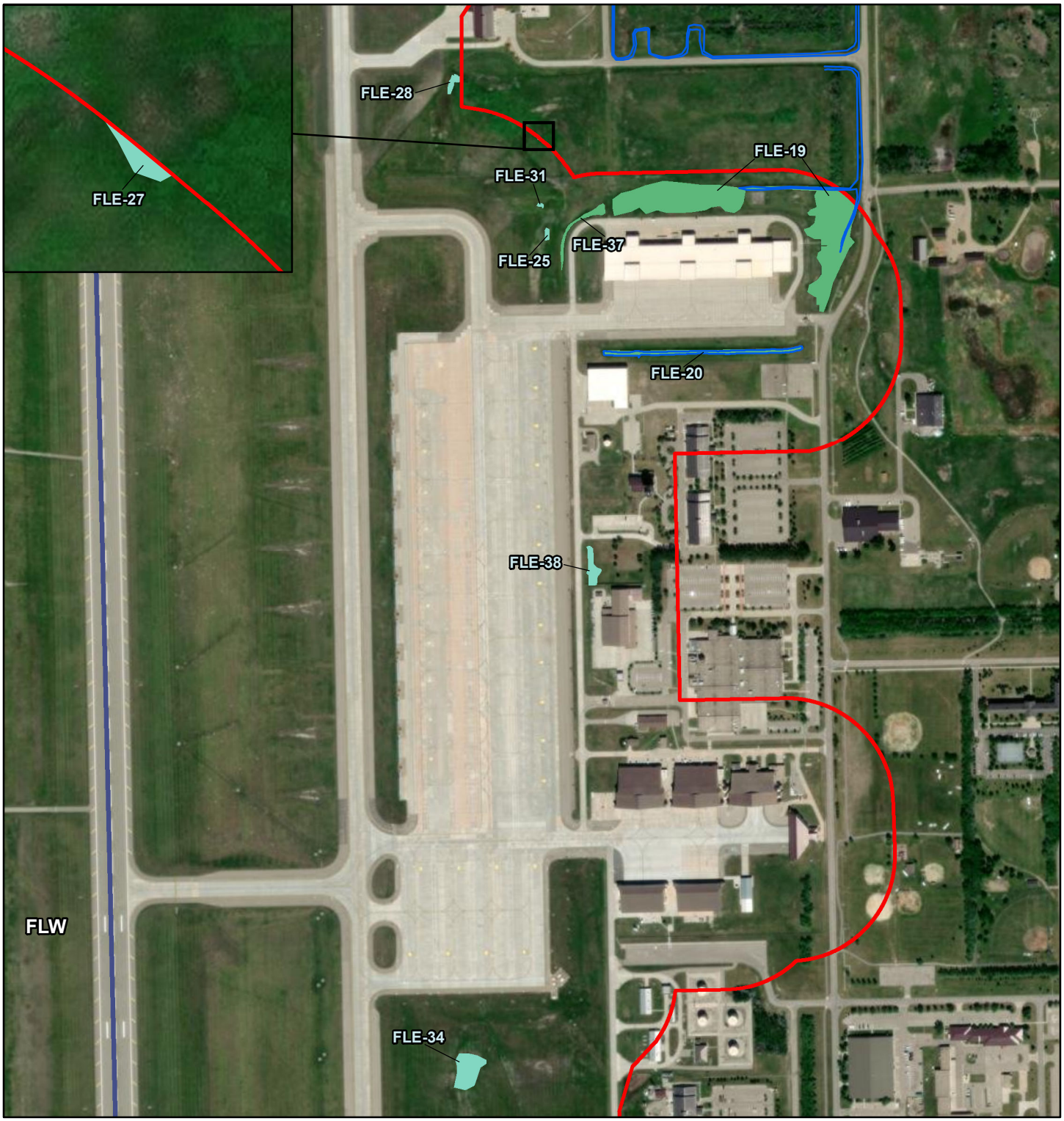


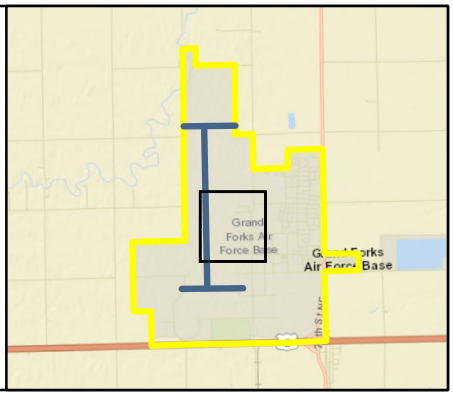
FIGURE 3-6
Wetlands Identified in the FLE Lower Area

- Drainage Ditch
- Flight Line Area Division
- Proposed Project Area
- Jurisdictional Wetlands
- Non-Jurisdictional Wetlands

N

0 0.1 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N



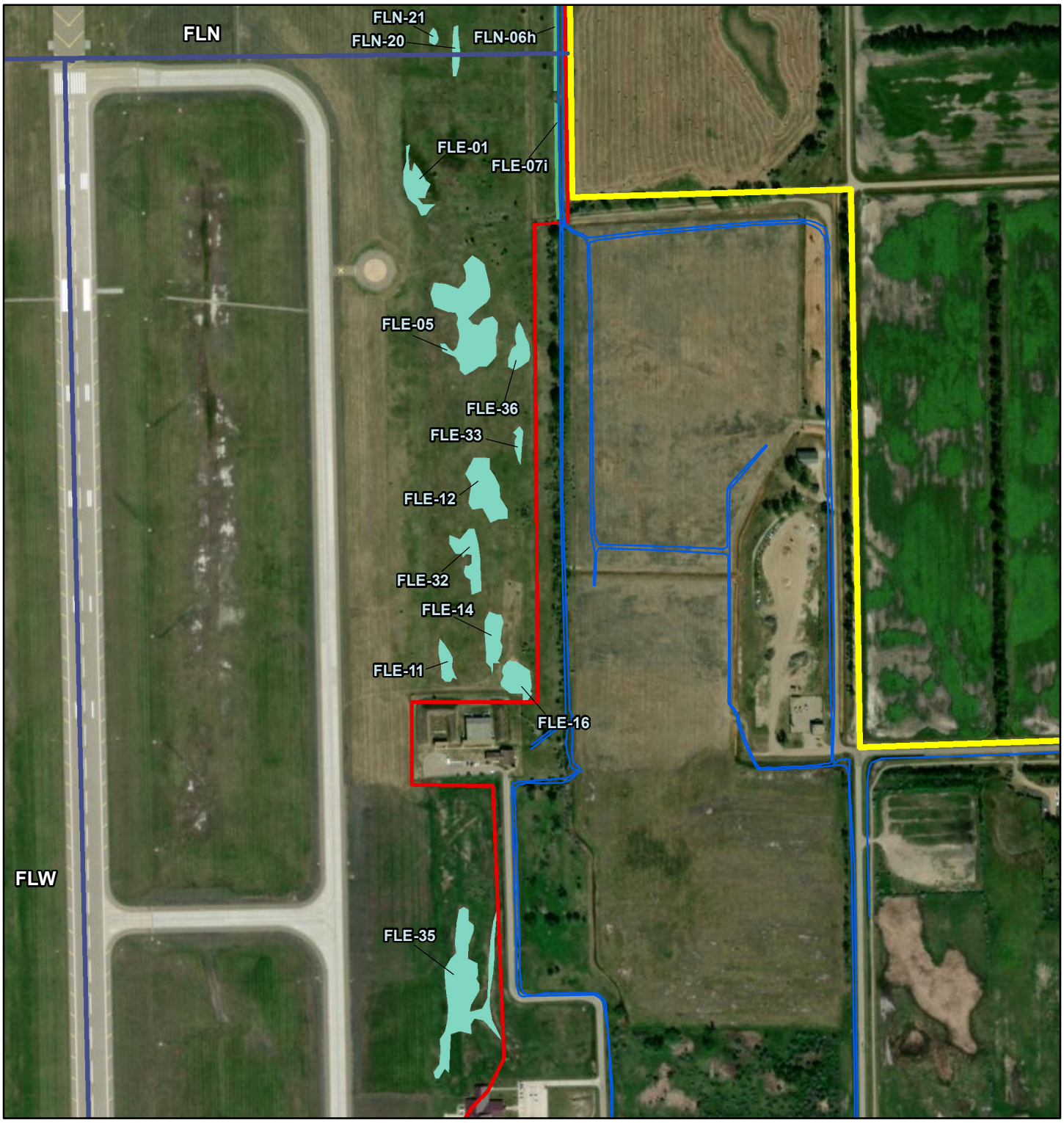


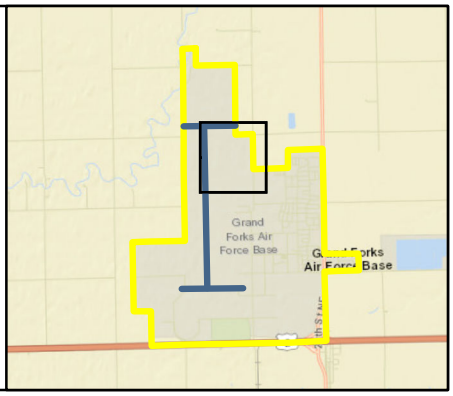
FIGURE 3-7
Wetlands Identified in the FLE Upper Area

Drainage Ditch
Flight Line Area Division
Installation Boundary
Proposed Project Area
Wetlands

N

0 0.1 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N



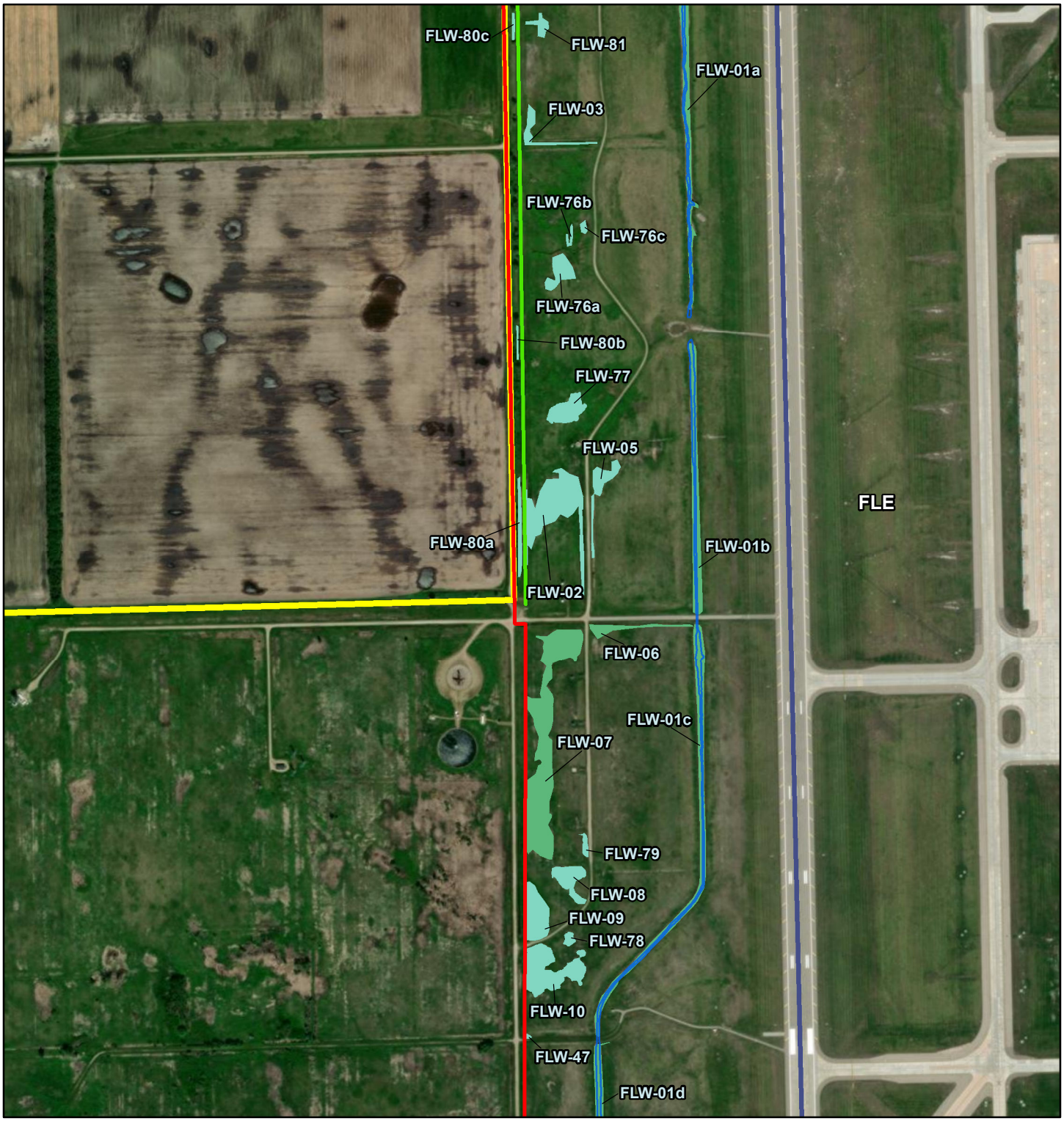


FIGURE 3-8
Wetlands Identified in the FLW Lower Area

- Drainage Ditch
- Fence Line
- Flight Line Area Division
- Installation Boundary
- Proposed Project Area
- Jurisdictional Wetlands
- Non-Jurisdictional Wetlands

N

0 0.1 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N

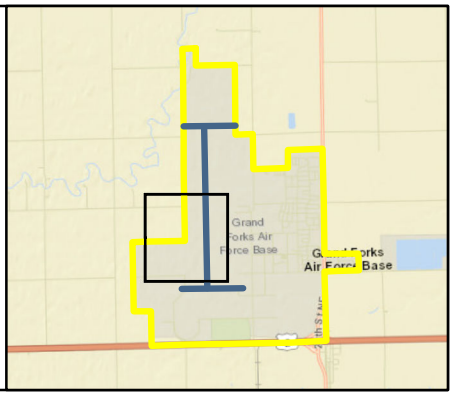


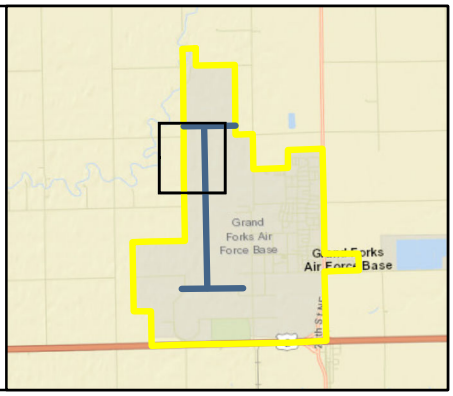
FIGURE 3-9
Wetlands Identified in the FLW Upper Area

- Drainage Ditch
- Fence Line
- Flight Line Area Division
- Installation Boundary
- Proposed Project Area
- Jurisdictional Wetlands
- Non-Jurisdictional Wetlands
- 100-Year Floodplain

N

0 0.1 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N



Approximately 34 percent of the wetlands delineated within the project area were located in FLW. The FLW area consists mostly of undeveloped land that is maintained in mixed grassland. A total of 30 separate wetlands covering 31.94 acres were identified in FLW, of which 25 are classified as palustrine emergent wetlands and 5 are classified as palustrine scrub-shrub (**Table 3-10** and **Figures 3-8** and **3-9**). Sixteen of these wetlands were alongside or within ditches; wetlands FLW-01a through FLW-01e make up a large ditch system that drains water from areas west of the runway into the Turtle River (the West Ditch), totaling 17.59 acres. This ditch system exits the Base through a culvert under 27th Street.

3.8.2.3 Stormwater

The majority of the project area has been graded such that drainage ditches collect surface water and flow from south to north, then west toward the Turtle River. The far northern portion of the project area drains to the northeast, and the southern portion drains to the east. Stormwater drainage at Grand Forks AFB is managed through a network of underground pipes and catch basins that direct runoff to four drainage ditches located in the southeastern, northeastern, northwestern, and western areas of the Base. Flow in these ditches is discharged to either Turtle River or Kellys Slough via nine outfalls that are operated under a NPDES Industrial Stormwater General Permit (NDR05-000). The project area borders the West Ditch and Northwest Ditch, which run along the Installation boundary (Grand Forks AFB, 2017).

The Northwest Ditch collects drainage from the sanitary landfill areas (both closed and capped), the Base small arms range, the northernmost end of the airfield, and part of the parallel taxiway area. The West Ditch collects drainage from much of the airfield runway and taxiway areas (including associated pavement underdrain systems), the now closed Explosive Ordnance Detonation Area, and the western perimeter of the Base. The West Ditch drains to Turtle River via a drainage channel along 21st Avenue (with a corresponding easement).

Both the West and Northwest ditches have the potential to contain the following significant materials (based on the definition of General Storm Water Permit, Part VI): propylene glycol (deicer), fuels (jet fuel, diesel, motor vehicle gasoline), oils and lubricants, used oils, and hazardous chemicals under CERCLA Section 101(14) (40 CFR Part 302) (Grand Forks AFB, 2020b).

3.8.2.4 Groundwater

The uppermost aquifer at Grand Forks AFB is the Emerado Aquifer, located 50 to 75 feet below ground surface. High levels of salt and dissolved solids have degraded the water quality of this aquifer. The Grand Forks AFB gets its drinking water mainly from the Red River and Red Lake River through the City of Grand Forks; therefore, potable water for Grand AFB is obtained through the City of Grand Forks from surface water resources including the Red River and Red Lake River (Grand Forks AFB, 2018a). A perched aquifer exists on portions of the Base approximately 3–8 feet below ground level. The water in the West Ditch is generally considered to be at water table level.

3.8.2.5 *Floodpl*ains

There is a 100-year floodplain associated with Turtle River that crosses the northwestern corner of Grand Forks AFB and extends along the northwestern panhandle of the Installation boundary, incorporating approximately 224 acres of the proposed project area (**Figure 3-3**). This floodplain is classified as Zone A, and as detailed analyses are not performed for Zone A floodplains, no base flood elevation has been established in this area. There is also a 100-year floodplain along the southeastern boundary of the sewage treatment lagoons associated with Kellys Slough (**Figure 3-3**) (FEMA, 2022).

3.8.3 Environmental Consequences

3.8.3.1 Evaluation Criteria

Evaluation criteria for potential impacts on water resources are based on water availability, quality, and use; existence of floodplains; and associated regulations. Potential adverse impacts to water resources would occur if the Proposed Action or Alternatives:

- reduce water availability or supply to existing users,
- overdraft groundwater basins,
- exceed safe annual yield of water supply sources,
- adversely affect water quality,
- endanger public health by creating or worsening health hazard conditions, or
- violate established laws or regulations adopted to protect sensitive water resources.

3.8.3.2 Proposed Action

Surface Waters

There are no surface waters located within the proposed project area. However, the Turtle River is located adjacent to the project area with parts of the project area draining to it through the Northwest Ditch and the West Ditch. While drainage maintenance and other improvements could be beneficial to regional surface waters, minor, adverse impacts to Turtle River would be expected due to runoff from construction activities and the filling of wetlands. These impacts are discussed further in the wetlands and stormwater sections below.

Wetlands

Under the Proposed Action, approximately 93 acres of wetlands would be filled and leveled to resolve standing water and reduce attractive habitat in the airfield and vicinity, resulting in a permanent adverse impact to affected wetlands. Wetland removal would decrease habitat, landscape diversity, and connectivity among aquatic resources. Common indirect impacts of wetland removal include influx of surface water and sediments or changes in local drainage patterns. Increases in soil erosion and sedimentation would have the potential to alter the quality and characteristics of wetlands and surface waters associated with the Turtle River and are further discussed below under *Stormwater*.

The 2022 wetlands delineation report identified 92.81 acres of wetlands occurring within the project area; however, the USACE, Omaha District, determined that only 52.37 acres within the proposed project area are classified as jurisdictional and are protected under the CWA. The determination is included as **Appendix E**. The Proposed Action would require Grand Forks AFB to obtain an individual Section 404 permit and a Section 401 permit under the CWA.

DoD facilities are to preserve the natural beneficial values of wetlands in carrying out activities in accordance with EO 11990, *Protection of Wetlands* and DoDI 4715.03, *Natural Resources Conservation Program*. Grand Forks AFB would ensure no net loss of size, function, and value of wetlands, and would preserve the natural and beneficial values of wetlands in carrying out activities in accordance with EO 11990. To document planning conducted to avoid and minimize potential adverse impacts of the Proposed Action on wetland resources, the Air Force prepared a FONPA.

The terms of a Section 404 permit require compensatory mitigation for any unavoidable permanent adverse impacts to wetlands, including those that would occur under the Proposed Action. Compensatory mitigation refers to restoration, creation, enhancement, and preservation of wetlands to compensate for permitted wetland losses. A Wetlands Mitigation Plan (**Appendix C**) was prepared for the Proposed Action and identified two mitigation banks in Grand Forks County that could be used for in-lieu fee program credits; these mitigation banks include the Mekinock Site, a private commercial mitigation bank, and the Thompson Site, which is administered by Ducks Unlimited, a private nonprofit organization. Grand Forks AFB would submit a more detailed compensatory mitigation plan following the completion of project design along with the Section 404 permit application as required (Grand Forks AFB, 2013a). Grand Forks AFB would take all necessary actions to remain in compliance with the CWA, and USACE and State of North Dakota wetland regulations. Because Grand Forks AFB would purchase adequate wetland mitigation credits to offset the unavoidable wetland impacts and strictly adhere to all applicable permit conditions and BMPs, the overall impacts of the Proposed Action on wetlands would be insignificant.

During project activities, Grand Forks AFB would require contractors to adhere to all applicable permits and management plans, including Section 404 and 401 permits under the CWA. Appropriate BMPs would also be adhered to, including source control measures to prevent pollutants from leaving certain areas,

reduce/eliminate the introduction of pollutants, protect sensitive areas, and prevent precipitation and pollutants from interacting. BMPs are implemented for all ground-disturbing activities greater than one acre to prevent soil erosion and protect surface waters (Grand Forks AFB, 2013a). All Section 404 permits also have associated BMPs that would be followed to minimize the risk of soil erosion or sediment discharges (Grand Forks AFB, 2020b). Minimization measures, including construction controls and natural resources controls, are outlined in the Wetlands Mitigation Plan (**Appendix C**). These measures, including development of a project-specific stormwater pollution prevention plan (SWPPP), would help to minimize effects to surrounding waters and wetlands that are not part of the Proposed Action, such as the Turtle River. Further analysis of avoidance and minimization efforts would be conducted prior to submitting the necessary permit applications for direct wetland impacts.

Stormwater

The Proposed Action includes regrading the airfield's West Ditch (up to 14,000 linear feet) and conducting perimeter drainage maintenance. During construction, the Proposed Action would increase the risk of soil being eroded and transported to nearby water bodies during stormwater events. Impacts to surface waters from sedimentation and erosion would be minimized through the implementation of appropriate erosion and sediment control BMPs which would prevent sediment, debris, and other pollutants from entering the Turtle River directly via the stormwater conveyance system. As part of that system, the drainage channel along 21st Avenue could be adversely impacted from erosion and sedimentation as well. Road crossings of the Turtle River adjacent to the Base (21st Avenue and 27th Street) could be impacted from an increase in runoff, directly increasing the flow of Turtle River.

BMPs utilized could include the installation of silt fences to reduce erosion from stormwater runoff, and structural controls such as dikes to prevent accidental spills from reaching the environment. Grand Forks AFB also maintains a spill prevention control and countermeasures (SPCC) plan, which contains specific procedures for preparing for and responding to inadvertent discharges of oil or releases of hazardous substances at the Base, and any relevant guidance from this plan would be followed (Grand Forks AFB, 2019). Additional measures include sediment discharge prevention techniques outlined in the Grand Forks AFB Construction General Permit guidance, USEPA's Stormwater Management for Construction Activities, 832-R-92-005, the project-specific SWPPP, and any applicable BMPs associated with Section 404 permits.

Although the Northwest Ditch does not pose a stormwater contamination threat under normal working conditions, ground-disturbing activities related to the Proposed Action could potentially increase this threat. Stormwater discharge on Grand Forks AFB would continue to be monitored as usual throughout the duration of the Proposed Action for various materials, including oil and grease and other chemicals, in accordance with the Base's NPDES permit. With implementation of applicable BMPs and techniques, as well as adherence to all applicable permits and regulations, impacts to stormwater from the Proposed Action would be short term and negligible.

Several activities under the Proposed Action, such as grading the West Ditch to remove standing water, conducting perimeter drainage maintenance, and installing drain tile would have long-term, minor, beneficial impacts on stormwater by improving the drainage environment near the airfield. As discussed above, common indirect impacts of wetland removal include influx of surface water and sediments or changes in local drainage patterns. Increases in soil erosion and sedimentation could impact the Turtle River.

Groundwater

Ground disturbance associated with the Proposed Action would primarily occur at the surface level and would not reach the groundwater supply. Grand Forks AFB would adhere to the direction supplied by UFC 3-210-10 to comply with EISA Section 438, which provides guidance for the management of stormwater for federal projects. Compliance with this guidance would ensure post-project hydrology mirrors pre-project hydrology on the project area to the maximum extent technically feasible with respect to temperature, rate, volume, and duration of flow. Additionally, the re-seeding of the airfield as a part of the Proposed Action would have long-term beneficial impacts on groundwater conditions by increasing filtration of runoff (Shaw & Schmidt, 2003). No monitoring wells would be impacted by the Proposed Action. Adverse impacts to groundwater from the Proposed Action would be short term and negligible.

Floodplains

Under the Proposed Action, activity for replacement of the perimeter fence would take place in several areas within the Turtle River 100-year floodplain. Although no digging or trenching would be required to install fence posts, there would be potential for erosion and sedimentation to occur at the base of each post where it was driven into the ground. This would be managed with the implementation of erosion and sedimentation BMPs and adherence to applicable management plans, regulations, and permits. Adverse impacts to the floodplain due to the perimeter fence replacement would be short term and negligible.

The process of regrading the West Ditch would include soil compaction, which would stabilize the soil and reduce its vulnerability to future erosion and sedimentation in the floodplain. The Proposed Action would alter the natural function and hydrology of the floodplain by filling wetlands and altering the existing drainage features. It would be anticipated that storm and floodwater conveyance would occur at a faster rate under implementation of the Proposed Action, as repairing the West Ditch and the addition of drainage tiles would increase water flow during flood events.

To document planning conducted to avoid and minimize potential adverse impacts of the Proposed Action on floodplain resources, the Air Force prepared a FONPA.

3.8.3.3 Cumulative Impacts

Under the Proposed Action, impacts to surface waters, wetlands, stormwater, and floodplains would be anticipated. Much of the surrounding land that was historically grasslands and wetlands has previously been converted to agricultural land. As listed in Table 3-1, potential GrandSKY business park construction would be expected to impact wetlands, though no specific construction details are available at this time. Those construction activities would require GrandSKY and Grand Forks AFB to obtain an individual Section 404 permit and a Section 401 permit under the CWA. Regionally, Kellys Slough NWR provides habitat for migratory waterfowl and shorebirds. Refuge staff manage the NWR water levels to meet those needs, providing wetlands with a variety of water levels and open mudflats. In addition to the 6,800 acres of NWR lands and waters, there are several USFWS-owned waterfowl protection areas and a State-owned wildlife management area adjacent to and nearby the NWR that provide additional grassland and wetland habitat. These protected areas could offer habitat for displaced species.

The Air Force would adhere to all terms required under Section 404/401 permits for the Proposed Action and would mitigate unavoidable impacts to wetlands where required under the CWA. When considered in conjunction with past loss of wetland and grassland habitat and any unknown present or future loss of similar habitat in the region, the Proposed Action would have mode rate cumulative effects to water resources following the implementation of BMPs and mitigation efforts.

3.8.3.4 No Action Alternative

Under the No Action Alternative, no action to the project area would be undertaken. There would be no changes to water resources beyond baseline. For instance, there would be no change to the natural function and hydrology of the floodplain since no wetlands would be filled. No existing drainage features would be altered. However, the No Action Alternative would leave the Installation out of compliance with DAFI 91-202 and DAFI 91-212 regarding airfield vegetation.

3.9 GEOLOGY AND SOILS

3.9.1 Definition of the Resource

Geological resources include geology, topography, and soils. Geology refers to the structure and configuration of surface and subsurface features. Characteristics of geology include geomorphology, subsurface rock types, and structural elements. Topography refers to the shape, height, and position of the land surface. Soil refers to the unconsolidated materials overlying bedrock or other parent material. Soils are defined by their composition, slope, and physical characteristics. Attributes of soil, such as elasticity,

load-bearing capacity, shrink-swell potential, and erodibility, determine its suitability to support a particular land use.

Prime farmland, as defined by the USDA in the *Farmland Protection Policy Act* (7 USC §§ 4201–4209) (FPPA), is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is available for these uses.

The ROI for geological resources is the proposed project area.

3.9.2 Existing Conditions

3.9.2.1 Geology

Grand Forks AFB is in Grand Forks County, North Dakota, near the eastern edge of the Williston Structural Basin. The layers of bedrock that lay below the County slope gently to the west toward the Basin's center. Surficial deposits at Grand Forks AFB consist of late Wisconsin glacial drift and are approximately 225 feet thick beneath the Base. The Installation sits within the Agassiz Lake Plain, a flat expanse of land that used to be the bed of Glacial Lake Agassiz, which existed in the area during the melting of the last glacier approximately 12,000 years ago. Glacial deposits beneath the plain consist of up to 95 feet of clay and silt-rich lake deposits, with glacial till containing isolated deposits of sand and gravel. Underneath the glacial deposits are sandstones, siltstones, and shales of the Lower Cretaceous Fall River and Lakota Formations, which are unconformably underlain by limestones and dolomites of the Ordovician Red River Formation.

3.9.2.2 Topography

The topography of Grand Forks County was formed largely due to Glacial Lake Agassiz. The Agassiz Lake Plain is characterized by somewhat poorly drained flats and swells separated by shallow, poorly drained portions of land, and areas with deep mud. This physiographic region extends westward to the Pembina escarpment in the western portion of the county, which separates the Agassiz Lake Plain District from the Drift Plain District to the west. Prominent physiographic features of the Agassiz Lake Plain District are remnant lake plains, beaches, inter-beach areas, and delta plains that were formed at the mouths of rivers. The elevation of this district ranges from about 1,160 feet above mean sea level (AMSL) along the Pembina escarpment to about 800 feet AMSL in the northeast corner of the county. Base topography is relatively flat, with elevations ranging from 880 to 920 feet AMSL, and averages about 890 feet AMSL. Grand Forks AFB land slopes to the northeast at less than 12 feet per mile, and local variations in elevation are typically less than 1 foot (Grand Forks AFB, 2020b).

3.9.2.3 Soils

There are 29 different types of soil found on the Base and only 16 types within the ROI (**Table 3-11** and **Figure 3-10**). These soils may limit management options, as most of the soil associations, or major soil components, are listed as partially hydric, that is, they formed in conditions in which they were fully saturated with water (such as flooding) and may have a higher water holding capacity. All of Grand Forks AFB is composed of either the Bearden-Antler association or the Ojata association, both of which are considered saline soils, in that they contain excessive levels of dissolvable salts. All soil groups on Base, except for the Glyndon-Gardens group, are generally unsuitable for building site development. The Antler-Gilby-Svea and Bearden-Antler groups are suited to vegetative growth, although salinity, wetness, soil blowing, and boulders and stones may restrict cultivation. The LaDelle-Cashel soil type is well suited for cultivated crops and supporting native hardwoods, the Ojata association is well suited for pasture or wildlife habitat, and the Wyndmere-Tiffany-Arveson soils are typically used for cultivated crops (USDA, 2023).

The main soil in the ROI is I400A, or Gilby loam, which makes up approximately 36.2 percent of the ROI, followed by I477A, or Antler silty clay loam, moderately saline, which makes up approximately 20.4 percent of the ROI (**Table 3-11**). Both soil types are classified as "somewhat poorly drained." Other main soils present within the ROI include I213B or Embden fine sandy loam (classified as "moderately well-drained") and I201A or Glyndon silt loam (classified as "somewhat poorly drained").

In addition, most of the soils contain moderate to high salinity. Sodium chloride is the dominant salt in the saline soils of eastern Grand Forks County. Compaction and rutting are increased when soils have high moisture content. Compaction leads to reduced infiltration and ponding of water. Ponding and open-water areas reduce root depth and vegetation often drowns, causing open, bare areas. These bare soil areas can be seen across Grand Forks AFB with visible white crusts indicating their saline nature.

Table 3-11.
Soil Types Associated with Project Area at Grand Forks AFB

Map Unit Symbol	Name[a]	Slope (%)	Drainage Rating	Acres on Grand Forks AFB	Percent of ROI
I147B	Velva sandy loam, moist, occasionally flooded[b]	0–6	Well-drained	36.4	0.1
I150B	Zell, fine-silty-LaDelle silt loams	2–6	Well-drained	11.7	0.6
I155A	Grimstad fine sandy loam	0–2	Somewhat poorly drained	115.3	1.9
I156A	Antler silt loam	0–2	Somewhat poorly drained	36.9	1.9
I164B	Zell-Gardena silt loams, 2 to 6 percent slopes	2–6	Well-drained	15.0	0.1
I176A	Ojata silty clay loam	0–1	Poorly drained	106.1	5.5
I199A	Antler-Mustinka silt loams	0–2	Somewhat poorly drained	224.8	0.7
I201A	Glyndon silt loam	0–2	Somewhat poorly drained	1,072.6	11.1
I202A	Gardena silt loam	0–2	Moderately well-drained	32.1	0.7
I213B	Embden fine sandy loam	2–6	Moderately well-drained	239.9	9
I400A	Gilby loam	0–2	Somewhat poorly drained	1,220.0	36.2
I413A	Lankin loam	0–2	Moderately well-drained	198.3	9.2
I422D	Sioux loam	2–15	Excessively drained	9.2	0.5
I477A	Antler silty clay loam, moderately saline[b]	0–2	Somewhat poorly drained	805.2	20.4
I594A	LaDelle silt loam, occasionally flooded[b]	0–2	Moderately well-drained	28.1	0.9
I601A	Bearden silty clay loam, moderately saline[b]	0–2	Somewhat poorly drained	21.9	1

Source: USDA Web Soil Survey
N/A = not applicable; ROI = Region of Influence
Notes:
a Hydrologic class listed is that of the minor soil type that makes up the majority of that soil association.
b Soils with multiple hydrologic classes listed indicates that two types of minor soils within an association together make up the majority of that association found on Base.

3.9.2.4 Prime Farmland

The land at Grand Forks AFB is under military use and is not developable for agricultural purposes. In accordance with Section 1540(c)(1) of the FPPA, “Farmland” does not include land already in or committed to urban development, and these areas would not be subject to the FPPA. Therefore, prime farmland is not carried forward for analysis.

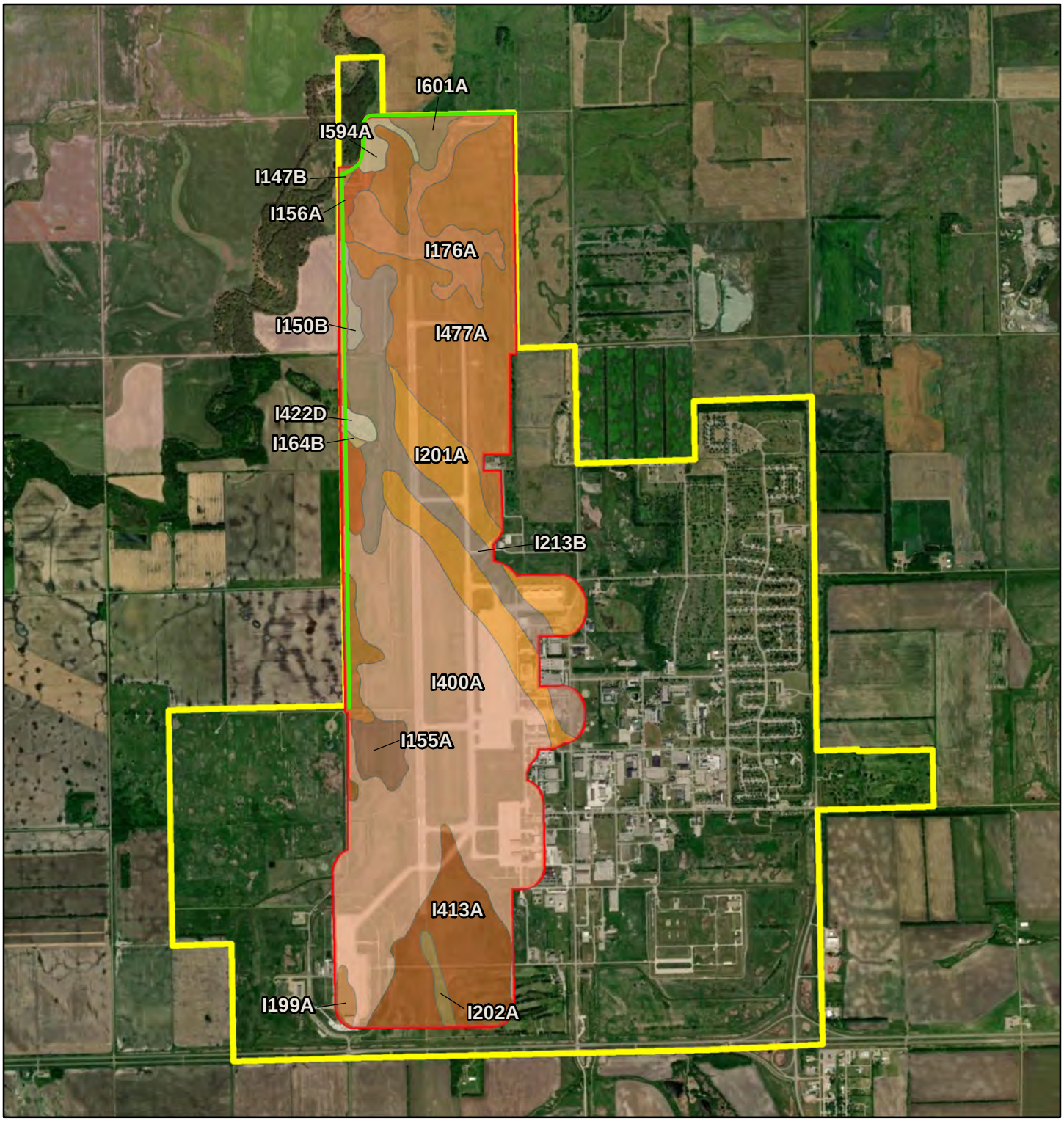


FIGURE 3-10
Soils

- Fenceline
- Installation Boundary
- Proposed Project Area

I156A Antler Silt Loam	I400A Gilby Loam	I422D Sioux Loam
I601A Bearden Silty Clay Loam	I155A Grimstad Fine Sandy Loam	I147B Velva Sandy Loam
I213B Embden Fine Sandy Loam	I594A LaDelle Silt Loam	I150B Zell Fine-Silty-LaDelle Silt Loams
I199A Antler-Mustinka Silt Loams	I202A Gardena Silt Loam	I413A Lankin Loam	I164B Zell-Gardena Silt Loams
I477A Antler Silty Clay Loam	I201A Glyndon Silt Loam	I176A Ojata Silty Clay Loam

N

0 0.5 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N

3.9.3 Environmental Consequences

3.9.3.1 Evaluation Criteria

Evaluation criteria for potential impacts on geological resources are based on the following:

- substantial alteration of unique or valued geologic or topographic conditions;
- substantial soil erosion, sedimentation, and/or loss of natural function (e.g., compaction); and
- development on soils with characteristics that do not support the intended land use.

3.9.3.2 Proposed Action

Geology

The underlying geology of the area occupied by Grand Forks AFB would not change under the Proposed Action. No direct or indirect impacts to geology would be anticipated to occur with implementation of the Proposed Action.

Topography

The Proposed Action would involve ground topography reconstruction, including filling, clearing, grubbing, regrading (via heavy-equipment operation), landscaping, cultivating, and re-seeding no less than 150 acres of the project area. Existing wetlands would be filled in, resulting in a leveling of the topography within the proposed project area. While reconstruction activities would alter the current topography within the project area, it is not anticipated that these activities would amount to large-scale alteration of current topography. Topography reconstruction activities would be limited to those necessary to maintain efficient drainage. Therefore, the Proposed Action would result in long-term, minor impacts to topography.

Soils

Ground-disturbing activities under the Proposed Action would disturb soils in the project area, primarily Gilby loam, Antler silty clay loam, Embden fine sandy loam, and Glyndon silt loam (see **Figure 3-9**). Slopes within the areas proposed for construction range from 0 to 6 percent, with drainage classes from “somewhat poorly drained” to “moderately well-drained.” All soils within the proposed project area, with the exception of Embden fine sandy loam, belong to Hydrologic Group C, meaning they have a medium runoff potential. Embden fine sandy loam belongs to Hydrologic Group A and has low runoff potential. The installation of drainage tiles, topography reconstruction, and regrading of the West Ditch would improve drainage conditions and lower the risk of runoff from those Group C soils as well as other Group C and D soils found in the proposed project area. As discussed in **Section 3.8.3**, common indirect impacts of wetland removal include influx of surface water and sediments or changes in local drainage patterns. Increases in soil erosion and sedimentation resulting from implementation of the Proposed Action could impact the Turtle River.

Standing water occurs in the project area due to compacted clay, hydric, saline soils. Most of the standing water in the field/grassland is due to the clay compacted soils from mowing in the semi-improved areas. Regular mowing could lead to increased compaction, causing infiltration issues by increasing surface evaporation and salinity levels.

Fill material could be used to fill wetlands and other low-lying areas. The source for off-Base fill material is not known at this time. There is the potential for invasive plants and noxious weeds to be present in off-Base fill material (see **Section 3.7.3.2**).

Grand Forks AFB requires BMPs to be used during ground-disturbing activities to prevent soil erosion. BMPs used during project implementation could include, but would not be limited to, the prompt installation of sod and silt fences, post-construction soil stabilization measures, and any BMPs associated with required permits related to erosion and sedimentation prevention. With appropriate BMPs in place and adherence to all applicable permits, regulations, and management plans, impacts to soils would be short term and negligible.

3.9.3.3 Cumulative Impacts

The Proposed Action, in addition to the past, present, and reasonably foreseeable future actions, would have negligible cumulative effects to soils during project activities, which would occur in previously disturbed areas. Of the projects listed in **Table 3-1**, none would be located within the ROI of this Proposed Action. BMPs and compliance with permits would minimize the cumulative effect on soils. Additional future construction in the project area is unlikely due to proximity to the runways. Therefore, when considered in conjunction with other past, present, and reasonably foreseeable environmental trends and planned actions at Grand Forks AFB, no significant cumulative effects to geological resources would be anticipated to occur with implementation of the Proposed Action.

3.9.3.4 No Action Alternative

Under the No Action Alternative, no action to the proposed project area would be undertaken. There would be no changes to geological resources beyond baseline conditions. The No Action Alternative would leave the Installation out of compliance with DAFI 91-202 and DAFI 91-212 regarding airfield vegetation.

3.10 CULTURAL RESOURCES

3.10.1 Definition of the Resource

Cultural resources are any prehistoric or historic district, site, building, structure, or object considered important to a culture or community for scientific, traditional, religious, or other purposes. These resources are protected and identified under several federal laws and EOs including the *Archaeological and Historic Preservation Act of 1974* (54 USC § 312501–312508), the *American Indian Religious Freedom Act of 1978* (42 USC § 1996), the *Archaeological Resources Protection Act of 1979*, as amended (16 USC §§ 470aa–470mm), the *Native American Graves Protection and Repatriation Act of 1990* (25 USC §§ 3001–3013), and the NHPA. The NHPA requires federal agencies to consider effects of federal undertakings on historic properties prior to deciding or taking an action and integrate historic preservation values into their decision-making process. Federal agencies fulfill this requirement by completing the NHPA Section 106 consultation process, as set forth in 36 CFR Part 800. NHPA Section 106 also requires agencies to consult with federally recognized American Indian tribes with a vested interest in the undertaking. NHPA Section 106 requires all federal agencies to seek to avoid, minimize, or mitigate adverse effects to historic properties (36 CFR § 800.1(a)).

Cultural resources include the following subcategories:

- Archaeological (i.e., prehistoric or historic sites where human activity has left physical evidence of that activity, but no structures remain standing);
- Architectural (i.e., buildings, structures, groups of structures, or designed landscapes that are of historic or aesthetic significance); and
- Traditional Cultural Properties (TCPs) (resources of traditional, religious, or cultural significance to American Indian tribes).

Significant cultural resources are those listed on the National Register of Historic Places (NRHP) or determined to be eligible for listing. To be eligible for the NRHP, properties must be 50 years old and have national, state, or local significance in American history, architecture, archaeology, engineering, or culture. They must possess sufficient integrity of location, design, setting, materials, workmanship, feeling, and association to convey their historical significance and meet at least one of four criteria for evaluation:

1. Associated with events that have made a significant contribution to the broad patterns of our history (Criterion A);
2. Associated with the lives of persons significant in our past (Criterion B);

3. Embody distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction (Criterion C); and/or
4. Have yielded or be likely to yield information important in prehistory or history (Criterion D).

Properties that are less than 50 years old can be considered eligible for the NRHP under criteria consideration G if they possess exceptional historical importance. Those properties must also retain historic integrity and meet at least one of the four NRHP criteria (Criteria A, B, C, or D). The term "historic property" refers to National Historic Landmarks, NRHP-listed, and NRHP-eligible cultural resources.

The ROI for cultural resources is Grand Forks AFB.

3.10.2 Existing Conditions

3.10.2.1 Archaeological Properties

Previous archaeological investigations have been conducted at Grand Forks AFB in areas between the airfield and Base boundaries, along the southern Base boundary, and within the southeastern corner of the Base. The remainder of acreage at the Base has been previously disturbed from construction grading for the existing facilities.

A 235-acre area on Grand Forks AFB was surveyed in 1989 for archaeological resources in areas west of the airfield. Two sites and three isolated finds were identified and all were evaluated as not eligible for listing on the NRHP (Artz, 1989). In 1995 and 1996, approximately 1,595 acres were surveyed on Grand Forks AFB as part of a Class III Intensive Cultural Resources Inventory in areas between the airfield and Base boundaries and within the southeast corner of the Base. Four sites and three isolated finds were identified, and all were evaluated as not eligible for listing on the NRHP (Crane et al., 1996; Science Applications International Corporation [SAIC], 2011; Grand Forks AFB, 2012).

A cultural resources survey of 1,293 acres in the project area was conducted in 2022. During the survey, eight archaeological resources that were previously identified were reconfirmed. In addition, the 2022 survey identified two cultural properties in the project area that had not previously been identified. All 10 sites were recommended ineligible for listing on the NRHP due to lack of integrity or significance (Grand Forks AFB, 2023). In a letter dated 15 December 2023 (**Appendix A**), the State Historical Society of North Dakota concurred with Grand Forks AFB's determination of "No Historic Properties Affected."

3.10.2.2 Traditional Cultural Properties

Grand Forks AFB has no known TCPs and there is no evidence of any Native American burial grounds or sacred areas on Grand Forks AFB that would be subject to the provisions of the *American Indian Religious Freedom Act*, *Native American Graves Protection and Repatriation Act*, or NHPA (Grand Forks AFB, 2016).

In accordance with DoDI 4710.02, *Interactions with Federally Recognized Tribes,* and DAFI 90-2002, *Air Force Interaction with Federally Recognized Tribes,* consultation with Tribal Historic Preservation Officers and tribal leaders of the 29 federally recognized Native American tribes with interest in the region was undertaken as part of the EIAP (and the 2022 cultural survey described in **Section 10.2.1**) to identify TCPs that could be affected by the Proposed Action. The 2022 cultural resources survey, which included tribal participation, did not identify any cultural resources or TCPs. The survey team was assisted and accompanied in the field by Traditional Cultural Specialists from the Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation, the Turtle Mountain Band of Chippewa Indians, and the Standing Rock Sioux Tribe. No TCPs were identified in the project area as part of this endeavor (Grand Forks AFB, 2023).

3.10.2.3 Architectural Properties

No eligible NRHP-listed buildings are located within the proposed project area. A reconnaissance inventory of Cold War-era resources and related material culture was conducted in 1995 at eight selected bases throughout the US. A total of 242 facilities on or supported by Grand Forks AFB were inventoried and evaluated, of which one (Building 714) located on Grand Forks AFB was identified as potentially eligible for

listing on the NRHP. This building was later demolished in 2013. Additional surveys conducted in 2011 and 2015 did not identify any other structures eligible or potentially eligible for listing on the NRHP (SAIC, 2011; HDR, 2016). No historic buildings remain on the Base (Grand Forks AFB, 2016). One historic facility, known as "Cold War Heritage Plaza," serves as mitigation for the demolition of Building 306. This facility is an outdoor interpretative boardwalk with 20 storyboards describing the history of Grand Forks AFB during the Cold War (Grand Forks AFB, 2016). This facility is located outside of the proposed project area.

3.10.3 Environmental Consequences

3.10.3.1 Evaluation Criteria

Adverse impacts on cultural resources would occur if the Proposed Action or Alternatives results in the following:

- physically altering, damaging, or destroying all or part of a resource;
- altering characteristics of the surrounding environment that contribute to the resource's significance;
- introducing visual or audible elements that are out of character with the property or alter its setting;
- neglecting the resource to the extent that it deteriorates or is destroyed; or
- the sale, transfer, or lease of the property out of agency ownership (or control) without adequate enforceable restrictions or conditions to ensure preservation of the property's historic significance.

For the purposes of this EA, an impact is considered significant if it alters the integrity of a NRHP-listed, eligible, or potentially eligible resource or potentially impacts TCPs.

3.10.3.2 Proposed Action

Archaeological Properties

No impacts to archaeological properties would be anticipated to occur under the Proposed Action. In the event of an unanticipated discovery of an archaeological resource during demolition or construction, ground-disturbing activities would be suspended, and a cultural resources meeting called to determine if an Unanticipated Discovery Plan would be developed and implemented.

As part of the 2022 survey, two cultural properties were newly identified in the proposed project area. There are also eight archaeological resources in the project area that were previously identified and reconfirmed during the 2022 survey. All properties, including the two new cultural properties, have been recommended as ineligible for NRHP (Grand Forks AFB, 2022). Under the Proposed Action, no NRHP-eligible sites would be impacted; therefore, no effects to archaeological properties would be anticipated to occur. In a letter dated 15 December 2023 (**Appendix A**), the State Historical Society of North Dakota concurred with Grand Forks AFB's determination of "No Historic Properties Affected."

Traditional Cultural Properties

No TCPs, sacred sites, human remains, associated grave goods, unassociated grave goods, sacred objects, or objects of cultural patrimony have been identified or recovered on Grand Forks AFB. No impacts to TCPs would be anticipated to occur under the Proposed Action.

Architectural Properties

No eligible NRHP-listed buildings are located within the proposed project area. Under the Proposed Action, no effects to architectural properties would be anticipated to occur.

3.10.3.3 Cumulative Impacts

No cultural resources would be impacted by the Proposed Action. Of the projects listed in **Table 3-1**, none would be located within the ROI of this Proposed Action. Future construction in the proposed project area

unrelated to the Proposed Action would be unlikely due to the proximity to the runway. When considered in conjunction with other past, present, and reasonably foreseeable environmental trends and planned actions at Grand Forks AFB, no significant cumulative impacts to cultural resource would be anticipated to occur with implementation of the Proposed Action.

3.10.3.4 No Action Alternative

Under the No Action Alternative, no action to the project area would be undertaken. The No Action Alternative would result in no change to cultural resources on the Installation. Taking no action would leave the Installation out of compliance with DAFI 91-202 and DAFI 91-212 regarding airfield vegetation.

3.11 HAZARDOUS MATERIALS AND WASTES, TOXIC SUBSTANCES, AND CONTAMINATED SITES

3.11.1 Definition of the Resource

CERCLA (42 USC § 9601 et seq.), as amended by the *Superfund Amendments and Reauthorization Act* (SARA) and TSCA (15 USC § 2601 et seq., as implemented by 40 CFR Part 761), defines hazardous materials (HAZMAT) as any substance with physical properties of ignitability, corrosivity, reactivity, or toxicity that might cause an increase in mortality, serious irreversible illness, and incapacitating reversible illness, or that might pose a substantial threat to human health or the environment. The OSHA is responsible for the enforcement and implementation of federal laws and regulations pertaining to worker health and safety under 29 CFR Part 1910. OSHA also includes the regulation of HAZMAT in the workplace and ensures appropriate training in their handling.

The *Solid Waste Disposal Act*, as amended under RCRA (42 USC § 6901 et seq.) and further amended by the *Hazardous and Solid Waste Amendments of 1984*, defines hazardous wastes as any solid, liquid, contained gaseous, or semi-solid waste, or any combination of wastes, that pose a substantial present or potential hazard to human health or the environment. In general, both HAZMAT and hazardous wastes include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, might present substantial danger to public health and welfare or the environment when released or otherwise improperly managed.

Air Force Policy Directive 32-70, *Environmental Considerations in Air Force Programs and Activities*, establishes the policy that the Air Force is committed to performing the following actions:

- cleaning up environmental damage resulting from its past activities,
- meeting all environmental standards applicable to its present operations,
- planning its future activities to minimize environmental impacts,
- responsibly managing the irreplaceable natural and cultural resources it holds in public trust, and
- eliminating pollution from its activities wherever possible.

DAFMAN 32-1067, *Water and Fuel Systems*, identifies compliance requirements for underground storage tanks (USTs) and aboveground storage tanks (ASTs), and associated piping, that store petroleum products and hazardous substances. Evaluation of HAZMAT and hazardous wastes focuses on USTs and ASTs as well as the storage, transport, and use of pesticides, fuels, oils, and lubricants. Evaluation might also extend to generation, storage, transportation, and disposal of hazardous wastes when such activity occurs at or near the project site of a Proposed Action. In addition to being a threat to humans, the improper release of HAZMAT and hazardous wastes can threaten the health and wellbeing of wildlife species, botanical habitats, soil systems, and water resources. In the event of HAZMAT and hazardous wastes release, the extent of contamination will vary based on the type of soil, topography, weather conditions, and water resources that occur in the vicinity of the event.

DAFMAN 32-7002, *Environmental Compliance and Pollution Prevention*, establishes procedures and standards that govern management of HAZMAT throughout the Air Force. This manual applies to all Air

Force personnel who authorize, procure, issue, use, or dispose of HAZMAT, and to those who manage, monitor, or track any associated activities.

Through the Environmental Restoration Program (ERP) initiated in 1980, a subcomponent of the Defense ERP that became law under SARA (formerly the Installation Restoration Program), each DoD installation is required to identify, investigate, and clean up hazardous waste disposal or release sites. Remedial activities for ERP sites follow the Hazardous and Solid Waste Amendments under the RCRA Corrective Action Program. The ERP provides a uniform, thorough methodology to evaluate past disposal sites, control the migration of contaminants, minimize potential hazards to human health and the environment, and clean up contamination through a series of stages until it is decided that no further remedial action is warranted.

Description of ERP activities provides a useful gauge of the condition of soils, water resources, and other resources that might be affected by contaminants. It also aids in the identification of properties and their usefulness for given purposes (e.g., activities dependent on groundwater usage might be foreclosed where a groundwater contaminant plume remains to complete remediation).

Toxic substances might pose a risk to human health but are not regulated as contaminants under the hazardous waste statutes. Included in this category are asbestos-containing materials, lead-based paint, radon, polychlorinated biphenyls (PCBs), and per- and polyfluoroalkyl substances (PFAS). A proposed activity may affect and be affected by the presence of special hazards or controls over them. Information on special hazards describing their locations, quantities, and condition assists in determining the significance of such activity.

The ROI for HAZMAT and hazardous wastes is Grand Forks AFB. The Proposed Action would not involve building construction, demolition, or renovation activities; therefore, asbestos-containing materials, lead-based paint, radon, and PCBs are not discussed further.

3.11.2 Existing Conditions

3.11.2.1 Hazardous Materials and Wastes

The State of North Dakota implements RCRA and regulates hazardous waste under the National Defense Advisory Commission Chapter 33-24, *Hazardous Waste Management*, which adopted federal hazardous waste regulations with few additions. Additionally, the *Grand Forks AFB Hazardous Waste Management Plan* outlines the responsibility and provides instruction for appropriate waste handling and management to ensure conformance with the regulations, policies, and guidance for any hazardous wastes generated, treated, stored, or responded to (in terms of releases) on the Base (Grand Forks AFB, 2020a). Grand Forks AFB's SPCC Plan contains specific procedures for preparing for and responding to inadvertent discharges of oil or releases of hazardous substances at the Base (Grand Forks AFB, 2019).

Grand Forks AFB is classified as a small-quantity hazardous waste generator, in that the Base produces greater than 100 kilograms (220 pounds) but less than 1,000 kilograms (2,200 pounds) of hazardous waste in a calendar month (Grand Forks AFB, 2020a; USEPA, 2022a). The largest volume of hazardous waste on the Base is generated by aircraft and jet engine maintenance and overhaul activities. Additional activities that generating hazardous wastes include a dental laboratory; the Auto Skills Development Center; paint removal and application; degreasing; metal etching and carbon removal of engines; and abrasive blasting. These activities require the use of hazardous metals and large volumes of solvents and generate dust and liquid waste. Other hazardous wastes include petroleum products and waste, hydraulic fluid, antifreeze, and mercury-containing light bulbs and ballasts.

Grand Forks AFB does not have a permitted hazardous waste storage facility, and waste is stored on Base in containers at a satellite accumulation point (SAP)**.** SAPs are areas where hazardous waste is initially accumulated at or near the point of generation that is under the control of the SAP manager. Hazardous wastes accumulated at an SAP are not subject to accumulation time limits; however, they are subject to volume limits (Grand Forks AFB, 2020a). After accumulation at the SAP, all hazardous wastes generated at Grand Forks AFB are transferred to the central accumulation site where they are transferred off Base by Defense Logistics Agency Disposition Services to a treatment, storage, and disposal facility. Small-quantity generators like Grand Forks AFB may store waste for up to 270 days if the waste must be shipped 200

miles or more to the nearest treatment, storage, and disposal facility. Grand Forks AFB is more than 200 miles from the nearest treatment, storage, and disposal facility and can therefore store hazardous wastes for up to 270 days without a permit (Grand Forks AFB, 2020a).

3.11.2.2 Fuel Storage

Fuel storage containers at Grand Forks AFB that are subject to SPCC Plan requirements include ASTs, USTs, emergency generators with external and/or internal tanks, oil/water separators, mobile tanks, drums, and oil-filled operating equipment. Grand Forks AFB currently has 40 ASTs and 11 USTs (Grand Forks AFB, 2019). Thirteen ASTs are located in the proposed project area.

The majority of the petroleum handled at Grand Forks AFB is jet fuel (JP-8) used for military aircraft. JP-8 is stored in field-erected bulk storage ASTs at two facilities: the contractor-operated Bulk Fuel Storage Area (Pumphouse 501) located on the south side of the Base between Eilson Street and Building 516 (currently vacant), and the Hydrant Fuels Area (Pumphouse 658) located approximately 115 ft north of Unmanned Aircraft Systems Squadron Operations (Building 542).

3.11.2.3 Environmental Restoration Program and Other Potentially Contaminated Sites

The Secretary of Defense established the ERP in 1981 to investigate and remediate hazardous waste sites at DoD facilities. The Air Force subsequently established its ERP to locate and investigate hazardous waste sites on its installations, termed ERP sites. Fully restored and remediated ERP sites present few constraints to future on-Base development; however, land use controls[4] may be required. Grand Forks AFB has five ERP sites and one Area of Concern[5] (**Table 3-12** and **Figure 3-11**).

Table 3-12.
Environmental Restoration Program Sites

Site Number	Name	Status
FT002	Fire Training Area/Old Sanitary Landfill Area	Closed, long-term monitoring
LF003	New Sanitary Landfill Area	Closed, long-term monitoring
ST007	Petroleum, Oil, and Lubricants Off-Loading Area	Long-term monitoring
ST008	Refueling Ramps and Pads	Natural attenuation with no long-term monitoring
TU503	Fuel storage USTs next to Building 501	Long-term monitoring
TU504	Jet Engine Test Cell at Building 539 (Area of Concern)	Long-term monitoring

ERP Site FT002 has been capped and is considered closed; the site is undergoing shallow and deep groundwater monitoring, surface water monitoring, and cap maintenance. LF003 also is considered closed and is undergoing shallow groundwater monitoring. ST007 also is undergoing shallow groundwater monitoring. Per an agreement with NDDH, ST008, does not require further monitoring at this time and the remedy is solely natural attenuation. TU503 is being treated with monitored natural attenuation[6] and is

[4] Land use controls may consist of non-engineered instruments, such as administrative and legal controls or engineered and physical barriers (e.g., fences and security guards). Land use controls help to minimize the potential for exposure to contamination and/or protect the integrity of a response action and are typically designed to work by limiting land and/or resource use or by providing information that helps modify or guide human behavior at a site (USEPA, 2022b).
[5] An Area of Concern is any area of a facility where a release of hazardous waste to the environment has occurred, is suspected to have occurred, or may occur, regardless of the frequency or duration of the release (Law Insider, 2023).
[6] Refers to the reliance on natural attenuation (lessening in amount, force, magnitude, or value) processes (within the context of a carefully controlled and monitored site cleanup approach) to achieve site-specific remediation objectives within a timeframe that is reasonable compared to that offered by other, more active methods (USEPA, 1999).

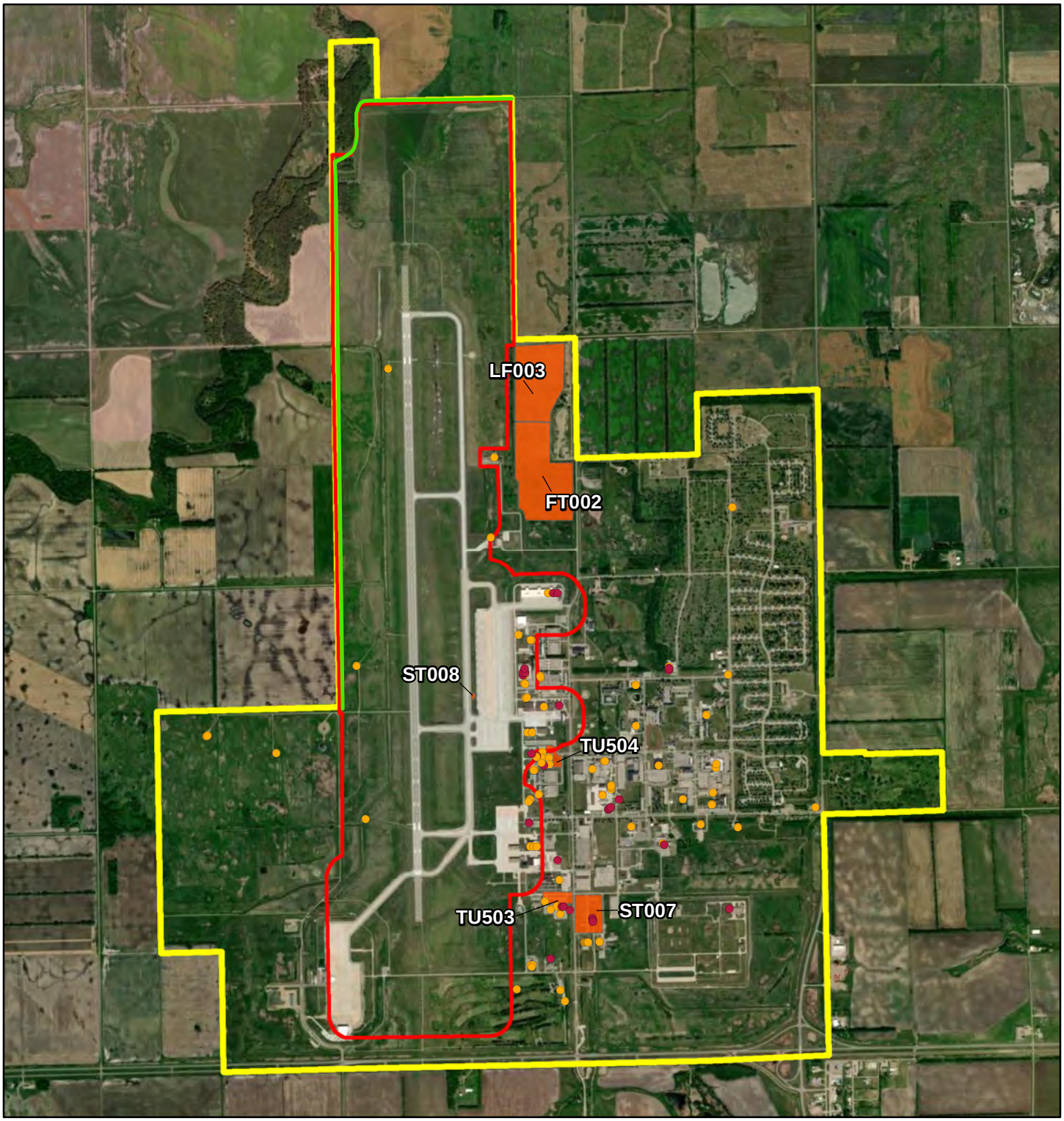


FIGURE 3-11
Hazardous Materials and Waste

- Aboveground Storage Tank
- Underground Storage Tank
- Fence Line
- Installation Boundary
- Proposed Project Area
- ERP Site

N

0 0.5 Miles

Imagery: ESRI, 2021
Coordinate System: WGS 1984 UTM Zone 14N

undergoing groundwater monitoring. TU504 also is being treated with monitored natural attenuation in conjunction with phytoremediation[7] and is undergoing groundwater monitoring (Grand Forks AFB, 2020c). None of the ERP sites is located in the proposed project area.

The former grenade range GR752 and the current grenade range sites are located within the proposed project area. The former grenade range was closed in 1995 and subsequently regraded and reseeded with native species. No additional cleanup activity is required for the site (Grand Forks AFB, 2014b).

3.11.2.4 Perfluoroalkyl Substances and Aqueous Film Forming Foam

PFAS is a group of synthetic fluorinated chemicals employed in a wide variety of residential, commercial, and industrial uses and can be found in everyday items such as nonstick cookware, stain-resistant fabric and carpet, certain types of food packaging, and firefighting foam (Air Force Civil Engineer Center [AFCEC], 2022). Scientific studies have shown that exposure to some PFAS in the environment may be linked to harmful health effects in humans and animals. In recent years, the USEPA has been taking steps to address PFAS and protect communities across the US. In 2016, the USEPA announced advisory levels for two types of PFAS in drinking water, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). In August 2022, the USEPA issued a proposal to designate two of the most widely used PFAS as hazardous substances under CERCLA (USEPA, 2023b).In March 2023, the USEPA proposed to establish legally enforceable levels for six PFAS known to occur in drinking water.

Aqueous film forming foam (AFFF), which the Air Force began to use in the 1970s to extinguish petroleum-based fires, contains both PFOS and PFOA. In August of 2016, the Air Force began phasing out PFOS-based AFFF and other AFFF products and introduced newer, more environmentally friendly formulas. In August 2017, the Air Force finished the phase-out and completed the new foam delivery. All Air Force investigation and mitigation work relating to PFOS and PFOA is performed in accordance with CERCLA, applicable state laws, and the USEPA's lifetime drinking water health advisory of 70 parts per trillion (AFCEC, 2023). Up until at least May 2017, Grand Forks AFB operated several AFFF suppression systems that contain C6 fluorosurfactants as a component of the Base's overall fire protection system. These systems were installed in Hangars 601, 603, 605, and 649 (Grand Forks AFB, 2017). C8 fluorosurfactants were used after 2017 but phased out in 2023. As of March 2024, all C6 has been removed from emergency response vehicles on Grand Forks AFB.

Table 3-13 provides information on nine identified AFFF-contaminated sites.

3.11.2.5 Pesticides

The application of all pesticides at Grand Forks AFB, including herbicides, fungicides, insecticides, and rodenticides, is authorized by Grand Forks AFB's Integrated Pest Management Program, which contains policies, standards, and requirements meant to establish and maintain safe, effective, and environmentally sound integrated pest management procedures (Grand Forks AFB, 2020b). The Base also operates under a North Dakota Pesticide Discharge General Permit, which authorizes discharge to surface waters of the state from handling, use, or application of pesticides for activities conducted in accordance with state laws and regulations; the *Federal Insecticide, Fungicide, and Rodenticide Act*; and proper pesticide labeling procedures (Grand Forks AFB, 2018c). Additionally, pesticide usage outside the Base boundary is subject to federal regulation under TSCA.

3.11.3 Environmental Consequences

3.11.3.1 Evaluation Criteria

Impacts on hazardous materials management would be considered adverse if the federal action results in noncompliance with applicable federal and state regulations or increases the amounts generated or procured beyond current Grand Forks AFB waste management procedures and capacities. Impacts on the

[7] The treatment of pollutants or waste (as in contaminated soil or groundwater) by the use of green plants that remove, degrade, or stabilize the undesirable substances (such as toxic metals).

ERP would be considered adverse if the Proposed Action disturbs (or creates) contaminated sites resulting in negative effects on human health or the environment.

Table 3-13.
Aqueous Film Forming Foam Areas

AFFF Area Number	AFFF Area Name	Associated Existing ERP Site	Area Selection Rationale
1	Former Fire Training Area 1	FT002	There is a high probability that large quantities of AFFF were used during fire training exercises. The two unlined burn pits were used from the late 1950s until the mid-1980s.
2	Current Fire Training Area	None	AFFF was used during equipment testing. The AFFF pond accidentally overflowed and drained to the adjacent ditches in 2010. Approximately 30–50 gallons of AFFF were used during each training event.
3	Hangar 601	None	The hangar has an AFFF fire suppression system. AFFF has been observed on the adjacent concrete pavement. Less than 20 gallons of AFFF mixture may have migrated into the nearby grassy areas.
4	Hangar 605	None	The hangar has an AFFF fire suppression system. Small amounts of AFFF have been observed on the paved ramp adjacent to the hangar.
5	Hangar 649	None	The hangar has an AFFF fire suppression system. No known AFFF releases have occurred inside the hangar. A buried AFFF concentrate supply line at the northwest corner of the hangar developed a leak and released an unknown volume of AFFF concentrate outside the hangar.
6	1980 B-52 Fire	None	Unknown one-time volume of AFFF was used to extinguish a B–52 fire. AFFF likely migrated to nearby grass-covered areas.
7	1983 B-52 Fire	None	An unknown volume of AFFF was used to extinguish a B-52 fire. AFFF likely migrated to nearby grass-covered areas.
8	Sewage Lagoons	None	Sewage lagoons, potentially containing AFFF, discharge several times a year through NPDES Outfalls 001A and 001B into surface drainage features.
9	Outfall West	None	Potentially AFFF-contaminated stormwater from the B-52 fires and the current fire training area may have been released through Outfall West into the Turtle River. PFAS is in the soil and groundwater in the west ditch. Remedial Investigation to delineate the extent is underway.

Source: Aerostar, 2019
AFFF = aqueous film forming foam; ERP = Environmental Restoration Program; NPDES = National Pollutant Discharge Elimination System; PFAS = per- and polyfluorinated substances

3.11.3.2 Proposed Action

Hazardous Materials and Wastes

The use of certain HAZMAT would be required during activities associated with the Proposed Action, such as petroleum fuel products used in equipment and machinery necessary for topography reconstruction. Construction contractors would be responsible for monitoring exposure to HAZMAT. Adherence to the Grand Forks AFB *Hazardous Waste Management Plan* would minimize impacts from the handling and

disposal of hazardous substances and ensure compliance with state and federal hazardous materials regulations (Grand Forks AFB, 2020a). Potential impacts from the accidental release of such products would be minimized by following response procedures specified in Grand Forks AFB's SPCC Plan (Grand Forks AFB, 2019). Short-term, negligible impacts could occur due to the use of HAZMAT during activities associated with the Proposed Action.

Fuel Storage

Activities associated with the Proposed Action would not require the use of existing fuel storage facilities on Grand Forks AFB or the addition of new fuel storage facilities; therefore, no impacts to fuel storage would be anticipated to occur under the Proposed Action.

Environmental Restoration Program Sites

Although several ERP sites intersect with or are located alongside the proposed project area, all activities associated with the Proposed Action would take place west of the ERP sites and would not result in disturbance to those locations (see **Figure 3-9**). Therefore, no impacts to ERP sites would be anticipated to occur under the Proposed Action.

PFAS/AFFF

PFAS may be present in soil and/or groundwater throughout the project area, including ERP Site FT002, a former fire training area, due to the use of AFFFs. No ground disturbance or impacts to Site FT002 would be anticipated to occur under the Proposed Action.

As stated in **Table 3-13**, potentially AFFF-contaminated stormwater may have been released through the Outfall West into the Turtle River. Whenever possible, disturbance of the identified AFFF sites would be avoided to reduce potential impacts. However, the extent of AFFF contamination is not known at this time.

Pesticides

Implementation of the Proposed Action would not result in a change to the application of pesticides, fungicides, insecticides, and rodenticides at Grand Forks AFB. Herbicides would be used to assist in the replacement of existing grasslands with airfield vegetation unattractive to wildlife. With the establishment of new vegetation as part of the Proposed Action, broadleaf herbicides would continue to be used to manage weeds. Impacts to natural resources from herbicide applications include potential impacts to non-target species, runoff from application sites, and unintentional releases to the environment by spills and application errors of chemicals. All pesticide-related activities would continue to be monitored under Grand Forks AFB's Integrated Pest Management Plan. Pesticide usage would increase in the short term but would return to normal levels in the long term under the Proposed Action.

3.11.3.3 Cumulative Impacts

The Proposed Action would result in negligible impacts related to HAZMAT and hazardous wastes; any additional facility construction in the future (unrelated to this Proposed Action) would need to be evaluated for impacts to HAZMAT and hazardous wastes. Of the projects listed in **Table 3-1**, only the GrandSKY project would be located within the ROI of this Proposed Action but no cumulative impacts would be expected since GrandSKY is located on separate leased land. Continued use of broadleaf herbicides would have minor impacts to vegetation. When considered in conjunction with other past, present, and reasonably foreseeable environmental trends and planned actions at Grand Forks AFB, no significant cumulative impacts to HAZMAT, hazardous wastes, toxic substances, and contaminated sites would be anticipated to occur with implementation of the Proposed Action.

3.11.3.4 No Action Alternative

Under the No Action Alternative, no action to the project area would be undertaken. There would be no changes to HAZMAT and hazardous wastes management beyond baseline conditions. The No Action Alternative would leave the Installation out of compliance with DAFI 91-202 and DAFI 91-212 regarding airfield vegetation.

3.12 INFRASTRUCTURE, INCLUDING TRANSPORTATION AND UTILITIES

3.12.1 Definition of the Resource

Infrastructure consists of the systems and structures that enable a population in a specified area to function. Infrastructure is wholly man-made, with a high correlation between the type and extent of infrastructure and the degree to which an area is characterized as developed. Infrastructure components include transportation and utility systems, solid waste management, and stormwater infrastructure. The availability of infrastructure and its capacity to support more users, including future development of an area, are generally regarded as essential to continued economic growth.

Transportation is defined as the system of roadways, highways, and transit services that provide ingress/egress from or to a particular location, as well as access to regional goods and services. Utilities include electrical, natural gas, potable water, sanitary sewage/wastewater, stormwater conveyance, and communications systems. Solid waste management primarily relates to landfill capacity for disposal of nonhazardous solid waste (e.g., construction waste) generated in an area or by a population. Stormwater infrastructure includes the man-made conveyance systems that function in tandem with natural drainages to collect and control the rate of surface runoff during and after a precipitation event. In urbanized areas, stormwater that is not discharged to a waterbody is conveyed to sanitary sewers, systems that collect, move, and treat liquid waste prior to its discharge back into the environment.

The ROI for infrastructure, transportation, and utilities is Grand Forks AFB and the external infrastructure components and services relied upon to operate the Base.

3.12.2 Existing Conditions

3.12.2.1 Transportation

The transportation system at Grand Forks AFB comprises more than 420 acres of paved roadways, driveways, and parking lots, of which almost half is paved roadways (Grand Forks AFB, 2017). Traffic volume peaks entering the Base from 7:00 a.m. to 8:00 a.m. and exiting from 4:00 p.m. to 5:00 p.m. The gates average approximately 34,000 scans per week (Grand Forks AFB, 2017).

The primary roadways on the Base are Eielson Street, J Street, and Steen Boulevard. Steen Boulevard provides east-to-west access to the Base from its main entrance at 25th Street NE; Eielson Street provides north-to-south access from US Highway 2, and J Street provides a north-to-west corridor for the east side of the Base.

3.12.2.2 Communications

The communications system on the Base consists of fiber-optic cables between buildings and twisted-pair copper cable for in-building conductivity. Manhole and conduit systems provide communications support to the Base through buried communication infrastructure. Service and infrastructure are available to support a range of communication requirements such as voice, data, video, wireless, land mobile radio, aircraft, and security systems (Grand Forks AFB, 2017). Operations of the High Frequency Global Communications System are overseen by the Communications Squadron, which provides command and control to the President, Cabinet Members, DoD agencies, and other US Government aircraft and ships around the world.

3.12.2.3 Electricity and Natural Gas

Electricity at Grand Forks AFB is provided by Minnkota Power Cooperative, Inc., with an annual capacity of 138 kilovolts (kV) and a high daily demand of 55.2 kV. Currently, the Base is using approximately 40 percent of the electrical capacity (Grand Forks AFB, 2017). The majority of the electrical system on Base consists of underground lines, and emergency backup generators support mission facilities, utility services, and contingency situations by supplying emergency electrical power to critical facilities on the Base (Grand Forks AFB, 2006).

Xcel Energy, a local distributing company, supplies natural gas to Grand Forks AFB. The Base is served by a 12-inch main pipeline that delivers natural gas to the metering station (Building 163) near the main gate, where an 8-inch main distributes natural gas from the main metering station to the rest of the Base. Heating facilities on Base largely use natural gas, and natural gas capacity is available for future Base expansion (Grand Forks AFB, 2006).

3.12.2.4 Potable Water Supply

Potable water at Grand Forks AFB is received from the City of Grand Forks, which draws from the Red River and Red Lake River. There are two water mains that serve the Base: a 14-inch main from the City of Grand Forks, and an 8-inch main from the East Central Regional Water District. Four elevated storage tanks provide a capacity of 1.9 million gallons of water for the Base (Grand Forks AFB, 2018a). The water distribution system is maintained by Base Utilities Inc., and recent water quality monitoring performed in compliance with state and federal requirements indicates no violations or exceedances of drinking water quality standards (Bioenvironmental Engineering, 2019).

3.12.2.5 Sewage

The sewage system at Grand Forks AFB is designed to feed sewage treatment lagoons via a system of gravity and force mains using two primary lift stations. One lift station, Facility 1336, is located in the north central portion of the Base and primarily serves the family housing area, an elementary school, and northern section of the flightline. The other lift station, Facility 801, is located in the south-central portion of the Installation and serves a portion of the housing area, an elementary school, and administrative and community facilities associated with the proposed projects. The sewage treatment lagoons are operated by the Base and located less than one mile east of the main cantonment area on Base property. The treatment lagoons consist of four treatment cells: one primary, two secondary, and one tertiary cell. Treated wastewater is discharged from the lagoons under State of North Dakota Wastewater Discharge Permit ND0020621 and flows into the south drainage ditch, which empties into Kellys Slough NWR (Grand Forks AFB, 2020b). Wastewater discharge into Kellys Slough has not been necessary in recent years due to the reduced population on the Base and rehabilitation projects occurring at the lagoons.

3.12.2.6 Solid Waste Management

DAFMAN 32-7002, *Environmental Compliance and Pollution Prevention*, is implemented under an Integrated Solid Waste Management Plan (Grand Forks AFB. 2020d). The 319 RW Civil Engineer Squadron (CES), Installation Management Flight, Environmental Element (319 CES/CEIE) has overall responsibility for implementing the solid waste management program and is the lead organization for monitoring compliance with applicable federal, state, and local regulations.

Grand Forks AFB does not generate waste that meets the definition of industrial solid waste, nor does it have an active on-site landfill. Municipal waste is disposed of through a contract with the Grand Forks Municipal Landfill (Permit No. 0347). Located approximately 12 miles from the Base, the landfill receives municipal solid waste that is collected and transported under contract by Waste Management (Grand Forks AFB. 2020d). Waste Management is responsible for providing weight tickets for all disposed waste and this information is managed and maintained by the 319 CES/CEIE.

3.12.3 Environmental Consequences

3.12.3.1 Evaluation Criteria

The Air Force defines a significant effect on or from infrastructure, transportation, and utilities within the ROI as one or more of the following:

- measurable change or service reduction within the regional transportation network;
- prolonged or repeated interruption of public transportation services regionally;
- prolonged or repeated service disruptions to utility end users; and
- substantial increase in utility demand relative to existing and planned regional uses.

3.12.3.2 Proposed Action

Transportation

Since no new personnel are included as part of the Proposed Action, long-term vehicular traffic would not increase. Increased truck traffic and construction workers commuting to the Installation during periods of construction would be expected to cause temporary increases in demand and increased congestion on local roads. At project sites, temporary lane closures would be expected during construction activities. However, construction-related traffic would most likely occur on the western side of the Base, away from daily traffic in the cantonment. The transportation system is in good condition and meets current and future mission needs. In order to haul approximately 3700 cubic yards of fill to the Base, roughly 185 heavy truck trips would occur off-site over the course of the project; the proposed source of the fill material is currently unknown. When compared to daily traffic arriving and departing from Grand Forks AFB, this increase would be negligible. Overall, the Proposed Action would not impact the transportation systems on and off the Installation.

Communications

The Proposed Action would not impact the communications systems on the Installation. No impacts to the communications system would be expected.

Electricity and Natural Gas

The Proposed Action would not impact the electricity and natural gas systems on the Installation. No impacts to the electricity and natural gas systems would be expected.

Potable Water Supply

The Proposed Action would not impact the potable water supply on the Installation. No impacts to the potable water supply would be expected.

Sewage

The Proposed Action would not impact the sewage system on the Installation. No impacts to the sewage system would be expected.

Solid Waste Management

The Proposed Action would not impact the solid waste management systems on the Installation. No impacts to the solid waste management systems would be expected.

3.12.3.3 Cumulative Impacts

Implementation of the Proposed Action at Grand Forks AFB would not result in or contribute to any operational changes to the airfield, transportation network, or any other related infrastructure on the Base. Any construction-related impacts to traffic would be short term and temporary. Based on the location and timeline of projects listed in Table 3-1, construction activities associated with the Proposed Action would not combine with impacts at Grand Forks AFB to create a cumulative impact. Construction related traffic on the west side of the base could overlap with construction traffic for the GrandSKY development. However, any cumulative traffic impacts would be infrequent and intermittent at that location. When considered in conjunction with other past, present, and reasonably foreseeable environmental trends and planned actions at Grand Forks AFB, no significant cumulative impacts to infrastructure including transportation and utilities would be anticipated to occur with implementation of the Proposed Action.

3.12.3.4 No Action Alternative

Under the No Action Alternative, no projects under the Proposed Action would occur. The No Action Alternative would result in no change to the infrastructure and utilities systems on the Installation. Taking no action would leave the Installation out of compliance with DAFI 91-202 and DAFI 91-212 regarding airfield vegetation.

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Flandreau, SD 57028

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Harlem, MT 59526

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Lower Brule, SD 57548

Cheyanne St. John, THPO
Lower Sioux Indian Community Council
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Morton, MN 56270

Jaylen Strong, THPO
Bois Forte Band of Chippewa Indians
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Teanna Limpy, THPO
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PO Box 128
Lame Deer, MT 59043

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Oglala Sioux Tribe
OST Cultural Affairs and Historic Preservation Office
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PO Box D
Fort Yates, ND 58538

Allen Demeray, THPO
Three Affiliated Tribes of the Fort Berthold Reservation, North Dakota
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307 5th Avenue
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PO Box 900
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800 Main Avenue SW
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Grand Portage Band of Lake Superior Chippewa
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Leech Lake Band of Chippewa Indians
Leech Lake Historic Preservation Office
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Cass Lake, MN 56633

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Mille Lacs Band of Ojibwe
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Onamia, MN 56359

Jaime Arsenault, THPO
White Earth Ojibwe
PO Box 418
White Earth, MN 56591

Jeb Williams, Director
North Dakota Game and Fish Department
100 North Bismarck Expressway
Bismarck, ND 58501

North Dakota Department of Commerce - Division of Community Services
Century Center, 1600 East Century Avenue, Suite 2
PO Box 2057
Bismarck, ND 58503

Deb Thomas
Deputy Regional Administrator
USEPA Region 8
1595 Wynkoop Street
Denver, CO 80202-1129

Tribal Historic Preservation Officer
Indian Affairs Commission
600 East Boulevard Avenue
Bismarck, ND 58505-0300

Andrew Stahl
State Health Officer
North Dakota Department of Health
600 East Boulevard Avenue
Bismarck, ND 58505-0200

U.S. Department of Agriculture - Natural Resources Conservation Service
4775 Technology Circle #1B
Grand Forks, ND 58203-5635

U.S. Army Corps of Engineers - North Dakota Regulatory Office
2219 University Drive
Bismarck, ND 58504

North Dakota State Water Commission
900 East Boulevard Ave, Dept 770
Bismarck, ND 58505-0850

Bill Peterson, SHPO
State Historical Society of North Dakota
State Historical Society of North Dakota
612 East Boulevard Ave
Bismarck, ND 58505

Jessica Johnson
U.S. Fish and Wildlife - North Dakota Field Office
3425 Miriam Avenue
Bismarck, ND 58501

Grand Forks Public Library
2110 Library Circle
Grand Forks, ND 58201

University of North Dakota Legal Library (Thromodsgard Law Library)
2968 2nd Ave, N Stop 9004
Grand Forks, ND 58202

North Dakota State University Library
1201 Albrecht Boulevard
PO Box 6050
Fargo, ND 58108

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 319TH CIVIL ENGINEER SQUADRON (ACC)
GRAND FORKS AIR FORCE BASE, NORTH DAKOTA

FROM: 319 CES/CD
525 Tuskegee Airmen Blvd
Grand Forks AFB ND 58205-6434

Jeb Williams
Director
North Dakota Game and Fish Department
100 North Bismarck Expressway
Bismarck, ND 58501

Dear Mr. Williams,

The United States Air Force (USAF) is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts of reconstruction of the ground topography and the natural and manmade water features within the Aircraft Movement Area (AMA) plus 500 feet, including all areas inside the AFB airfield security fence, in compliance with the National Environmental Policy Act of 1969 (NEPA). Taking into account various environmental concerns, the USAF is engaging early with the appropriate resource and regulatory agencies as it formulates the undertaking. Accordingly, the USAF seeks consultation with your office.

The purpose of the action is to bring the airfield into compliance with Air Force Instruction (AFI) 91-212, Bird/wildlife Aircraft Strike Hazard (BASH) Management Program, and AFI 91-202, US Air Force Mishap Prevention Program. Vegetative cover within the project area must be maintained at a height between 7 to 14 inches and converted to locally adapted vegetation species deemed unattractive to birds and other wildlife.

Grand Forks AFB needs to remove standing water, improve drainage, regrade, grub and level fields, create less attractive habitat, control vegetation heights to comply with BASH AFI's and improve ground maintenance accessibility and operations in order to preserve national defense capabilities and support mission requirements. The intent of this EA is to address potential environmental impacts of the proposed airfield drainage improvements, landscape reconstruction, reseeding/vegetation control, and wetlands mitigation project.

The EA will assess the potential environmental consequences associated with the Proposed Action and No Action alternative. The EA will also examine the cumulative effects when combined with past, present, and any reasonably foreseeable future actions. In support of this process, we request your input in identifying general or specific issues or areas of concern you believe should be addressed in the EA.

We intend to provide your organization with a copy of the Draft EA when the document is completed. Please inform us if additional copies are needed or if someone else within your government other than you should receive the Draft EA.

Please reach out to my point of contact, provided below on any issues or concerns you have in the development of this EA. We ask your assistance in identifying any issues or concerns of which we may be unaware, particularly those that may be affected by this proposal.

The USAF Point of Contact is Mr. Robert Greene. Please send him your comments and concerns to 319 CES/CEIEC, 25 Tuskegee Airmen Blvd, Grand Forks AFB, North Dakota, 58205, or by email at robert.greene.13@us.af.mil. I look forward to receiving any input you may have regarding this endeavor. Thank you in advance for your assistance in this effort.

Sincerely,

LANDON.LANCE.ERIC.1458635028 Digitally signed by LANDON.LANCE.ERIC.1458635028 Date: 2023.07.20 13:43:12 -05'00'

Lance E. Landon
Deputy Base Civil Engineer

Attachment:
Description of the Proposed Action and Alternatives

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 319TH CIVIL ENGINEER SQUADRON (ACC)
GRAND FORKS AIR FORCE BASE, NORTH DAKOTA

FROM: 319 CES/CD
525 Tuskegee Airmen Blvd
Grand Forks AFB ND 58205-6434

Mr. Floyd Azure
Chairperson
Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation, Montana
PO Box 1027
Poplar, MT 59255

SUBJECT: Availability of Draft Environmental Assessment for Airfield BASH Mitigation Grand Forks Air Force Base (AFB), North Dakota

Dear Chairperson Azure

The United States Air Force (Air Force) has prepared a Draft Environmental Assessment (EA)/Finding of No Practical Alternative (FONPA) to evaluate the potential environmental impacts of reconstruction of the ground topography and the natural and manmade water features within the Aircraft Movement Area (AMA) plus 500 feet, including all areas inside the AFB airfield security fence, in compliance with the National Environmental Policy Act of 1969 (NEPA).

The Air Force has previously consulted with the Tribes and the State Historical Society of North Dakota (SHPO) regarding this proposed action and is providing the Draft EA as a courtesy. The Air Force previously has provided to the SHPO a Class III cultural resources and traditional cultural properties inventory for the proposed undertaking. Ten cultural resources were recorded or updated in the survey of 1293 acres. No traditional cultural properties were identified by participating Tribal Cultural Specialists from the Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation, the Turtle Mountain Band of Chippewa Indians, and the Standing Rock Sioux Tribe. All resources are recommended not eligible for inclusion in the National Register of Historic and the SHPO concurred with that determination.

The Air Force requests your input on the Draft EA/FONPA. Substantive comments received during the review period will be addressed in the Final EA/FONPA or, if necessary, the Air Force will announce its intent to prepare an Environmental Impact Statement (EIS). Electronic copies of the documents can be found on the Grand Forks AFB website at https://www.grandforks.af.mil/About-Us/Economic-and-Environmental-Information/. Hard copies of the Draft EA/FONSI are available for review at the following local libraries: Grand Forks Public Library, Grand Forks, ND; University of North Dakota Legal Library (Thormodsgard Law Library), Grand Forks, ND; and North Dakota State University Library, Fargo, ND. A limited number of hard copies are available upon request.

Please direct any further questions or requests for additional information to Mr. Robert Greene at 525 Tuskegee Airmen Blvd, Grand Forks AFB, North Dakota, 58205, or by email or phone at robert.greene.13@us.af.mil or (701) 747-4664.

We look forward to receiving your input on the Draft EA/FONSI and thank you for participating in the Air Force's environmental impact analysis process.

Sincerely,

LANDON.LANCE.ERIC.1458635028 Digitally signed by LANDON.LANCE.ERIC.1458635028 Date: 2024.02.16 09:43:18 -06'00'

LANCE E. LANDON, GS-13, DAF
Deputy Base Civil Engineer

cc: Dyan Youpee, THPO

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 319TH CIVIL ENGINEER SQUADRON (ACC)
GRAND FORKS AIR FORCE BASE, NORTH DAKOTA

FROM: 319 CES/CD
525 Tuskegee Airmen Blvd
Grand Forks AFB ND 58205-6434

Jessica Johnson
United States Fish and Wildlife Service
3425 Miriam Avenue
Bismarck, ND 58501

Subject: Introduction of the Environmental Impact Analysis for Airfield Bird/Wildlife Aircraft Strike Hazard Mitigation for Grand Forks Air Force Base (AFB), North Dakota

Dear Ms. Johnson,

The purpose of this letter is twofold: to give you an opportunity to review and comment on a proposed action in which the United States Fish and Wildlife Services (USFWS) may have an interest, and, pursuant to 50 Code of Federal Regulations (CFR) § 402.12(c), request a list of Federally-listed species that may be present in the action area.

The United States (U.S.) Air Force (Air Force) is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts of reconstruction of the ground topography and the natural and manmade water features within the Aircraft Movement Area (AMA) plus 500 feet, including all areas inside the AFB airfield security fence, in compliance with the National Environmental Policy Act of 1969 (NEPA) (Title 42 of the United States Code, Section 4331 [U.S.C. § 4331] et seq.); the Council on Environmental Quality (CEQ) regulations that implement NEPA (Title 40 Code of Federal Regulations [CFR] Parts 1500–1508); and Air Force's Environmental Impact Analysis Process (EIAP) regulations at 32 CFR Part 989, Environmental Impact Analysis Process. Location maps are included as part of the attachment.

The purpose of the action is to bring the airfield into compliance with Air Force Instruction (AFI) 91-212, Bird/wildlife Aircraft Strike Hazard (BASH) Management Program, and AFI 91-202, US Air Force Mishap Prevention Program. Vegetative cover within the project area must be maintained at a height between 7 to 14 inches and converted to locally adapted vegetation species deemed unattractive to birds and other wildlife.

Grand Forks AFB needs to remove standing water, improve drainage, regrade, grub and level fields, create less attractive habitat, control vegetation heights to comply with BASH AFI's and improve ground maintenance accessibility and operations in order to preserve national defense capabilities and support mission requirements. The intent of this EA is to address potential environmental impacts of the proposed airfield drainage improvements, landscape reconstruction, reseeding/vegetation control, and wetlands mitigation project.

The EA will assess the potential environmental consequences associated with the Proposed Action and no action alternative. Potential impacts identified during the initial planning stages include effects on noise, air quality, infrastructure/utilities, biological and cultural

resources, and water resources. The EA will also examine the cumulative effects when combined with past, present, and any reasonably foreseeable future actions. In support of this process, we request your input in identifying general or specific issues or areas of concern you believe should be addressed in the EA.

We intend to provide you with a copy of the Draft EA when the document is completed. Please inform us if additional copies are needed or if someone else within your government other than you should receive the Draft EA. We will also provide you with a 36 CFR 800.4 effects determination after we have completed the historic property identification process.

Please reach out to my point of contact, provided below on any issues or concerns you have in the development of this EA. We ask your assistance in identifying any issues or concerns of which we may be unaware, particularly those that may be affected by this proposal.

The USAF Point of Contact is Mr. Robert Greene. Please send him your comments and concerns to 319 CES/CEIEC, 25 Tuskegee Airmen Blvd, Grand Forks AFB, North Dakota, 58205, or by email at robert.greene.13@us.af.mil. I look forward to receiving any input you may have regarding this endeavor. Thank you in advance for your assistance in this effort.

Sincerely,

LANDON.LANCE.ERIC.1458635028
Digitally signed by LANDON.LANCE.ERIC.1458635028
Date: 2023.07.20 13:45:21 -05'00'

Lance E. Landon
Deputy Base Civil Engineer

Attachment:
Description of the Proposed Action and Alternatives

Attachment available in the Administrative Record.

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December 15, 2023

Lance Landon
U.S. Air Force
319CES/CD
525 Tuskegee Airmen Blvd
Grand Forks AFB, ND 58206

ND SHPO Ref: 23-0234 Cavalier County WMA in portions of [T161N R56W Section 31] in Pembina County, North Dakota

Dear Mr. Landon,

We have completed review of the final report for ND SHPO Ref: 21-6332 titled "Grand Forks Air Force Base Bird/Wildlife Aircraft Strike Hazard Management Program: A Class III Cultural Resources and Traditional Cultural Properties Inventory in Grand Forks County, North Dakota" by Daan Meens of Metcalf Archaeological Consultants. We concur with a determination of "No Historic Properties Affected" for this project provided it takes place in the location and in the manner described in the documentation.

Thank you for the opportunity to review this project. Please include the ND SHPO Reference number listed above in further correspondence for this specific project. If you have any questions, please contact Lorna Meidinger, Lead Historic Preservation Specialist at (701) 328-2089 or lbmeidinger@nd.gov.

Sincerely,

for William D. Peterson, PhD
State Historic Preservation Officer
(North Dakota)

23-0234

August 17, 2023

Robert Greene
U.S. Air Force 319 CES/CEIEC
25 Tuskegee Airmen Blvd.
Grand Forks AFB, ND 58205

Re: Grand Forks Air Force Base Environmental Assessment for Airfield Work in Grand Forks County

Dear Mr. Greene:

The North Dakota Department of Environmental Quality has reviewed the information concerning the above-referenced project received at the department on August 14, 2023, with respect to possible environmental impacts.

1. Care is to be taken during construction activity near any water of the state to minimize adverse effects on a water body. This includes minimal disturbance of stream beds and banks to prevent excess siltation, and the replacement and revegetation of any disturbed area as soon as possible after work has been completed. Caution must also be taken to prevent spills of oil and grease that may reach the receiving water from equipment maintenance and/or the handling of fuels on the site. Guidelines for minimizing degradation to waterways during construction are attached.

2. Projects disturbing one or more acres are required to have a permit to discharge stormwater runoff until the site is stabilized by the re-establishment of vegetation or other permanent cover. Further information on the stormwater permit may be obtained from the department's website or by calling the Division of Water Quality at 701-328-5210. Also, cities may impose additional requirements and/or specific best management practices for construction affecting their storm drainage system. Check with the local officials to be sure any local stormwater management considerations are addressed.

3. All solid waste materials must be managed and transported in accordance with the state's solid and hazardous waste rules. Appropriate efforts to reduce, reuse and/or recycle waste materials are strongly encouraged. As appropriate, segregation of inert waste from non-inert waste can generally reduce the cost of waste management. Further information on waste management and recycling is available from the department's Division of Waste Management at 701-328-5166.

These comments are based on the information provided about the project in the above-referenced submittal. The U.S. Army Corps of Engineers may require a water quality certification from this department for the project if the project is subject to their Section 404 permitting process. Any additional information which may be required by the U.S. Army Corps of Engineers under the process will be considered by this department in our determination regarding the issuance of such a certification.

The department owns no land in or adjacent to the proposed improvements, nor does it have any projects scheduled in the area. In addition, we believe the proposed activities are consistent with the State Implementation Plan for the Control of Air Pollution for the State of North Dakota.

If you have any questions regarding our comments, please feel free to contact this office.

Sincerely,

L. David Glatt, P.E., Director
North Dakota Department of Environmental Quality

LDG:ll
Attach.

Construction and Environmental Disturbance Requirements

The following are the minimum requirements of the North Dakota Department of Environmental Quality for projects that involve construction and environmental disturbance in or near waters of the State of North Dakota. They ensure that minimal environmental degradation occurs as a result of construction or related work which has the potential to affect waters of the state. All projects must be constructed to minimize the loss of soil, vegetative cover, and pollutants (chemical or biological) from a site.

Soils

Prevent the erosion and sediment loss using erosion and sediment controls. Fragile and sensitive areas such as wetlands, riparian zones, delicate flora, and land resources must be prohibited against compaction, vegetation loss and unnecessary damage.

Surface Waters

All construction must be managed to minimize impacts to aquatic systems. Follow safe storage and handling procedures to prevent the contamination of water from fuel spills, lubricants, and chemicals. Stream bank and stream bed disturbances must be contained to minimize silt movement, nutrient upsurges, plant dislocations, and any physical chemicals, or biological disruption. The use of pesticides or herbicides in or near surface waters is allowed under the department's pesticide application permit with notification to the department.

Fill Material

Any fill material place below the ordinary high-water mark must be free of topsoil, decomposable materials, and persistent synthetic organic compounds; including, but not limited to, asphalt, tires, treated lumber, and construction debris. The department may require testing of fill material. All temporary fills must be removed. Debris and solid waste must be properly disposed or recycled. Impacted areas must be restored to near original condition.

NORTH Dakota | Water Resources
Be Legendary.

August 23, 2023

Mr. Robert Green
Dept. of the Air Force
319 CES/CD
525 Tuskegee Airmen Blvd
Grand Forks AFB, ND 58205

Dear Mr. Green:

This is in response to your request for a review of the environmental impacts associated the reconstruction of the ground topography and the natural and manmade water features within the Aircraft Movement Area.

The proposed project has been reviewed by Department of Water Resources, and the following comments are provided:

- There is a FEMA National Flood Insurance Program (NFIP) regulatory floodplain identified or mapped where this proposed project is to take place. Impacted areas are designated to be in NFIP Zone A. The State of North Dakota has no formal NFIP permitting authority, as all NFIP permitting decisions are considered by impacted NFIP participating communities, which is the community with zoning authority for the area in question. Please work directly with the local floodplain administrator of the zoning authority impacted to achieve NFIP and community compliance.

- The Department of Water Resources' (DWR) Engineering and Permitting Section reviewed the project location and determined that it likely will require a surface drain permit. For more information on these requirements, please visit the Regulation & Appropriation tab on the DWR's website (dwr.nd.gov) or contact the DWR's Regulatory Division at (701) 328-4956 or dwrregpermits@nd.gov.

- Initial review indicates the project does not require a conditional or temporary permit for water appropriation. However, if surface water or groundwater will be diverted for construction of the project, a water permit will be required per North Dakota Century Code § 61-04-02. Please consult with the Department of Water Resources Water Appropriation Division if you have any questions at (701) 328-2754 or appropinfo@nd.gov.

Thank you for the opportunity to provide review comments. Should you have further questions, please contact me at (701) 328-4967 or atravnicek@nd.gov.

Sincerely,

Andrea Travnicek
Director

CD:dm/1570

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
www.epa.gov/region08

9/08/2023

Ref: 8ORA-N

Mr. Robert Greene
319 CES/CEIC
25 Tuskegee Airmen Blvd
Grand Forks AFB, ND 58205
robert.greene@us.af.mil

Dear Mr. Greene,

The U.S. Environmental Protection Agency Region 8 (EPA) has completed a review of the U.S. Department of the Air Force's (USAF) July 28, 2023, notice to prepare an Environmental Assessment (EA) analyzing the potential impacts of reconstruction of ground topography and natural and manmade water features within the Aircraft Movement Area (AMA) including all areas inside the airfield security fence in Grand Forks County, North Dakota.

EPA understands that the purpose and need for the proposed Project is to bring the airfield into compliance with Air Force Instruction (AFI) 91-212*, Bird/wildlife Aircraft Strike Hazard* (BASH) *Management Program* and AFI 91-202, *USAF Mishap Prevention Program*. The Proposed Action would consist of removing standing water, drainage improvement, regrading of fields, creation of less attractive habitat for birds and wildlife, control of vegetation heights, and improvement of accessibility for maintenance and operations.

Based on the review of the USAF notice and the Final Description of the proposed Project and Alternatives for Airfield BASH Mitigation for Grand Forks Air Force Base (AFB), the EPA's initial comments and recommendations on the scope of the Draft EA are specific to the following areas: (1) water resources, (2) air quality, (3) climate change, (4) noxious weeds, (5) hazardous waste, and (6) consideration of impacts to rural communities.

We appreciate your consideration of our comments at this early stage of the project planning process. If further explanation of our comments is desired, please contact me at (303) 312-6155 or

mccoy.melissa@epa.gov, or Amanda Jensen, Lead NEPA Reviewer, at jensen.amanda@epa.gov or (303) 312-6981.

Sincerely,

Melissa W. McCoy, Ph.D., J.D.
Manager, NEPA Branch
Office of the Regional Administrator

Enclosure

Enclosure – EPA Scoping Comments on Proposed Mitigation at Grand Forks AFB

(1) Water Resources

Existing Conditions

Existing conditions are a key frame of reference for quantifying and characterizing magnitudes of adverse and positive environmental effects from the proposed Project. The EPA recommends evaluating the effects of the proposed Project and alternatives against existing environmental conditions and that the Draft EA identify existing data and verify whether historical data are representative of current conditions.

- Provide clear maps of the project area, including wetland delineation and regional water features.
- Conduct a wetland function analysis if there is any potential that an alternative will cause impacts.
- Include resources directly impacted by potential project footprints within the geographic scope of analysis, as well as the resources indirectly (or secondarily) impacted by any of the alternatives. These indirectly impacted areas may include downstream segments, streams, and any other resource areas which may be affected by changes in water management or operations.

The EPA recommends that the Draft EA include a discussion of existing aquatic resource conditions in the project area, to provide the basis for an effective analysis of potentially significant impacts from the proposed construction to hydrology, water quality, habitat, and other water resources in the project area. To describe effects to aquatic resources in the project area, we recommend the Draft EA document include the following analyses or descriptions:

- A clear map and summary of project area waters and downstream waters, including streams, lakes, springs, and wetlands. It would be helpful if the summary identified high resource value water bodies and their designated beneficial uses (e.g., agriculture, fisheries, drinking water, recreation);
- Types, function, conditions and acreages of wetlands, riparian areas, and springs;
- Watershed conditions, including vegetation cover and composition, soil conditions, and areas not meeting desired future conditions;
- Surface water information, including available water quality data in relation to current North Dakota Water Quality Standards, stream functional assessments, stream channel/stream bank stability conditions, sediment loads, and aquatic life;
- A map and list of Clean Water Act (CWA) impaired or threatened water body segments within, or downstream of, the planning area, including the designated uses of the water bodies and the specific pollutants of concern potentially affected by on-going activities within or adjacent to the Project area; and
- Available groundwater information, including quality and location of aquifers.

Water Quality Data

Water quality data for the streams, lakes, and wetlands within or adjacent to the project area provide important information for evaluating the potential influence of the Project on downstream water quality. Such an evaluation can then guide management for the Project, with the data providing a baseline for future monitoring of impacts. We recommend the Draft EA provide a summary of available information and monitoring data on water quality within the project area and for downstream waters that may be affected by the proposed Project and alternatives, including parameters such as total phosphorus, total nitrogen, total suspended solids, turbidity, total dissolved solids, and temperature. It will also be important to include water quality data for parameters listed for impaired water bodies within or downstream of the project area. Identifying any significant gaps in available data may be helpful in developing a monitoring plan. At a minimum, the EPA recommends providing a reference to publicly accessible technical documentation or an appendix that contains the requested relevant water quality data.

Potential Impacts to Impaired Waterbodies

Based upon the most recent EPA-approved Integrated Report list for North Dakota (2018) there are impaired streams (e.g., Turtle River) located within the proposed project area. These resources are important to evaluate as the proposed activities may further impact systems or portions of systems downstream. We recommend the Draft EA include an analysis of water quality that, at a minimum, evaluates the following areas:

- Water quality impairments per State CWA Section 303(d) lists, draft or established TMDLs, and potentially affected dischargers
  - The project area intersects an already known water quality limited stream with impairments for biota and habitat; and,
- Source Water Protection areas and explanation of how the project will be consistent with Source Water Protection planning measures.

Wetlands

The EPA recommends the Draft EA include a description of the impacts to wetlands that may result from the proposed Project and alternatives. Such impacts may include changes to supporting wetland hydrology (e.g., snow melt patterns or groundwater hydrology); and wetland disturbance and loss. We recommend the USAF analyze the direct, indirect, and cumulative impacts to all wetlands within the geographic scope of potential impacts, including impacts to wetlands from changes in hydrology even if these wetlands are spatially removed from the construction of the footprint. We also recommend the Draft EA demonstrate that the destruction, degradation, and modification of all wetlands will be avoided and minimized on federal lands as outlined in Executive Order (E.O.) 11990, *Protection of Wetlands*. This involves mapping all wetlands within the project site, including springs, and selecting a practicable alternative that avoids impacts to wetlands, or if no such practicable alternative exists, ensuring all practicable measure to minimize harm are incorporated into the project.

Discharge of dredged or fill material into waters of the United States, including wetlands, is regulated under CWA Section 404. This permit program is administered jointly by the U.S. Army Corps of Engineers (Corps) and the EPA. We recommend USAF consult with the Corps to determine the applicability of CWA Section 404 permit requirements to wetlands that may be impacted in the planning area and to ensure appropriate minimization measures are applied to avoid adverse impacts to wetlands. The EPA's and the Corps' Final Rule for Mitigation for Losses of Aquatic Resources [33 CFR Parts 325 and 332; 40 CFR Part 230 (73 FR 19594, April 10, 2008)] emphasizes the need to avoid and minimize impacts to these "difficult-to-replace" resources and requires that any compensation be provided by in-kind preservation, rehabilitation, or enhancement to the extent practicable. We recommend restoration plans require that soil profiles and hydrology are re-established as much as possible to the original state. In addition, the EPA recommends the USAF consider the Mitigation Rule to protect aquatic resources even when a CWA Section 404 permit is not required.

Erosion and Sediment Load Analysis: Erodible soils may represent a source of pollutants in the planning area. Increased sediment from surface disturbance may degrade water quality in receiving streams and may represent a significant source of pollutants when mobilized by human-caused soil disturbances. Depending on a host of variables including soil characteristics, condition of roads, and associated runoff from development, the proposed project could introduce sediments as well as salts, selenium, heavy metals, nutrients, and other pollutants into surface waters.

Best Management Practices (BMPs) and Monitoring

The EPA recommends that the Draft EA analyze options for avoiding environmental impacts, including impacts to nearby wetland and other water features. BMPs that protect wetlands against short- or long-term impacts can include, but are not limited to, silt fencing or use of a protective buffer areas around essential resources. Effective use of BMPs may help to control flooding, protect water flows, conserve native vegetation and wildlife, and support climate resiliency to land use and development.[1]

(2) Air Quality

Protection of air quality is important to address in the Draft EA. We recommend establishing existing environmental conditions in the proposed project area based on the most current air quality monitoring data. Monitoring data presented as design values is available from EPA's design values webpage.[2] In order to disclose potential impacts from the implementation of the alternative we recommend the EA identify the activities necessary to construct and operate the facilities. Based on the construction activity we recommend identifying equipment that is anticipated to be needed as well as an operating schedule for the equipment. Based on the duration of construction and magnitude of emitting equipment and activities that are anticipated, it may be appropriate to quantify emissions associated with construction. We recommend that the EA disclose operational activities that have the potential to effect air quality, such as commuter trips to and from the site, stationary sources (such as generators), and exposed areas that may be susceptible to wind erosion. If substantial vehicle traffic or other emission sources are anticipated, it may be appropriate to quantify operation emissions in the EA. We are available to assist

[1] *See, e.g.,* Stormwater and Construction BMP Fact sheet https://www3.epa.gov/npdes/pubs/cu_swposter-final-fullsize.pdf
[2] https://www.epa.gov/air-trends/air-quality-design-values

USAF as it plans the appropriate level of analysis. Additionally, we recommend USAF consider opportunities to reduce vehicle emissions as well as road and construction-related dust emissions through application of BMPs such as dust suppression and limited vehicle idling.

(3) Climate change

On January 9, 2023, the Council on Environmental Quality (CEQ) published interim guidance to assist federal agencies in assessing and disclosing climate change impacts during environmental reviews. CEQ developed this guidance in response to E.O. 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis.* This interim guidance is effective immediately. CEQ indicated that agencies should use this interim guidance to inform NEPA review for all new proposed projects and may use it for evaluations in process, as agencies deem appropriate, such as informing the considerations of alternatives or helping address comments raised through the public comment process. The EPA recommends the Draft EA apply the interim guidance to ensure robust consideration of potential climate impacts, mitigation, and adaptation issues.

Greenhouse Gas Emissions

The EPA recommends including an estimate of the greenhouse gas (GHG) emissions associated with construction and operation of the proposed Project. Example tools for estimating and quantifying GHG emissions can be found at CEQ's NEPA.gov website.[3] Recognizing that climate impacts are not attributable to any single project, but are exacerbated by a series of smaller decisions, we do not recommend comparing the GHG emissions from a proposed project to global, national, or state emissions, as this approach is limited by the cumulative nature of GHG concentration and the impacts of climate change. Because of these limitations, these comparisons inappropriately minimize the significance of emissions and do not provide meaningful information for a project level analysis.[4]

Changes in Existing Environmental Conditions

The EPA also recommends that the Draft EA describe how the proposed Project and its impacts would be affected by ongoing and foreseeable changes and trends in the affected environment, for instance, under a scenario of continued decreasing precipitation days, changing frequency of intense storms and related flood events, and increasing drought intensity in the project area. The 2022 State Climate Summary for North Dakota indicates an increase in frequency of 2-inch extreme precipitation events.[5] Full consideration of influences from the project setting on the proposed Project may inform necessary design modifications to enhance project resiliency and changes to operational assumptions for determining resource supplies, system demands, system performance requirements, and operational constraints.

[3] CEQ's GHG Guidance: https://ceq.doe.gov/guidance/ghg-tools-and-resources.html
[4] CEQ's GHG Guidance ("[S]uch comparisons and fractions also are not an appropriate method for characterizing the extent of a proposed action's and its alternatives' contributions to climate change because this approach does not reveal anything beyond the nature of the climate change challenge itself—the fact that diverse individual sources of emissions each make a relatively small addition to global atmospheric GHG concentrations that collectively have a large effect.")
[5] https://statesummaries.ncics.org/chapter/nd/

The US Climate Resilience Toolkit[6] serves as a repository of information related to climate resilience in the U.S., including steps to build resilience, case studies, expertise, and special topic areas, including tools to project future climate scenarios for planning purposes. The EPA's Climate Change Indicators[7] presents a key set of indicators related to the causes and effects of climate change. EPA partners with various government agencies, academic institutions, and other organizations to compile these indicators that are used to understand and track the science and impacts of climate change. We recommend utilizing these tools in the analysis of climate change impacts and for Project planning purposes.

Mitigating Climate Change Effects

Finally, consistent with the goals of E.O. 14008, *Tackling the Climate Crisis at Home and Abroad,* the EPA encourages identifying measures to provide for diverse, healthy ecosystems that are resilient to climate stressors; requiring effective mitigation and encouraging voluntary mitigation to offset the adverse impacts of projects or actions; requiring reduction of greenhouse gas emissions from authorized activities to the lowest practical levels; identifying and protecting areas of potential climate refugia; reducing barriers to plant migration; using pollinator-friendly plant species in restoration and revegetation projects; and designing the project to mitigate potential structural impacts associated with extreme weather events.

(4) Noxious Weeds

Management of noxious weeds is an important issue to address in the EA since these species tend to gain a foothold where there are disturbances to the landscape. We recommend the EA provide information on the current state of invasive species in the Project area and how alternatives may impact distribution and prevalence of invasive species. We further recommend that the EA disclose specific management actions that will address invasive species through prevention, early detection and rapid response, and restoration and rehabilitation. If any herbicides will be used to treat noxious weeds, we recommend disclosing any potential hazards related to the application of the chemicals and describing what actions will be taken to minimize impacts of toxic substances released into the environment.

(5) Hazardous Waste

The EPA recommends that the Draft EA discuss the potential impacts of any hazardous waste, including unexploded ordnance, that could be encountered during construction activities. We recommend the Draft EA evaluate the risk for such encounters and the resulting impact of their occurrence. As part of this discussion, we also recommend that the Draft EA identity possible waste types and their expected storage, disposal, and management. BMPs include storing chemicals for Project activities in closed containers with secondary containment in a specific location, identifying areas and procedures for fueling, and providing a protected vehicle washout. We recommend that any references to standard operating protocols be clearly identified and referenced in the Draft EA.

[6] U.S. Climate Resilience Toolkit, https://toolkit.climate.gov/
[7] U.S. Climate Change Indicators, https://www.epa.gov/climate-indicators

(6) Consideration of Impacts to Rural Communities

Consistent with E.O.s 13985, *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government,* and 14008, *Tackling the Climate Crisis at Home and Abroad,* the EPA recommends meaningfully engaging with rural communities and stakeholders to understand their experiences and address their concerns with respect to the potential environmental impacts of the proposed Project and alternatives. Rural communities (including subsistence households) are often more closely linked to ecosystems and their services, making it especially important that people living in such communities have opportunities for input into decision-making about local land use and utilization of natural resources, including how federal actions may affect their access to and management of natural and cultural resources.

Using Accessible Mechanism to Address Systemic Barriers

In 2021, Grand Forks, ND and surrounding areas were identified as having limited broadband access.[8] Limited broadband and media access in rural locations may warrant using various outreach strategies such as email, letter, phone calls and advertising of public meetings in local community venues (e.g., at markets, community centers, and community events). Meaningful engagement can also be fostered by presenting a clear project purpose, adequate information and associated stakes, and holding meetings as early as possible in the NEPA process while continuing to provide information and opportunities for input on an ongoing basis.

Engaging trusted community intermediaries and tailoring engagement to distinct segments of the population can also build trust, as can walking the project area to facilitate mutual understanding of the circumstances and concerns facing rural stakeholders. Potential disconnection of rural communities from largely urban-based political power structures and limited organization and influence over the factors that impact their well-being make such outreach and engagement strategies especially important. We recommend that the Draft EA describe the process and outcome of engagement with rural communities, including how their concerns were addressed in the range of alternatives. As part of this, we recommend that the Draft EA include who was contacted and how.

[8] https://www.ndlegis.gov/files/committees/67-2021/23_5072_02000_87_broadband_assoc_nd.pdf

USDA
United States Department of Agriculture

Natural Resources
Conservation Service

Bismarck State Office
PO Box 1458
Bismarck, ND
58502-1458

Voice 701.530.2000
Fax 855-813-7556

August 8, 2023

Mr. Robert Green
319 CES/CEIEC
25 Tuskegee Airmen Blvd.
Grand Forks AFB, ND 58205

Dear Mr. Green:

The Natural Resources Conservation Service (NRCS) has reviewed your letter dated July 28, 2023 concerning the Bird/wildlife Aircraft Strike Hazard Management Program for the Grand Forks AFB in Grand Forks County, North Dakota.

NRCS has assessed your project affects to farmland as defined in Sec. (658.2 a) of the Code of Federal Regulations dealing with the Farmland Protection Policy Act (FPPA). NRCS has a major responsibility with FPPA in documenting conversion of farmland (i.e., Prime, Statewide Importance and/or Local Importance) to non-agricultural use when projects benefit from federal funds. Projects that pertain to national defense purposes or facilities are exempt from FPPA; therefore, no further action is needed.

If you have additional questions pertaining to FPPA, please contact Wade Bott, State Soil Scientist, NRCS, Bismarck, North Dakota at 701-530-2021.

Sincerely,

WADE BOTT Digitally signed by WADE BOTT
Date: 2023.08.08 08:48:32 -05'00'

WADE D. BOTT
State Soil Scientist

United States Department of the Interior

FISH AND WILDLIFE SERVICE
North Dakota Ecological Services Field Office
3425 Miriam Avenue
Bismarck, ND 58501-7926
Phone: (701) 250-4481 Fax: (701) 355-8513

In Reply Refer To:
Project Code: 2023-0093821
Project Name: Grand Forks BASH EA

June 14, 2023

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

To Whom It May Concern:

Section 7 of the Endangered Species Act

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 Act requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representative) must consult with the Service *if they determine their project and associated actions "may affect" listed species or critical habitat*. If Federal agencies or their non-federal representatives determine their project and associated actions will have "no effect" on listed species, their habitats, or designated critical habitat, consultation is not required. However, if a "no effect" is determined, we recommend that you maintain a written record in support of your conclusion.

Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act

Additionally, while not all are listed as threatened or endangered, eagles and migratory birds

have protections under the Bald and Golden Eagle Protection Act (BGEPA) and the Migratory Bird Treaty Act (MBTA). The BGEPA prohibits take which is defined as, “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, destroy, molest, or disturb” (50 CFR 22.3). Disturb is defined in regulations as, “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”. The MBTA makes it unlawful without a waiver to pursue, hunt, take, capture, kill, or sell birds listed as migratory birds, including eagles. The statute does not discriminate between live or dead birds and also grants full protection to any bird parts including feathers, eggs, and nests.

Service Property Interests

As part of the National Wildlife Refuge System, the Service administers fee title Refuge and Waterfowl Production Areas, as well as wetland and grassland easements, throughout North Dakota. For exact locations of Service interest lands, please contact the appropriate Wetland Management Districts (WMD) for guidance regarding FWS easements.

Northwest ND WMD Complex: Kyle Flanery, (701) 768-2548
Eastern ND WMD Complex: Dave Azure, (701) 285-3341
Central ND WMD Complex (also covers south and west): Todd Luke, (701) 442-5474

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Wetlands

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:

North Dakota Ecological Services Field Office
3425 Miriam Avenue
Bismarck, ND 58501-7926
(701) 250-4481

PROJECT SUMMARY

Project Code: 2023-0093821
Project Name: Grand Forks BASH EA
Project Type: Military Development
Project Description: The 319 RW at Grand Forks AFB is proposing to reconstruct the ground topography and the natural and manmade water features within the project area totaling 1,291 acres (Figure 2 1). Grand Forks AFB would cultivate airfield vegetation unattractive to wildlife and maintain vegetation height between 7 and 14 inches within the project area to comply with AFI 91-202 and AFI 91-212. Grand Forks AFB intends to remove standing water by regrading the airfield's west ditch (up to 14,000 linear feet), conducting perimeter drainage maintenance, installing up to 35 acres of drain tile, and mitigating wetlands/floodplains. Reconstructing ground topography includes filling, clearing, grubbing, regrading (via heavy-equipment operation), landscaping, cultivating, and re-seeding up to 150 acres of the project area to create both accessibility and functional grounds maintenance operations and unattractive wildlife habitat. The Proposed Action also would include replacement of the Installation's west perimeter fence (22,240 feet of fence line). Fence posts would be driven into the ground to a depth of 8 feet and 10 feet apart, with no digging or trenching required. Seed selection for the project area would include species adapted to the local area, deemed unattractive for wildlife, and that can thrive in the local ecotype withstanding repeated mowing to successfully meet AFI compliance.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@47.9641715,-97.38602660521302,14z

Counties: Grand Forks County, North Dakota

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 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[1], 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 *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

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.

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

- PEM1Cd
- PEM1Ax
- PEM1Cx
- PEM1A
- PEM1/SS1C
- PEM1C

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1A
- PSS1A
- PFO1C

RIVERINE

- R2UBG
- R4SBCx
- R4SBAx

FRESHWATER POND

- PABFx

OTHER

- Pf

IPAC USER CONTACT INFORMATION

Agency: Air Force
Name: Kevin Groppe
Address: 350 Hills St Ste 112
City: Richland
State: WA
Zip: 99354
Email kevin.groppe@easbio.com
Phone: 2406046869

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 319TH CIVIL ENGINEER SQUADRON (ACC)
GRAND FORKS AIR FORCE BASE, NORTH DAKOTA

15 March 2024

FROM: 319 CES/CD
525 Tuskegee Airmen Blvd
Grand Forks AFB ND 58205-6434

Andrew Stahl
North Dakota Department of Health
600 East Boulevard Avenue
Bismarck, ND 58505-0200

SUBJECT: Availability of Draft Environmental Assessment for Airfield BASH Mitigation Grand Forks Air Force Base (AFB), North Dakota

Dear Dr. Stahl,

The United States Air Force (Air Force) has prepared a Draft Environmental Assessment (EA)/Finding of No Practical Alternative (FONPA) to evaluate the potential environmental impacts of reconstruction of the ground topography and the natural and manmade water features within the Aircraft Movement Area (AMA) plus 500 feet, including all areas inside the AFB airfield security fence, in compliance with the National Environmental Policy Act of 1969 (NEPA).

Pursuant to the National Environmental Policy Act (NEPA; 42 US Code §4321 et seq.) and the Council on Environmental Quality NEPA implementing regulations (40 Code of Federal Regulations [CFR] §§1500-1508), the Air Force invites review and comment on the findings of the Draft EA/FONPA. Electronic copies of the documents can be found on the Grand Forks AFB website at https://www.grandforks.af.mil/About-Us/Economic-and-Environmental-Information/. Hard copies of the Draft EA/FONSI are available for review at the following local libraries: Grand Forks Public Library, Grand Forks, ND; University of North Dakota Legal Library (Thormodsgard Law Library), Grand Forks, ND; and North Dakota State University Library, Fargo, ND. A limited number of hard copies are available upon request.

The Air Force requests your input on the Draft EA/FONSI within 30 days of receipt of this letter. Substantive comments received during the review period will be addressed in the Final EA/FONPA or, if necessary, the Air Force will announce its intent to prepare an Environmental Impact Statement (EIS).

Please direct any further questions or requests for additional information to Mr. Robert Greene at 525 Tuskegee Airmen Blvd, Grand Forks AFB, North Dakota, 58205, or by email or phone at robert.greene.13@us.af.mil or (701) 747-4664.

We look forward to receiving your input on the Draft EA/FONSI and thank you for participating in the Air Force's environmental impact analysis process.

Sincerely,

LANDON.LANCE.ERIC.1458635028 Digitally signed by LANDON.LANCE.ERIC.1458635028 Date: 2024.02.16 10:11:38 -06'00'

LANCE E. LANDON, GS-13, DAF
Deputy Base Civil Engineer

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 319TH CIVIL ENGINEER SQUADRON (ACC)
GRAND FORKS AIR FORCE BASE, NORTH DAKOTA

FROM: 319 CES/CD
525 Tuskegee Airmen Blvd
Grand Forks AFB ND 58205-6434

Mr.Evan Schroeder
THPO
Fond du Lac Band of Lake Superior Chippewa
1720 Big Lake Rd
Cloquet, MN 55720

SUBJECT: Availability of Draft Environmental Assessment for Airfield BASH Mitigation Grand Forks Air Force Base (AFB), North Dakota

Dear Mr. Schroeder

The United States Air Force (Air Force) has prepared a Draft Environmental Assessment (EA)/Finding of No Practical Alternative (FONPA) to evaluate the potential environmental impacts of reconstruction of the ground topography and the natural and manmade water features within the Aircraft Movement Area (AMA) plus 500 feet, including all areas inside the AFB airfield security fence, in compliance with the National Environmental Policy Act of 1969 (NEPA).

The Air Force has previously consulted with the Tribes and the State Historical Society of North Dakota (SHPO) regarding this proposed action and is providing the Draft EA as a courtesy. The Air Force previously has provided to the SHPO a Class III cultural resources and traditional cultural properties inventory for the proposed undertaking. Ten cultural resources were recorded or updated in the survey of 1293 acres. No traditional cultural properties were identified by participating Tribal Cultural Specialists from the Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation, the Turtle Mountain Band of Chippewa Indians, and the Standing Rock Sioux Tribe. All resources are recommended not eligible for inclusion in the National Register of Historic and the SHPO concurred with that determination.

The Air Force requests your input on the Draft EA/FONPA. Substantive comments received during the review period will be addressed in the Final EA/FONPA or, if necessary, the Air Force will announce its intent to prepare an Environmental Impact Statement (EIS). Electronic copies of the documents can be found on the Grand Forks AFB website at https://www.grandforks.af.mil/About-Us/Economic-and-Environmental-Information/. Hard copies of the Draft EA/FONSI are available for review at the following local libraries: Grand Forks Public Library, Grand Forks, ND; University of North Dakota Legal Library (Thormodsgard Law Library), Grand Forks, ND; and North Dakota State University Library, Fargo, ND. A limited number of hard copies are available upon request.

Please direct any further questions or requests for additional information to Mr. Robert Greene at 525 Tuskegee Airmen Blvd, Grand Forks AFB, North Dakota, 58205, or by email or phone at robert.greene.13@us.af.mil or (701) 747-4664.

We look forward to receiving your input on the Draft EA/FONSI and thank you for participating in the Air Force's environmental impact analysis process.

Sincerely,

LANDON.LANCE.ERIC.1458635028 Digitally signed by LANDON.LANCE.ERIC.1458635028 Date: 2024.02.16 09:43:18 -06'00'

LANCE E. LANDON, GS-13, DAF
Deputy Base Civil Engineer

cc: Mr. Kevin Dupuis, Chairperson

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 319TH CIVIL ENGINEER SQUADRON (ACC)
GRAND FORKS AIR FORCE BASE, NORTH DAKOTA

FROM: 319 CES/CD
525 Tuskegee Airmen Blvd
Grand Forks AFB ND 58205-6434

Luke Toso
North Dakota Deputy Field Supervisor
United States Fish and Wildlife Service
3425 Miriam Avenue
Bismarck, ND 58501

Subject: Environmental Impact Analysis for Airfield Bird/Wildlife Aircraft Strike Hazard Mitigation for Grand Forks Air Force Base (AFB), North Dakota

Dear Mr. Toso,

Grand Forks Air Force Base (AFB) requests concurrence with a "no effect" determination per Section 7 of the Endangered Species Act regarding a proposal by the United States Air Force (Air Force) for airfield bird/wildlife aircraft strike hazard mitigation The United States Air Force (Air Force) has prepared an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) to evaluate the potential impacts of the proposed activities at Grand Forks Base (AFB), North Dakota.

The purpose of the action is to bring the airfield into compliance with Air Force Instruction (AFI) 91-212, Bird/wildlife Aircraft Strike Hazard (BASH) Management Program, and AFI 91-202, US Air Force Mishap Prevention Program. Vegetative cover within the project area must be maintained at a height between 7 to 14 inches and converted to locally adapted vegetation species deemed unattractive to birds and other wildlife.

Grand Forks AFB needs to remove standing water, improve drainage, regrade, grub and level fields, create less attractive habitat, control vegetation heights to comply with BASH AFI's and improve ground maintenance accessibility and operations to preserve national defense capabilities and support mission requirements. The intent of this EA is to address potential environmental impacts of the proposed airfield drainage improvements, landscape reconstruction, reseeding/vegetation control, and wetlands mitigation project.

I am requesting your written concurrence with our "no effect" determination. In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Air Force NEPA regulations, Grand Forks AFB is providing an electronic copy of the Draft Environmental Assessment for review and comment. The document can also be found at https://www.grandforks.af.mil/About-Us/Economic-and-Environmental-Information/.

Please provide comments on the Draft EA within 30 days of receipt of this letter to Mr. Robert Greene at 525 Tuskegee Airmen Blvd, Grand Forks AFB, North Dakota, 58205, or by email or phone at robert.greene.13@us.af.mil or (701) 747-4664.

Sincerely,

LANDON.LANCE.ERIC.1458635028 Digitally signed by LANDON.LANCE.ERIC.1458635028 Date: 2024.02.16 09:40:51 -06'00'

LANCE E. LANDON, GS-13, DAF
Deputy Base Civil Engineer

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 319TH CIVIL ENGINEER SQUADRON (ACC)
GRAND FORKS AIR FORCE BASE, NORTH DAKOTA

15 March 2024

FROM: 319 CES/CD
525 Tuskegee Airmen Blvd
Grand Forks AFB ND 58205-6434

North Dakota State University Library
1201 Albrecht Boulevard
Fargo ND 58108

SUBJECT: Availability of Draft Environmental Assessment for Airfield BASH Mitigation Grand Forks Air Force Base (AFB), North Dakota

Dear Sir/Madam

The United States Air Force (Air Force) has prepared a Draft Environmental Assessment (EA) to evaluate the potential environmental impacts of reconstruction of the ground topography and the natural and manmade water features within the Aircraft Movement Area plus 500 feet, including all areas inside the AFB airfield security fence.

The Draft EA was prepared in accordance with the *National Environmental Policy Act* (NEPA), the Council on Environmental Quality NEPA implementing regulations, and the Air Force's environmental impact analysis process.

The Air Force requests that the enclosed Draft EA and Finding of No Significant Impact/Finding of No Practicable Alternative (FONSI/FONPA) be made available to the public for review. The availability of these documents to the public will be announced in the *Grand Forks Herald* and the *Fargo Forum* on 20 March 2024. The documents are intended to be accessible to the public at the library, but are not intended to be circulated. It is requested that the documents remain available to the public through 22 April 2024.

Please direct any questions to Mr. Robert Greene at 525 Tuskegee Airmen Blvd, Grand Forks AFB, North Dakota, 58205, or by email or phone at robert.greene.13@us.af.mil or (701) 747-4664.

Sincerely,

LANDON.LANCE.ERIC.1458635028 Digitally signed by LANDON.LANCE.ERIC.1458635028 Date: 2024.02.16 09:43:18 -06'00'

LANCE E. LANDON, GS-13, DAF
Deputy Base Civil Engineer

Attachments:
1. Draft EA
2. FONSI/FONPA

LEECH LAKE BAND OF OJIBWE

Tribal Historic Preservation Office

Gina M Lemon, Tribal Historic Preservation Officer
Anita M Cloud, Tribal Historic Preservation Assistant

April 9, 2024 Via Internet

Department of the Air Force
319 CES/CC
525 Tuskegee Airmen Blvd.
Grand Forks AFB, ND 58205-6434
Attn: Mr. Lance E. Landon, GS-13-DAF

RE: Availability of Draft Environmental Assessment for Airfield BASH Mitigation Grand Forks-AFB, ND**.**

Grand Forks Air Force Base, ND 58205-6434
Grand Forks County, ND

LL THPO No. 24-146-NCRI

Dear Mr. Lance E. Landon

Thank you for the opportunity to comment on the above referenced project. This has been reviewed pursuant to the responsibilities given to the Tribal Historic Preservation Officer (THPO) by the National Historic Preservation Act of 1966, as amended in 1992, and the Procedures of the Advisory Council on Historic Preservation (38CFR800).

I have reviewed the documentation. After careful consideration of our records, I have determined that the Leech Lake Band of Ojibwe does not have any known recorded sites of religious or culturally identified resources in these areas.

Should any human remains or suspected human remains be encountered, all work shall cease and the following personnel should be notified immediately: County Sheriff's Office and the Office of the State Archaeologist. If any human remains or culturally affiliated objects are inadvertently discovered, this will prompt the process to which the Band will become informed.

Please note the above determination does not "exempt" future projects from Section 106 review. In the event of any other tribe notifying us of concerns for a specific project, we may reenter into the consultation process.

You may contact me at (218) 335-2940 if you have questions regarding our review of this project. Please refer to the **LL-THPO Number** as stated above in all correspondence with this project.

Respectfully submitted,

Gina M Lemon
Tribal Historic Preservation Officer

CC; Mr. Robert Greene, CES/CENPL

Leech Lake Tribal Historic Preservation Office - Established in 1996
190 Sailstar Drive NE * Cass Lake, MN 56633
Phone (218) 335-2940 * Fax (218) 335-2974
Gina.lemon@llojibwe.net

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APPENDIX B.
PUBLIC NOTICES

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Family seeks answers after inmate death in Anoka County jail

BY OLIVIA STEVENS
MPR News

MINNEAPOLIS — The family of a 22-year-old Anoka County inmate who died in jail earlier this month wants to know more about what happened in the moments leading up to his death.

According to a statement from the Anoka County Sheriff's Office, Cristian Rivera-Coba, of Minneapolis, became unresponsive while being attended to by a detention deputy and medical staff on July 21.

"It's shocking — it happened all too fast. We don't have any answers," said Rivera-Coba's older sister, Yessenia. "The way he went just doesn't make sense to us."

Rivera-Coba was booked into jail July 18 and charged with auto theft, fleeing police in a vehicle, and driving under the influence. Charges said he admitted to smoking Percocet pills with fentanyl shortly before he was pulled over.

"The jail and medical staff immediately requested assistance from Allina EMS and began actively administering life saving measures on the inmate," the statement said. "Emergency responders escorted him to a local hospital where he sadly was later declared deceased."

Rivera-Coba's family held a fundraiser Saturday in north Minneapolis to help with funeral costs. They cooked and sold pozole, ceviche and tacos out of their backyard.

They displayed signs of remembrance and a table with photos and family messages for Rivera-Coba. A pair of his shoes and flower bouquets were displayed underneath.

Yessenia and Rivera-Coba's mother, Obdulia Silveria-Coba, remember Rivera-Coba as an honest, open and caring brother and son.

"His smile was very contagious," Yessenia said. "Nothing but laughs from him, all the time."

Silveria-Coba said she doesn't understand why the family hasn't received more information from officials about how Rivera-Coba died. Her interview was translated from Spanish.

"I want them to tell me what happened," she said, choking back tears. "I have many questions for the officials. And I want them to respond to all of them."

The Sherburne County Sheriff's Office is leading the investigation, and the Midwest Medical Examiner's Office will determine the cause of death.

Olivia Stevens / MPR News

The family of Cristian Rivera-Coba display signs remembering him Saturday at a fundraiser. Rivera-Coba died July 21 while in custody at the Anoka County Jail. His death is under investigation.

GUIDANCE

CONTINUED from A1

"Well, we could smell it — but is that going to be enough? That's where we are going to need some guidance from the state and, ultimately, the courts, on what they're going to accept."

Another existing concern that could be compounded by legalization is how to determine whether someone is driving under the influence, according to Norland. When testing for use of any substance other than alcohol, officers currently utilize blood and urine tests, but those can't be done during a traffic stop.

"We've always had our basic testing for alcohol, and for drugs," Norland said. "But now, is there going to be something that will help us a little bit more with testing on the roadside?"

The SoToxa test system, a device being used by law enforcement across the nation, tests a person's oral fluid for drugs, including cannabis. Cannabis remains in a person's system much longer than alcohol, so it's unclear how law enforcement can conclusively determine when a driver is under the influence.

Law enforcement concerns extend across state lines into North Dakota, where cannabis is still illegal unless approved for medical use.

"Without a valid North Dakota medical marijuana card, an individual in possession of marijuana has no protections under the North Dakota medical marijuana laws," Lt. Andrew Stein, of the Grand Forks Police Department, told the Herald.

The GFPD is concerned people who use or possess cannabis products legally might cross state lines, into Grand Forks, where it is no longer legal. Regardless of the person's residency, they could be cited for cannabis possession or use once they're in North Dakota.

An initiative is being explored on the state level to provide North Dakota law enforcement agencies with SoToxa devices.

Moratoriums in East Grand Forks and Polk County

The city of East Grand Forks passed a moratorium in July that delays some elements of cannabis legalization. It will remain prohibited to grow, transport, distribute or sell cannabis products in East Grand Forks. Possession and use, though, will be permitted.

"The moratorium is like pushing pause on the manufacturing and sales end of the new statute," Hedlund said.

The moratorium doesn't apply to the state's medical cannabis program or existing businesses that sell THC products that were approved in earlier legislation — edible and nonedible cannabinoid products with no more than 0.3% of tetrahydrocannabinol.

The moratorium could last up to January of 2025.

Earlier this year, Polk County passed a moratorium of its own, prohibiting THC product sales, testing, manufacturing and distribution.

Manufacture and cultivation are under two different licenses, but the Polk County moratorium only addresses manufacturing.

Cultivation is defined in Minnesota's H.F. 100 as "any activity involving the planting, growing, harvesting, drying, curing, grading, or trimming of cannabis plants, cannabis flower, hemp plants, or hemp plant parts."

Polk County officials couldn't give a definitive answer on whether cultivation will be permitted under the moratorium. However, East Grand Forks' moratorium specifically prohibits it.

Chuck Whiting, department head at the county's administrative office, said a new ordinance addressing cannabis legalization should be issued sometime later this month.

"Everybody's trying to figure this out right now," Whiting said.

Photo courtesy of Dickinson Police Department

Seized in the Raid: Dickinson Police Department display cache of hazardous materials located and dismantled in a dangerous counter-drug operation.

LAB

CONTINUED from A1

the associated chemical and explosive dangers, was called in to assist in remediation efforts.

The investigation culminated in the arrest of Joshua James Lidberg, 37, who has been charged with several charges in the Southwest Judicial District Court, including manufacturing a controlled substance (methamphetamine — a class B felony), manufacturing a controlled substance (THC — a class C felony), possession of methamphetamine with intent to deliver (50 grams or greater — a class A felony), possession of a controlled substance with intent to deliver (LSD — a class B felony), possession of a controlled substance with intent to deliver (psilocybin — a class B felony), possession of drug paraphernalia to manufacture (methamphetamine — a class C felony), and possession of drug paraphernalia to manufacture (THC — a class C felony).

PRESS

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at the Ness Press.

Since 1998, the newspapers have been printed by Morgan Printing in Grafton, North Dakota, and then transported back to Fordville. They are Aneta Star, Edmore-Adams Herald, Hatton Free Press, McVille Messenger, Nelson County Arena, Larimore Leader/Tribune, Pembina New Era and the Tri-Valley Sun.

Each week, the papers were sorted and prepared for mailing at the Ness Press, mailed from the U.S. Post Office in Fordville every Thursday, and delivered to area subscribers' mailboxes on Fridays. About 25% of the roughly 2,000 subscribers live outside the area or out-of-state.

Local subscribers have been talking with Truman about his decision to cease publication of their newspapers, he said. "They say they're going to miss it."

Dawn Madson, production manager and assistant to the publisher, started working part-time at the Ness Press in 1994.

Madson, of rural Fordville, believes it was difficult for Truman to decide to close the Ness Press,

Eric Hylden / Grand Forks Herald

Ken Ness, a volunteer with the Ness Press, unloads the final batch of newspapers published by the longtime family business, for mailing at the U.S. Post Office in Fordville, ND, on Thursday.

she said, "because he's been in the business for so long." But the advertising revenue and other financial support "wasn't there – it's hard to keep it going."

The subscription rate, which was recently increased, is $30 per year for in-state subscribers and $35 for those who are out-of-state.

The Ness Press has endured for more than 101 years "basically because people liked the local news," Madson said. "Everybody's been saying how much they're going to miss the paper."

They're also asking, "where are we going to find out what's going on?" or "what will we do if we have to put something in the paper?" she said.

"Newspapers are simply 'the glue' that holds communities together," Roger Bailey, former longtime publisher of the Turtle Mountain Star in Rolla, North Dakota, said in an email to the Herald. "Without a newspaper, residents lose the connectivity necessary for growth and interest."

Bailey retired as executive director of the North Dakota Newspaper Association in 2013.

Family tradition

Truman Ness' roots run deep at the Ness Press. In February 1960, he started working with his father, G.K. Ness, and older brother, Gunnard, at the Ness Press, after serving two years in the U.S. Army. He joined the military the fall after earning a bachelor's degree in journalism from UND.

Ken Ness, too, has a long record of commitment to the Ness Press.

"I grew up in the Ness Press," said Ken Ness, 86.

At a young age, probably 10 or 11, Ken – along with his siblings – was enlisted by his father to help prepare the paper for distribution.

"They folded the papers by hand," said Mavis Ness, Ken's wife. "They all had to help out."

Even while he was attending UND, Ken would return to help with the printing operation, and bindery and darkroom work, he said. "The only thing I didn't help out with was computers."

As a longtime employee at the UND Printing Center, he'd take a day off to work at the Ness Press.

The business lasted more than a century, because of Truman Ness' "determination," Ken Ness said.

About Truman's decision to close the business, Ken wouldn't call it an unhappy turn of events, he said. "He didn't have the stamina to run it."

Mavis said, "it was time" to close the doors for the last time and move on.

A legacy of service

Steve Andrist, former owner and publisher of the Crosby Journal and Tioga Tribune in northwestern North Dakota, said the Ness family "has been front and center in keeping rural newspapers alive in small towns in northeastern North Dakota.

"Their efforts and perseverance have been critical to maintaining a sense of community in those towns, bringing current and former residents together to keep their communities vital," Andrist, of Bismarck, wrote in an email to the Herald. He served as executive director of the North Dakota Newspaper Association for seven years, retiring at the end of 2020.

"Speaking as a third-generation community newspaper operator ... I understand the dedication and commitment that the Ness family maintained for the betterment of their family and friends."

Roger Bailey, now of Hudson, Wisconsin, said he was "privileged" to know the Ness family during the course of his career as a fellow publisher for 24 years at Rolla and 13 years as executive director of the NDNA.

Marvin Ness, longtime editor of the Larimore Leader, died July 21, and Gunnard Ness died in March 2020.

"Nobody embodies the role of community publishers and leaders in North Dakota more than Marvin and his brothers Gunnard, Ken and Truman Ness," Bailey said in an email to the Herald. "If you publish a newspaper with a weekly circulation of 133 (McVille Messenger) or circulation of 203 (Hatton Free Press), you're doing it for those communities, not for yourself (or, yourselves, in the case of the Ness brothers).

"Even though it was only Truman Ness who remained at the headquarters in Fordville, all still had their hearts in those eight small-town newspapers," he said.

"We'll never witness it again."

Knudson is a features reporter at the Herald. Call her at (701) 780-1107, (800) 477-6572 ext.1107 or email pknudson@gfherald.com.

BILL

CONTINUED from A1

appropriations bills to take care of. Everything comes to a head on Sept. 30, which makes me wonder why they sent everyone home for the whole month."

Armstrong

Hoeven

Armstrong and Sen. John Hoeven, R-N.D., hosted a listening session Tuesday in Leeds.

Hoeven has worked to establish what his office calls a "cattle contract library pilot program," under the Department of Agriculture's Ag Marketing Service. According to Hoeven's office, the library's intent is to provide aggregated contract information — contract terms, conditions and volumes — to help producers get better value for their product.

Hoeven wants the library permanently established in the farm bill.

"This is the perfect time to gather feedback from our ranchers, as we're working both to establish the library as a permanent program in the farm bill and to strengthen the disaster programs our producers rely on during times of severe weather," Hoeven said in a statement sent to the media. "These efforts are all about empowering our ranchers to maintain their operations and access fair and competitive markets."

Last month, Hoeven listed his farm bill priorities, including crop insurance, risk and price loss coverage, transparency in cattle markets, livestock disaster programs, and "ensuring support for U.S. sugar policy."

On Monday, Sen. Kevin Cramer, R-N.D., will host a farm bill discussion along with Sen. John Boozman, R-Arkansas, the ranking member of the Senate Agriculture Committee in Fargo.

Cramer

Earlier this year, the Congressional Budget Office announced the 2023 farm bill might top $1 trillion for the first time ever. The legislation is about much more than just traditional agriculture — commodity programs and insurance, for instance — since it also includes funding geared toward nutrition and food assistance programs. The bill expires every five years and this year expires Sept. 30.

Sen. John Thune, R-S.D., recently spoke on the Senate floor about the farm bill, noting numerous listening sessions he already has attended — even before the August break.

Thune

"I've been gearing up for the 2023 farm bill pretty much since work finished on the last one, and last year I kicked off a series of roundtables with agriculture producers to hear firsthand from farmers and ranchers what they need from this year's bill," he said on July 13. "These formal discussions, along with the many informal conversations I regularly have with farmers and ranchers, have provided me with invaluable feedback. And I'm working on a number of measures for this year's farm bill that reflect the input I've received from South Dakota producers."

Like Armstrong, Thune also said adequate insurance for producers must be a priority.

"One thing that farmers have made clear is the critical role of the farm safety net," he said. "Crop insurance is the cornerstone of the farm safety net, and it needs to be maintained, and, to the extent possible, strengthened in the next farm bill."

During the congressional break, lawmakers are making the rounds and discussing the farm bill with constituents, many hitting farm expos and fairs. U.S. Rep. G.T. Thompson, R-Pennsylvania, for instance, has attended more than 50, according to a recent release from the Minnesota Farmers Union. One was Farmfest, an expansive ag expo in Morgan, Minnesota.

"Without a doubt, the most important part of the farm bill process is to hear from farmers, ranchers, foresters, producers, processors — the people of rural America, like all of you. So we know what's working, what's not, and where you need the most support," Thompson said. "We're ready to trade in our dress shoes for work boots and get this done."

U.S. Rep. Tom Emmer, R-Minnesota, told attendees that this farm bill "is going to be a lift. There is no question, because there are many divisions in our country that exist." He reminded those in the audience that politics shouldn't get in the way of progress.

"Remember," he said, "ag is not about Republicans and Democrats."

Minnesota Republican Rep. Michelle Fischbach also attended, saying she has heard from constituents that crop insurance programs must be paramount as farm bill negotiations continue.

Rep. Angie Craig, D-Minnesota, said "family farms make up the economic engine of Minnesota and of our country."

She added: "We're looking forward to hearing from every single one of you today."

And Rep. Brad Finstad, R-Minnesota, said "the farm bill needs to be written by farmers and for farmers. This has to be a program and a bill that works for each and every one of you."

Finstad thanked Thompson — chairman of the House Agriculture Committee — for coming to Farmfest and listening to the concerns of Minnesota farmers.

He also urged those in attendance to "get back on offense" and tell the story of rural America.

That narrative, he said, needs to be told "a little bit louder and a little bit wider to more of our neighbors and to folks who maybe don't quite understand what we do here in rural America. The farm bill is an opportunity for that to happen."

Tom Rand on Bridge

Question: Last week you showed someone doubling a Stayman bid. You said that was asking partner to lead clubs. How is partner to know it's not just a takeout double asking partner to bid?

Answer: It all depends on whether the opponent's bid is an artificial bid, not meaning that he has the suit that he bid. This recent hand (#15) is also a good example.

	S 8 7 6 5 H K 10 8 3 D 10 9 5 C 7 2	
S A Q 4 H J 7 6 D Q 7 6 3 C 9 5 3		S 10 9 3 H 9 5 D K 9 C A K J 10 8 6
	S K J 2 H A Q 4 2 D A J 4 2 C Q 4	

South	West	North	East
1NT	Pass	2C	Dbl
2H	Pass	Pass	Pass

Since the 2C bid does NOT show clubs (but asks, of course, for a major) East's double then is not takeout, but instead lead-directing. Note that a club lead is best for E-W.

So the artificial bids that you should be ready to double to get partner to lead that suit are:

Stayman
Transfer bids
Responses to Blackwood or Gerber
Western Cue bids
Fourth suit forcing

One other note on the hand above. North (Rolf Paulson) was able to bid Stayman even though he lacked 8 HCP. That occasion arises when you hold both majors AND diamonds, and can afford to Pass whatever suit partner bids. He would have liked one more diamond for the bid, but the odds were good given his cards.

COMMENTARY

Mudslinging just getting started in ND gubernatorial race

ROB PORT

Armstrong

Miller

MINOT

When, during a March 11 television interview on KFYR in Bismarck, Gov. Doug Burgum referred to U.S. Rep. Kelly Armstong repeatedly as a "lawyer," it wasn't mere circumstance. It was not an off-the-cuff comment from one political leader on another.

It was part of a calculated messaging strategy that North Dakotans are about to get shoved down their throats in the coming weeks.

Armstrong is running to be Burgum's replacement. He's up against Burgum's preferred candidate, Lt. Gov. Tammy Miller. It's a primary race that's bound to get ugly. Based on survey questions I've been forwarded by some readers who were asked to take them, I can tell you just how ugly.

I have survey questions from the Miller and Armstrong campaigns, but first, some background: These polls are not intended to measure a candidate's popularity. Their utility is in measuring the effectiveness of messages. Respondents are told something about a candidate and then asked how that message makes them feel. The point is to find out what messages will sway opinion and what won't.

The words that work, that respondents say most move them, are what end up in the ads and social media posts, and even the mouths of the politicians themselves, as Burgum demonstrated.

And, yes, these people are politicians. Don't let them convince you otherwise.

Let's begin with Miller's survey. Her questions definitely take aim at Armstrong's career as a defense lawyer, something he's often touted as giving him expertise in policy areas such as criminal justice reform.

As you read these, keep in mind that they are the unverified claims of a political campaign. Take them with a grain of salt.

"Lawyer Kelly Armstrong defended a man charged with aggravated assault after he allegedly punched his wife in the face, knocking her unconscious and breaking her nose," says one question from Miller's survey. "Kelly's client then tried to suffocate his own daughter. This case was not assigned to Kelly, he chose to take it as a paying client."

Respondents are then asked to say how likely they are to change their opinion about Armstrong.

"Lawyer Kelly Armstrong defended a man who was charged with possession of child pornography," another of Miller's questions states. "This was not assigned to Kelly, he chose to take this man as a paying client. Kelly successfully got the man out of paying restitution his victims."

"Lawyer Kelly Armstrong defended a man who sexually molested two girls who were four and five years old," a third question says. "This case was not assigned to Kelly, he chose to take this man as a paying client. Kelly successfully got the man out of paying restitution to his victims."

"Lawyer Kelly Armstrong defended a foreign national who smuggled illegal immigrants into the United States," yet another question suggests. "This case was not assigned to Kelly, he chose to take it as a paying client."

The survey questions also hit out at Armstrong's supposed lack of partisan loyalty, including his willingness to work with Democrats on bipartisan policymaking.

"Kelly Armstrong is not a true conservative and even bragged in his campaign announcement about how he has a record of quote 'co-sponsoring bills with progressive Democrats,' " the survey claims.

"Kelly Armstrong voted against censuring known antisemite Rashida Tlaib, who called for the destruction of Israel at a time when even many Democrats critiqued Tlaib," another survey question states.

Questions also hit Armstrong on claims that he voted to support Afghan refugees, funding for needle exchanges, and raising taxes on the oil industry.

I'm a little surprised at that last, given that Armstrong and his family own hundreds of oil wells in North Dakota. Of all the attacks to launch on Armstrong, are we to believe that he's insufficiently supportive of the oil and gas industry?

Given the extent to which Miller has already invested in portraying herself as a loyal member of the MAGA movement, some of the survey questions also attempt to portray Armstrong as anti-Trump. Or, at least, anti-Trump adjacent.

"Kelly Armstrong donates to Never Trumpers like Mitt Romney and a pro-abortion Senator like Susan Collins," one question states, which is true.

According to federal disclosures, Armstrong made a $2,500 donation to Romney's presidential campaign in 2012. Ironically enough, Miller herself also contributed to Romney's campaign in the 2012 cycle, giving a total of $2,000, per the FEC. As for the Susan Collins contribution, I couldn't find any evidence for that in the FEC's database, but he did give $5,600 to Doug Collins, a Republican candidate for the U.S. Senate in the 2020 election cycle.

The survey also claims that Armstrong is insufficiently loyal to Trump himself. "Kelly Armstrong said quote 'Republicans weren't inspired by Trump' and that the Republicans 'could have found a better candidate,' " the survey claims.

I tried but could not find the source of these purported quotes.

In his survey, Armstrong also hits at Miller for her political donations.

"Tammy Miller donated to liberal Minnesota U.S. Senator Amy Klobuchar, who voted to impeach Trump and has also donated thousands to a special interest PAC that supports Democrats who are trying to take away gun owner rights, defund the police, and supports Biden open border policies," one question states.

I can verify Miller's contributions to Klobuchar. She contributed $1,000 in 2017.

The only PAC contributions from Miller I could find are thousands donated to awkwardly named Employee-Owend S-Corporations of America PAC. Miller has contributed thousands to that group over the years, and while it does contribute money to the campaigns of Demcorats, it gives plenty to Republicans, too.

Per data compiled by OpenSecrets.org, the PAC gave more to Democrats (about $54,000) than Republicans (about $34,000) in the 2022 election cycle. In the 2014 and 2016 cycles, though, Republicans got more.

It's a fairly bipartisan group, which is a defense Miller could give for these contributions if she weren't simultaneously out to poleaxe Armstrong for touting his willingness to work with Democrats on policy.

Armstrong's survey questions — of which I only have three, unfortunately — also take Miller to task for supposedly using $1.7 million in taxpayer dollars to build a new headquarters for her former company, Border States Electric. They also claim that as head of North Dakota's investment office — part of her duties as lieutenant governor — Miller "oversaw millions of state tax dollars going to Chinese-owned companies with ties to the Communist Chinese government."

Again, these are campaign political messages. You should take them with a grain of salt, because what matters more to the campaign is not their veracity, but how they make you feel. They're intended to provoke a response.

Whichever candidate's messages provoke the biggest response may well be our next governor.

PUBLIC NOTICE

NOTICE OF AVAILABILITY DRAFT ENVIRONMENTAL ASSESSMENT AND PROPOSED FINDING OF NO SIGNIFICANT IMPACT/FINDING OF NO PRACTICABLE ALTERNATIVE FOR AIRFIELD BASH MITIGATION AT GRAND FORKS AIR FORCE BASE, NORTH DAKOTA

A Draft Environmental Assessment (EA) and proposed Finding of No Significant Impact (FONSI)/Finding of No Practicable Alternative (FONPA) have been prepared to analyze the potential impacts associated with the reconstruction of ground topography and the natural and manmade water features within the Aircraft Movement Area (AMA) plus 500 feet and all areas inside the AFB airfield security fence (hereinafter, "project area"). Grand Forks AFB needs to remove standing water, improve drainage, create unattractive habitat for wildlife, replace the western perimeter fence, control vegetation heights to bring the project area into compliance with Air Force Instruction (AFI) 91-202, The US Air Force Mishap Prevention Program, and AFI 91-212, Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program. If implemented, the Proposed Action would involve construction in wetlands and a 100-year floodplain at Grand Forks AFB. This notice is required by Section 2(b) of Executive Order (EO) 11990, Protection of Wetlands and by Section 2(a)(4) of EO 11988, Floodplain Management, and has been prepared and made available to the public by the Air Force in accordance with 32 Code of Federal Regulations, Part 989.24(c) and Air Force Manual 32-7003 for actions proposed in wetlands and floodplains.

The EA, prepared in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations, and Air Force instructions implementing NEPA, evaluates potential impacts of the alternative actions, including the No-Action Alternative, on the environment. Based on this analysis, the Air Force has prepared a proposed FONSI/FONPA.

The Draft EA and proposed FONSI/FONPA, dated March 2024, are available for review at the following locations: Grand Forks Public Library, Grand Forks, ND; University of North Dakota Legal Library (Thormodsgard Law Library), Grand Forks, ND; and North Dakota State University Library, Fargo, ND.

Electronic copies of the documents can also be found on the Grand Forks AFB website at https://www.grandforks.af.mil/About-Us/Economic-and-Environmental-Information/. Members of the public are encouraged to submit comments through April 26, 2024. Please provide any comments within 30 days of the date of this Notice of Availability. Comments should be provided to Robert Greene, Project Manager, at 525 Tuskegee Airmen Blvd., Grand Forks AFB, ND, 58205 or by email at robert.greene.13@us.af.mil.

PRIVACY ADVISORY NOTICE

This Draft EA and proposed FONSI/FONPA are provided for public comment in accordance with the National Environmental Policy Act (NEPA), the President's Council on Environmental Quality NEPA Regulations (40 CFR §1500-1508), and 32 CFR §989, the Environmental Impact Analysis Process (EIAP). The EIAP provides an opportunity for public input on Air Force decision-making, allows the public to offer inputs on alternative ways for the Air Force to accomplish what it is proposing, and solicits comments on the Air Force's analysis of environmental effects.

Public comment allows the Air Force to make better, informed decisions. Letters or other written or oral comments provided may be published in the EA. As required by law, comments provided will be addressed in the EA and made available to the public. Providing personal information is voluntary. Private addresses will be compiled to develop a mailing list for information on the EA; however only the names of the individuals making comments and specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the EA.

Minn. doctor: Gender affirming providers struggle to keep up with new patients

BY MICHAEL MCGURRAN
WDAY

ST. PAUL — Minnesota lawmakers are moving forward with a bill to help establish Minnesota as a safe space for LGBTQ+ people.

Senate File 3502 appropriates $1 million in funds for grants to the PFund Foundation, a nonprofit that provides grants and resources for LGBTQ+ organizations.

Senator Erin Maye Quade proposed the bill, arguing it will build on the work of the transgender refuge bill. That bill was passed last year and prevents out-of-state laws from interfering in gender affirming health care within Minnesota.

The Jobs and Economic Development Committee heard testimony from Dr. Angela Kade Goepferd, the medical director of the gender health program at Children's Minnesota.

Goepferd said the gender health program saw a 30% increase in new patients since last year. Many of their new patients are coming from neighboring states that passed legislation targeting gender-affirming care for minors.

If the bill becomes law, Goepford estimates that, through grant funds, they could add at least seven gender affirming care providers over the next two years.

"It's time to take the next step," Goepford said during the testimony in front of the Jobs and Economic Development Commitee. "It's time to make good on our promise to have room in our arms to embrace the families that need us."

Senate Republicans questioned whether the bill belonged in front of that committee in the first place, arguing that the Health and Human Services Committee would have been more appropriate.

The bill was postponed for now. It will need to appear before the Senate once more before its final vote.

STUDY

CONTINUED from A1

lifestyle and her interests.

"And, it's nice that it's flexible," said Rindt, who loves to travel and attend weeklong quilters' retreats.

The same could be said for her co-workers, Bev Solseng and Alana Rustad, also avid quilters who have found enjoyable work at the Quilter's JEM in retirement.

Solseng, who worked nearly three decades as a secretary at UND, has been quilting for many years. Rustad, a retired teacher, got interested in quilting in retirement, after taking a class, and eventually was recruited to work at the shop.

"It gets me out of the house," she said. "I could easily become a hermit."

She has found her niche as the store's designer, designing and creating packaging, with instructions, for her own quilt pattern projects.

"I'm artsy," Rustad said. "I like to be out doing something creative."

Labor force needs

These women represent a demographic – people 65 and older – that, percentage-wise, is much smaller than the next-younger age group, 60-64, in terms of labor force participation. But more and more, employers are realizing how much they need them, said Dustin Hillebrand, manager of North Dakota Job Service here.

The last few years have seen a marked decrease in the percentage of people ages 65 to 74, compared to the 60-64 age group, who are in the state's workforce – and that's not good for the economy, Hillebrand said.

According to the American Community Survey, conducted by the U.S. Census Bureau, in 2022 – the latest year figures are available – in North Dakota, the labor participation rate in the age category 65-74 was estimated at 31.9%. Total workers in that category numbered 75,806.

In 2022, those in the 60-64 age group comprised 64.5% of the labor force. Total workers in that category amounted to 47,320.

"That huge drop off, from 64.5% to nearly 32%, is a significant amount," Hillebrand said. The decrease may represent, for example, people who are simply bored with work; not feeling safe in the work setting, possibly due to the pandemic; or have other reasons to leave the workforce.

The figures in this survey constitute full- and part-time workers, he said.

The "significant drop in that 65-74 age group" is worrisome for the state's economy, Hillebrand said, because "we already have very low unemployment numbers in the state. Anytime when people leave the workforce, it makes an impact on the economy.

"There is a need out there," he said, noting that it's particularly acute in health care, the retail sector and teaching fields.

In January, the unemployment rate was 2.5% in North Dakota, compared to 3.7% nationwide, Hillebrand said. In December, the unemployment rate was 1.7% for North Dakota, compared to 3.5% nationwide. A large percentage of the unemployed who are receiving continued claims, nearly 80%, are "job-attached," meaning they are on "some kind of seasonal layoff," and expect to return to their jobs, he said.

So, why have workers left the workforce at age 65 or older?

Some have left because "their retirement accounts are sitting pretty good – especially with the way the stock market has grown over the last three years – (and) they don't *have* to go back to work, because they, hopefully, are able to live off their retirement accounts," Hillebrand said.

"Also, some doubt their abilities to be in the workforce," he said. And some people simply want to leave the workforce and enjoy the fruits of their labor. Those are the kind of things that have taken them out of the workforce."

But people in that 65-74 age group have a lot to offer employers, Hillebrand said.

"To me, you've got folks who've got lots of years of experience with whatever they're doing. And they're still very very valuable to their occupations that they've been in, whatever career path they've been in, and to the economy as a whole."

'False narrative'

An inaccurate, but persistent notion may be keeping people from seeking work after retiring, Hillebrand said.

"There's a false narrative out there that companies aren't willing to hire individuals over a certain age," he said.

These days, "I think employers are understanding that there's an opportunity for folks that have retired from one career path to possibly enter a different career path," he said.

At recent North Dakota Job Service-sponsored job fairs, he's been encouraged to find that more older people are seeking employment "because they're bored or they're looking for a few hours a day (to work) to make their day a little bit more full and put a little spending money in their pocketbook."

In his work with Job Service, Hillebrand has also observed the trend of retirees "changing career paths. They go out and find something they really enjoy doing," he said.

And many employers are willing to look at providing some part-time opportunities.

The employee roster at Quilter's JEM is one such example.

Kim Dietrich, the store's owner, said all but one of her 10 employees are retired.

Dietrich said, "I think these ladies are drawn here because we're flexible – a lot of them travel" and want to be able to go on cruises and quilters' retreats.

"And, you know, as you get older you have appointments" to keep, Dietrich said.

"Retired people have so much experience," she added, and experience comes with age.

"You can't just walk into a place like this and work; you have to know something about quilting."

Dietrich also makes it a point to match the work with the employee's interests, she said. "I let them do things they *like* to do. For example, Bev likes working in the back, cutting fabrics, and LeAnn is great with customers."

COVID impact

In the last few years, the pandemic has had an impact on labor force participation, Hillebrand said.

In 2020, as COVID began to grip the nation, it contributed to the decision by millions of workers to exit the workforce, he said. "In 2020, nationwide, 4.3 million people retired," about twice the usual amount.

Hillebrand can't say with certainty that COVID caused the exodus, but "anecdotally, I've definitely heard people say that it was a good time to leave the workforce," he said, "whether because of health concerns or possibly their company was going to be shut down to figure things out."

Since then, North Dakota has seen several areas where workforce shortages stand out.

"We've seen an increase in the need for workers in the health care field," Hillebrand said. The retail sector is another area where workers have left the market.

"Honestly, when you have people that leave any of their career paths, it leaves a knowledge gap … " he said, noting especially education, where younger teachers are replacing retirees with many years of knowledge and experience in the classroom.

"Anytime we lose those folks, it's detrimental to their industry."

Knudson is a features reporter at the Herald. Call her at (701) 780-1107, (800) 477-6572 ext.1107 or email pknudson@gfherald.com.

PUBLIC NOTICE

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PARKS
CONTINUED from A1

Park District has attempted to keep its full-time staff limited. However, the number of FTEs at the Park District has nearly doubled in the past 10 years.


Faus

West Fargo Parks Director Barb Erbstoesser said the West Fargo Park District tried to keep staffing lean by not overstaffing positions.

"Our employees are diverse with experience and handle many tasks and duties," Erbstoesser said. "We also believe in efficiency in operations with equipment and what's needed to perform the job."

There were 16 FTEs in the West Fargo Park District in 2013, growing to 21 in 2018, 25 in 2021 and 30 in 2023, an overall increase of 87.5%. Over those 10 years, the city's population increased from 29,878 in 2013 to 40,494 in 2023, an increase of 35.5%.

There was a significant increase in full-time staffing in 2023, when Erbstoesser said maintenance positions, recreation specialists, facility specialists and supervisor positions were added to the Park District's full-time roster.

While the number of FTEs has nearly doubled in a decade, only 14 full-time staff were added. That's in stark contrast to the massive increase in part-time workers and interns who fill roles for events and other seasonal work.

"We have almost 300 part-time staff ... with a variety of experiences and knowledge to do the job. Our workforce mostly draws from the colleges and area high schools," Erbstoesser said.

She estimated that's up from about 125 part-time employees in 2013.

Fargo

The Fargo Park District has also seen a significant increase in their FTEs. The Park District encompasses both parks and Valley Senior Services employees.

From 2013 to 2023, the Park District added 45 FTEs, growing from 100 to 145. That change was incremental in the first eight years, with 117 FTEs in 2018 and 122 in 2021. From 2021 to 2023, Fargo Park District FTES jumped to 145.

Overall, that's a 45% increase over 10 years.

Fargo's population, meanwhile, rose 15.57%, from 113,739 in 2013 to 131,444 in 2022. The city of Fargo did not have population estimates available for 2023.

The Fargo Park District has added 22 new parks over the last 10 years, Executive Director Susan Faus told The Forum, with 370 new acres of park land. That brings the district up to 118 total parks, she said, an increase of 22.9%.

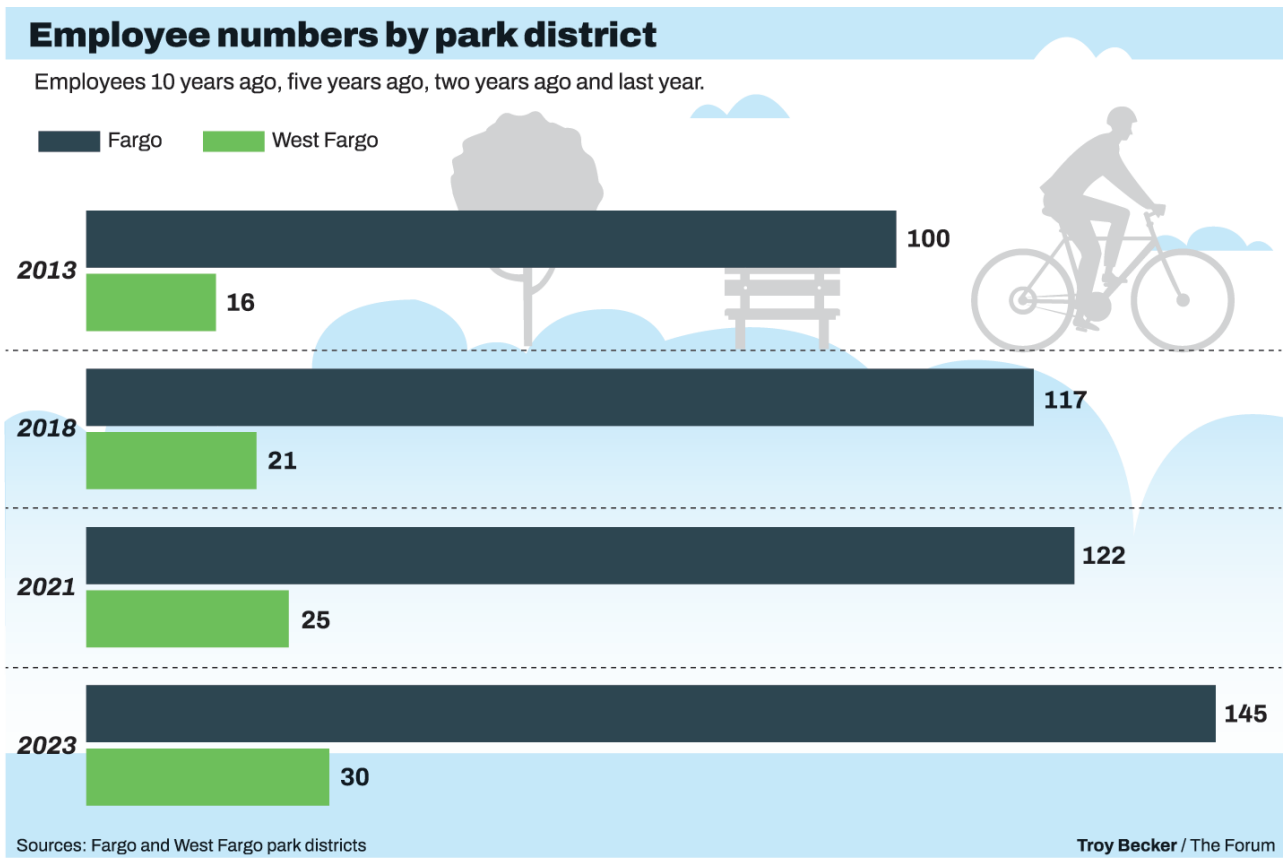
This growth is driven, in part, by new developments, Faus said. As Fargo spreads out, the city needs additional parks.

Fargo Parks also opened two new facilities over the last decade, she said: the North Softball Complex and the Davies Athletic Complex. The Fargo Parks Sports Center is slated to open this summer.

Additional amenities drive the need for more staff, she said, noting these changes are based on feedback from the community about what they want for parks and recreation.

The Park District may have been understaffed in 2013, Faus noted, adding that the 45% increase over 10 years could be the parks team getting fully up to staff. In addition, they've had a "philosophy shift" since COVID-19 and, in an effort to entice workers, began hiring more full-time employees rather than part-time staff, she said.

"I think parks are vital to enhancing communities and increasing quality of life," Faus said. "I think parks bring people together."



BRIEFS

Heitkamp, Schafer to speak at Concordia College

MOORHEAD — Former U.S. Sen. Heidi Heitkamp and former North Dakota Gov. Ed Schafer will speak about political civility during tense times at Concordia College in April.

The event, called "With Malice Toward None: A Conversation about Civility, the Common Good, and the Future of the American Dream," will be a moderated keynote discussion between Heitkamp, a Democrat, and Schafer, a Republican, said a press release from Concordia College.

The discussion will be from 7 to 9 p.m. on Wednesday, April 3, at the Centrum at Concordia College and virtually via Zoom. The event is free and open to the public.

Concordia said the event aims to address questions about:

- Collaboratively working toward the common good amid societal divisions.
- Treating each other with respect and decency.
- The role local and regional leaders play in a political landscape dominated by national issues.
- How to enhance the trustworthiness of social, economic, and political institutions.

The Lorentzsen Center for Faith and Work at Concordia and the Jewish Community Relations Council of Minnesota & The Dakotas are presenting the event, with support from the Otto Bremer Trust, Oren and Sharron Steinfeldt Foundation and the Interfaith Alliance of North Dakota.

For more information or to register, visit lorentzsencenter.com. People who are interested in attending virtually can register for a Zoom link on the website.

Forum staff report

South Dakota driver dies after semis collide in western Minnesota

HAMLIN TOWNSHIP, Minn. — A Gary, South Dakota, man died of his injuries after two semitractors collided late Sunday night in western Minnesota.

According to the Minnesota State Patrol, a Peterbilt semitractor driven by Jonathan Edward Kallemeyn, 48, of Lake Benton, Minnesota, was entering U.S. Highway 75 while another International semitractor driven by Steven Michael Schanning, 68, was traveling southbound on Highway 75 when the collision occurred at the intersection with 180th Street in Hamlin Township, west of Dawson.

Schanning was transported to Johnson Memorial Health Services Hospital in Dawson, but his injuries were fatal. The State Patrol report as of Monday night said it was unknown if he was wearing a seat belt or if alcohol was involved.

Kallemeyn suffered non-life-threatening injuries but was not transported, according to the State Patrol. He was not wearing a seat belt and alcohol was not involved.

Road conditions were reported as dry at the time of the time of the crash, reported around 10:34 p.m. Sunday.

Assisting the Minnesota State Patrol at the scene were the Lac qui Parle County Sheriff's Office, Yellow Medicine County Sheriff's Office and Dawson Fire and Ambulance.

Forum News Service

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Sugarbeet companies sued over antitrust violation allegations

BY ANN BAILEY
Agweek

Three companies that use granulated sugar have filed antitrust lawsuits against U.S. companies, including United Sugar Producers and Refiners, which markets the commodity for American Crystal Sugar Co., Minn-Dak Farmers Co-op and other companies.

The lawsuits claim that sugarbeet and sugar cane companies have joined together to raise the price of sugar to end-users such as bakeries and restaurants.

The plaintiffs argue that for more than 80 years, the sugar industry has been involved in unfair business practices that have resulted in high prices.

American Crystal Sugar, based in Moorhead, Minnesota, is owned by about 2,800 farmers in eastern North Dakota and western Minnesota. The company has factories in Moorhead, Crookston and East Grand Forks in Minnesota and in the North Dakota towns of Hillsboro and Drayton. About 500 farmers own Minn-Dak Farmers Co-op in Wahpeton, North Dakota.

Ann Bailey / Agweek

A lawsuit filed in March 2024 alleges the sugar industry's vertical integration leaves it open to price manipulation.

Besides American Crystal Sugar Co. and Minn-Dak Farmers Co-op, Wyoming Sugar Co., of Worland, Wyoming, and U.S. Sugar, based in Florida, are also members of United Sugar Producers and Refiners, also known as United Sugar Corp., and are named in the lawsuit.

The defendants in the lawsuits filed the week of March 17 also include Cargill Inc. based in Wayzata, Minnesota, and Michigan Sugar, a farmer-owned cooperative based in Bay City, Michigan; and Domino Foods Inc., the marketing and sales subsidiary for American Sugar Refining, which markets cane sugar.

Leaders of American Crystal Sugar Co., United Sugar Producers and Refiners, Michigan Sugar Co. and American Sugarbeet Growers Association did not immediately return messages seeking comment on the case.

The lawsuits list a history of unfairly setting prices, beginning with a lower court ruling in 1936 that found that major refined sugar producers unreasonably restrained trade by practices including creating the Sugar Institute, a trade association that enabled them to promulgate rules.

Under the rules, "defendants agreed to sell, and in general did sell sugar only upon open prices, terms and conditions publicly announced in advance of sales, and they agreed to adhere and in general did adhere without deviation, to such prices, terms and conditions until they publicly announced changes," the lawsuit filed this week said.

The granulated sugar industry's interference in the market continues today, the lawsuits claim.

Since at least 2019, the defendants have had an ongoing agreement to artificially raise, fix, stabilize or maintain U.S. granulated sugar prices, the lawsuit said.

The methods the sugar companies used included emailing one another about prices, the lawsuits allege. They also allege that the defendants engage in such conversations in other gatherings.

"For example, the American Sugar Alliance holds an annual symposium sponsored and attended by the Producing Defendant where attendees not only participate in industry discussions, but also informal activities such as golf outings," the lawsuits said.

The sugar industry lends itself to price manipulation in part because it is highly concentrated and is nearly vertically integrated because the defendants and other sugar producers control most aspects of producing, processing, refining and marketing their commodities, the lawsuit said.

The U.S. Department of Agriculture sugar program, which long has been a source of contention with end-users, is also noted in the lawsuits. The lawsuits repeat the end-users argument that the sugar program, which limits the amount of sugar that can be imported into the United States, protects domestic sugar companies from competition, which results in them setting higher prices.

Minn. appeals court rules in favor of woman turned away from pharmacy for emergency contraceptive

BY PETER COX
MPR News

MINNEAPOLIS — The Minnesota Court of Appeals ruled Monday that an Aitkin County pharmacist's refusal to give a woman emergency contraception in 2019 was illegal sex discrimination under the state's human rights act.

In 2022, a jury in that county found that Thrifty White pharmacist George Badeaux did not discriminate against Andrea Anderson when he declined to fill her prescription for Ella, an emergency contraceptive pill, for "personal reasons."

The lawsuit said he might have a colleague willing to fill it, but with a snowstorm coming, that person may not make it to work. Anderson instead drove 100 miles round trip to Brainerd — through snowy conditions — to get the prescription filled.

Attorney Jess Braverman argued before the court that Thrifty White's policy denied her full and equal access to goods and services, and "singles out customers by their protected status."

On Monday, she said that argument was vindicated by the ruling.

"We think it's really important that the court affirms that it is illegal, that it is sex discrimination, to turn away patients in need of reproductive health care," she said. "These are really personal decisions; they're medical decisions, and people should feel confident whether they live in rural Minnesota or in a city in an urban area that they will not be turned away when they come to receive their health care."

The appeals court ruling says a jury trial will be needed to figure out whether the pharmacy is liable, or if the pharmacist was acting on his own and is liable.

Rory Gray, an attorney for Badeaux, said in an emailed statement that nobody should have to violate their conscience in the workplace.

"George politely informed the customer that he couldn't dispense the drugs due to his personal beliefs. However, he offered to help her get the drug from another pharmacist, which she would have been able to do at the same pharmacy," Gray said in a statement. "As a devout Christian, George believes every human life has value. As such, George cannot provide or facilitate the use of any potential abortion-causing drugs. The court failed to uphold George's constitutionally protected freedom to act consistent with his beliefs while at work."

Gray did not say if he will challenge the ruling.

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APPENDIX C.
FINAL WETLANDS MITIGATION PLAN

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FINAL WETLANDS MITIGATION PLAN

C.1 Regulatory Requirement

Executive Order (EO) 11990, Protection of Wetlands, (May 24, 1977) directs agencies to consider alternatives to avoid adverse effects and incompatible development in wetlands. Federal agencies are to avoid new construction in wetlands, unless the agency finds there is no practicable alternative to construction in the wetland and the proposed construction incorporates all possible measures to limit harm to the wetland. Agencies should use economic and environmental data, agency mission statements, and any other pertinent information when deciding whether or not to build in wetlands. EO 11990 directs each agency to provide for early public review of plans for construction in wetlands. In accordance with floodplain management requirements under 24 CFR 55.20, EO 11988 (Floodplain Management) and EO 11990, a Finding of No Practicable Alternative (FONPA) must accompany the Finding of No Significant Impact (FONSI) stating why there are no practicable alternatives to development within or affecting wetland areas. It is Department of Air Force (DAF) policy to avoid constructing new facilities within areas containing wetlands, where practicable. Proposed actions that could impact wetlands, even if the affected area is not within a jurisdictional wetland boundary, require an environmental impact analysis in accordance with NEPA and the USAF Environmental Impact Analysis Process (32 CFR Part 989). The Proposed Action must include all practicable measures to minimize harm to wetlands.

Because there is no practicable alternative for the Grand Forks Air Force Base (AFB) Bird/Wildlife Aircraft Strike Hazard (BASH) project, mitigation is required for potential impacts of the project on wetlands. Due to the location of several project components within existing wetland boundaries, the project cannot avoid directly impacting wetlands. As part of the U.S. Army Corps of Engineers (USACE) permitting process, compensatory mitigation would be provided for the unavoidable loss of jurisdictional wetlands to ensure the project would not result in a net loss of wetlands. Mitigation would be in the form of a purchase of credits from an off-site mitigation bank at a minimum 1:1 ratio.

Design documents showing the extent of impacts to wetlands are not complete, therefore, the acreage of wetlands that would be affected has not been determined. However, based upon the expected impacts to wetlands, it has been determined that a Section 404 Clean Water Act (CWA) permit would be required prior to the commencement of demolition activities. The acquisition of the Section 404 permit would be part of the design and construction process. The Section 404 permit would be obtained prior to any ground-disturbing activities. Mitigation for wetlands impacts would be required. Mitigation could include constructing new wetlands or purchasing wetland credits from an approved wetland bank.

This Mitigation Plan has been completed in accordance with the USACE and Environmental Protection Agency's (EPA) Compensatory Mitigation Final Rule, entitled *Compensatory Mitigation for Losses of Aquatic Resources* (USACE and EPA, 2008) which established a preference hierarchy for compensatory mitigation options.

C.2 Environmental Protection Measures for Wetlands and Other Waters of the United States

Because the project would potentially affect wetlands or other waters of the United States, a sequence of actions has been followed to offset effects, known as the mitigation sequence, to guide mitigation decisions and determine the type and level of mitigation required under the CWA Section 404. The sequence of steps is to avoid, minimize, and compensate, as appropriate. Because effects on wetlands cannot be avoided, they will be minimized. Following minimization, the remaining unavoidable impacts will be compensated. Compensation can include wetland restoration, creation, enhancement, or preservation.

C.3 Avoiding Effects on Wetlands or Other Waters of the United States

Avoidance of effects on wetlands or other waters of the United States results in the least environmental effect on these resources. Avoidance can be most effective through project design that sites a project in an area that would result in no direct or indirect effects on wetlands or other waters of the United States. In addition to avoidance through design, effects could be avoided by flagging the boundary of a wetland or water of the United States to delineate areas to avoid, and ensuring construction vehicles and workers remain outside of the flagged boundary.

Because the purpose of the Proposed Action is to reconstruct the ground topography and the natural and manmade water features within the project area to comply with BASH requirements, complete avoidance of wetlands is not possible. Many of the project activities, including regrading the airfield's west ditch (up to 14,000 linear feet), conducting perimeter drainage maintenance, and installing up to 35 acres of drain tile would potentially affect wetlands.

C.4 Minimizing Effects on Wetlands or Other Waters of the United States

Because impacts cannot be completely avoided, reduction of effects is evaluated based on the type and extent of the impact on wetlands or waters of the United States. Indirect effects could occur on wetlands or other waters of the United States that are in proximity to proposed project activities. Implementing the following construction and natural resources controls, where appropriate, would minimize potential indirect effects on wetlands and other waters of the United States that are adjacent to proposed activities. These practices include construction controls and natural resources controls.

C.4.1 *Construction Controls*

- Wetlands and other waters of the United States would be clearly flagged prior to the commencement of construction activities. This would prevent construction workers from entering these wetlands and potentially placing fill material within the wetlands or trampling wetland vegetation.
- Construction activities would be phased, if logically possible, so that smaller areas of land are disturbed at one period of time. This would result in less soil being exposed at one time and would reduce the potential for erosion and deposition of sediment into wetlands or other waters of the United States.

- Water quality-control features such as sedimentation basins and detention or retention ponds, if part of the design, would be installed as applicable prior to initiation of construction activities. Temporary basins and silt traps would be constructed as necessary to contain sediment and runoff on the construction area. Hay bales and silt fences would be used to minimize transport of sediments off of the project area.
- All fuels and other potentially hazardous materials would be contained and stored appropriately. In the event of a spill, procedures outlined in the installation's Spill Prevention, Control, and Countermeasure Plan (SPCC) would be followed to quickly contain and clean up a spill.
- An erosion and sediment control plan, typically part of the Stormwater Pollution Prevention Plan (SWPPP) and directed by the installation Stormwater Program Manager, would be developed prior to initiation of construction activities, and adhered to during development.
- Erosion-control structures, if required in the SWPPP, would be installed downgradient of the construction site in sloped areas adjacent to wetlands and other water bodies. The structures would be regularly maintained and removed once vegetation has been reestablished. All stormwater controls will be approved through the installation Stormwater Program Manager.
- Site grading would be conducted in a manner that would direct stormwater runoff generated from construction activities away from nearby wetlands or waters of the United States, but existing drainage patterns and hydrology should be maintained. Best management practices such as installation of silt fencing along wetland buffers would aid in prevention of siltation if natural site hydrology directs stormwater runoff to the wetlands.
- Avoid transport and crossing actions through wetlands at all times. When crossing wetlands is unavoidable, access paths would be placed along high ground with appropriate mats, docks, or boardwalks as applicable, rather than filling a wetland to simply cover it. Stormwater runoff originating from the construction site should be diverted and sedimentation controls implemented to avoid discharging into the wetland.
- When wetland crossings cannot be avoided, the use of heavy machinery in wetlands would be minimized by installing construction barriers at the edge of the proposed disturbance area.
- Construction activities would be restricted to drier periods during the year, if logically possible. Minimum flows for Turtle River occur in January and February; however, work in the winter would be impossible for the project. It is recommended that project work be conducted during the fall.
- Construction debris would not be disposed of in wetlands. Debris and waste would be disposed of in accordance with all local, state, and federal laws.

C.4.2 *Natural Resources Controls*

- A SWPPP would be developed and implemented to prevent surface water degradation of wetlands within close proximity of project sites.
- Stormwater runoff originating from impervious surfaces would be routed through stormwater treatment facilities prior to discharging into surface waters. Existing drainageways would be preserved if practicable. Water would not be diverted away from or towards wetlands and other waters of the United States. This aids in maintaining existing hydrology patterns. All stormwater controls are approved by the Installation Stormwater Program Manager.
- A buffer surrounding wetlands and waters of the United States would be established on wetlands identified at Grand Forks AFB. Buffers reduce adverse effects of development, mainly in relation to slope and vegetative cover. Maintaining dense shrubs or forested vegetation in areas with steep slopes provides the greatest protection from polluted runoff. In addition, buffer effectiveness increases with buffer width. As buffer width increases, so does the effectiveness of removing sediments, nutrients, bacteria, and other pollutants from surface water runoff.
- Removal of vegetation would be minimized. In areas where excavation is not proposed but vegetation removal is necessary, vegetation would be cut at ground level, leaving roots intact. Disturbed areas would be seeded, sodded, or planted with indigenous material as soon as possible after construction activities are completed, as appropriate.
- The spread of noxious weeds can be controlled by avoiding activities in or adjacent to heavily infested areas, removing seed sources and propagules from the site prior to conducting activities or limiting operations to nonseed-producing seasons. Following activities that expose the soil, mitigation can be achieved by covering the area with weed-seed-free mulch or by seeding the area with native species. Soil would be covered to reduce the germination of weed seeds, maintain soil moisture, and minimize erosion.

C.5 Compensatory Mitigation

Following avoidance and minimization, the remaining unavoidable impacts would be compensated. Compensation can include wetland restoration, creation, enhancement, or preservation. Compensation can be provided via any of the following options:

- Mitigation Bank credits, which are typically completed in advance of permitted impacts;
- In-lieu Fee Program credits (often involving large, more ecologically valuable compensatory mitigation projects as compared to permittee-responsible mitigation); or
- Permittee-responsible Mitigation.

The USACE maintains a Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS) website that tracks available in-lieu fee programs by state (USACE, 2023). A search of this website showed two options in Grand Forks County, North Dakota: the Mekinock Site, a private commercial mitigation bank, and the Thompson Site, which is administered by Ducks Unlimited, a private nonprofit organization. The credit classification for both sites is Prairie Pothole wetlands.

C.6 Design and Permitting Phase

A more detailed analysis for avoidance and minimization of effects would be conducted after a FONSI/FONPA (if appropriate) is signed, and prior to submitting necessary permit applications for direct wetland impacts. Since direct effects cannot be avoided, correspondence with regulatory and resource agencies regarding mitigation will commence, and a permit application will be submitted. Additional specifications would be developed as appropriate. The final specifications could include specific minimization techniques and the development of management plans for stormwater runoff, vegetation, and grading.

References

U.S. Army Corps of Engineers (USACE) and Environmental Protection Agency (EPA). 2008. *Compensatory Mitigation for Losses of Aquatic Resources*. USACE 33 CFR Parts 325 and 332 and EPA 40 CFR Part 230. 10 April 2008.

USACE. 2023. Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS) – search results for Grand Forks County, North Dakota. Accessed on 1 May 2023 at <https://ribits.ops.usace.army.mil/ords/f?p=107:2:667292370864::NO>.

APPENDIX D.
AIR QUALITY ANALYSIS RESOURCES, METHODOLOGIES, AND RECORD OF CONFORMITY APPLICABILITY

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Appendix D-1

Air Conformity Applicability Analysis

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D.1 AIR QUALITY

This appendix presents an overview of the Clean Air Act (CAA) and the relevant North Dakota Department of Environmental Quality (NDDEQ) Division of Air Quality requirements. It also presents calculations, including the assumptions used for the air quality analyses presented in the Air Quality sections of this Environmental Assessment.

D.1.1 Air Quality Program Overview

To protect public health and welfare, the United States Environmental Protection Agency (USEPA) 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] Part 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. In North Dakota, the North Dakota Department of Environmental Quality (NDDEQ) oversees the state's air pollution control program under the authority of the federal CAA and amendments, federal regulations, and state laws. North Dakota has adopted the federal NAAQS as shown in **Table D-1**.

Based on measured ambient air pollutant concentrations, the USEPA designates areas of the United States as having air quality better than (attainment) the NAAQS, worse than (nonattainment) the NAAQS, 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 until proven otherwise. Attainment areas can be further classified as "maintenance" areas, which are areas previously classified as nonattainment but where air pollutant concentrations have been successfully reduced to below the standard. Maintenance areas are under special maintenance plans and must operate under some of the nonattainment area plans to ensure compliance with the NAAQS.

Section 176(c) (1) of the CAA contains legislation that ensures federal activities conform to relevant State Implementation Plans (SIPs) and thus do not hamper local efforts to control air pollution. Conformity to a SIP is defined as conformity to a SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards. As such, a general conformity analysis is required for areas of nonattainment or maintenance where a federal action is proposed.

The action can be shown to conform by demonstrating that the total direct and indirect emissions are below the *de minimis* levels (**Table D-2**), and/or showing that the Proposed Action emissions are within the State- or Tribe-approved budget of the facility as part of the SIP or Tribal Implementation Plan (USEPA, 2010). A conformity determination is required for each criteria pollutant or precursor where the total of direct and indirect emissions of that pollutant equal or exceed its *de minimis* rates (40 CFR § 93.153).

Direct emissions are those that occur as a direct result of the action. For example, emissions from new equipment that are a permanent component of the completed action (e.g., boilers, heaters, generators, paint booths) are considered direct emissions. Indirect emissions are those that occur at a later time or at a distance from the Proposed Action. For example, increased vehicular/commuter traffic because of the action is considered an indirect emission. Construction emissions must also be considered. For example, the emissions from vehicles and equipment used to clear and grade building sites, build new buildings, and construct new roads must be evaluated. These types of emissions are considered direct.

Table D-1
National Ambient Air Quality Standards

Pollutant	Standard Value7		Standard Type
Carbon Monoxide (CO)			
8-hour average	9 ppm	(10 mg/m^3)	Primary
1-hour average	35 ppm	(40 mg/m^3)	Primary
Nitrogen Dioxide (NO_2)			
Annual arithmetic mean	0.053 ppm	(100 µg/m^3)	Primary and Secondary
1-hour average[1]	0.100 ppm	(188 µg/m^3)	Primary
2015 Ozone (O_3)			
8-hour average[2,3]	0.070 ppm	(137 µg/m^3)	Primary and Secondary
2008 Ozone (O_3)			
8-hour average	0.075 ppm	-	Primary and Secondary
1997 Ozone (O_3)			
8-hour average	0.08 ppm	-	Primary and Secondary
Lead (Pb)			
3-month average[4]		0.15 µg/m^3	Primary and Secondary
Particulate ≤10 Micrometers (PM_{10})			
24-hour average[5]		150 µg/m^3	Primary and Secondary
Particulate ≤2.5 Micrometers ($PM_{2.5}$)			
Annual arithmetic mean[5]		12 µg/m^3	Primary
Annual arithmetic mean[5]		15 µg/m^3	Secondary
24-hour average[5]		35 µg/m^3	Primary and Secondary
Sulfur Dioxide (SO_2)			
1-hour average[6]	0.075 ppm	(196 µg/m^3)	Primary
3-hour average[6]	0.5 ppm	(1,300 µg/m^3)	Secondary

Source: USEPA, 2018, 2020a

Notes:
1 In February 2010, the USEPA established a new 1-hour standard for NO_2 at a level of 0.100 ppm, based on the 3-year average of the 98th percentile of the yearly distribution concentration, to supplement the then-existing annual standard.
2 In October 2015, the USEPA revised the level of the 8-hour standard to 0.070 ppm, based on the annual 4th highest daily maximum concentration, averaged over 3 years; the regulation became effective on 28 December 2015. The previous (2008) standard of 0.075 ppm remains in effect for some areas. A 1-hour standard no longer exists.
3 Annual fourth-highest daily maximum 8-hour average concentration, averaged over 3 years.4. In November 2008, USEPA revised the primary lead standard to 0.15 µg/m^3. USEPA revised the averaging time to a rolling 3-month average.
5 In October 2006, USEPA revised the level of the 24-hour $PM_{2.5}$ standard to 35 µg/m^3 and retained the level of the annual $PM_{2.5}$ standard at 15 µg/m^3. In 2012, USEPA split standards for primary and secondary annual $PM_{2.5}$. All are averaged over 3 years, with the 24-hour average determined at the 98th percentile for the 24-hour standard. USEPA retained the 24-hour primary standard and revoked the annual primary standard for PM_{10}.
6 In 2012, the USEPA retained a secondary 3-hour standard, which is not to be exceeded more than once per year. In June 2010, USEPA established a new 1-hour SO_2 standard at a level of 75 ppb, based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations.
7 Parenthetical value is an approximately equivalent concentration for NO_2, O_3, and SO_2.

µg/m^3 = microgram(s) per cubic meter; mg/m^3 = milligram(s) per cubic meter; ppb = part(s) per billion; ppm = part(s) per million; USEPA = United States Environmental Protection Agency

Table D-2
General Conformity Rule *De minimis* Emission Thresholds

Pollutant	Attainment Classification	Tons per year
Ozone (VOC and NO_x)	Serious nonattainment	50
	Severe nonattainment	25
	Extreme nonattainment	10
	Other areas outside an ozone transport region (applicable to all three airfield alternatives)	100
Ozone (NO_x)	Marginal and moderate nonattainment inside an ozone transport region	100
	Maintenance	100
Ozone (VOC)	Marginal and moderate nonattainment inside an ozone transport region	50
	Maintenance within an ozone transport region	50
	Maintenance outside an ozone transport region	100
Carbon Monoxide, SO_2 and NO_2	All nonattainment and maintenance	100
PM_{10}	Serious nonattainment	70
	Moderate nonattainment and maintenance	100
$PM_{2.5}$ Direct emissions, SO_2, NO_x , VOC, and ammonia	All nonattainment and maintenance	100
Lead	All nonattainment and maintenance	25

Source: USEPA, 2020b

NO_2 = nitrogen dioxide; NO_x = nitrogen oxides; $PM_{2.5}$ = particulates equal to or less than 2.5 microns in diameter; PM_{10} = particulates equal to or less than 10 microns in diameter; SO_2 = sulfur dioxide; VOC = volatile organic compound

Each state is required to develop a 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.

The NDDEQ operates and maintains an ambient air monitoring network that uses the methods and procedures approved by the USEPA. The purpose is to monitor, assess, and provide information on statewide ambient air quality conditions and trends as specified by the state and federal CAA. The Air Quality Monitoring Program works in conjunction with local air pollution agencies and some industries, measuring air quality throughout the state.

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 USEPA has specific requirements for a minimum number of monitoring sites, known as National Air Monitoring Sites. NDDEQ has augmented these with additional sites, called State and Local Air Monitoring Sites, to provide additional air quality data for NDDEQ needs. Locations of these monitoring sites are determined by factors such as emissions sources, population density, permitting needs, modeling results, and site accessibility.

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.

Under the CAA new stationary emissions sources are subject to New Source Review (NSR) in order to obtain a construction permit. Permits are required for new major sources or sources making major modifications. In areas that meet the National Ambient Air Quality Standards the permits are referred to as Prevention of Significant Deterioration (PSD) permits and the process to obtain permit approval is called PSD review. In nonattainment areas the permitting process is referred to as nonattainment NSR. The purpose of PSD review is to ensure that sources are constructed without causing significant adverse deterioration to clean air in the area. The purpose of nonattainment NSR is to ensure new sources do not impede a region's progress to achieve compliance with NAAQS through the use of emission control technology and by offsetting the emission increases.

D.1.2 Air Emissions Calculations and Assumptions

This section includes a discussion of calculations performed for the air quality analyses presented in the Air Quality sections of this Environmental Assessment.

The Air Conformity Applicability Model (ACAM), developed by the Air Force Civil Engineering Center was used to estimate air emissions. Calculations were performed for the single proposed alternative comprising four separate elements: reconstruction of ground topography, regrading of airfield's west ditch for drainage improvement, drainage system redesign, and perimeter fence replacement.

A Record of Air Analysis (ROAA), and the detailed ACAM Report for the Proposed Action is included as sections C-2 and C-3 of this Appendix. Each detailed ACAM report includes a general description of the project, the calculations used to estimate emissions, and timeline assumptions made for each construction and demolition phase of the project as well as ongoing emissions once the project is completed. Grand Forks AFB is in Grand Forks County, which is designated attainment or unclassifiable for all criteria pollutants. Accordingly, a conformity analysis is not required.

Key ACAM input data assumptions and notes are provided, as follows:

- The start date for the Proposed Action construction activities is assumed to be April 1, 2024. The duration of the construction project has been indicated to be 214 days (15 April - 15 November). To be conservative, all construction was assumed to occur within the duration period, as indicated. This would likely not be the case.
- The DOPAA and air emissions input data provided by the installation served as the primary source for all construction assumptions. Construction phase emissions for the Proposed Project are included for grading and trenching.
- Operational emissions were not assumed to be a factor as the Proposed Action projects would comprise of improvements or replacements of existing features and would not be adding any stationary emissions sources.
- Typically, duration of construction phase activities in ACAM was estimated based on the project size.
- For projects associated with reconstruction of ground topography, drainage system redesign, and perimeter fence replacement, the default equipment list in ACAM was changed to include additional types of equipment that would be more representative of the types of activities that are proposed.

Type of off-road equipment for construction of new fences, construction of drainage system, and for landscaping projects was based on data contained in the *ACRP Project 02-33 Airport Construction Emissions* – Final Report, dated September 10, 2013 (ACRP02-33_FR.pdf).

- For grading area, the site clearance area, as provided by the installation is assumed. If data on the amount of material hauled in and hauled out (in cubic yards) was provided by the base, then it was used in ACAM.
- Emissions from personnel commute is not performed as no new personnel will be working at the new facilities upon completion of construction of this project.
- ACAM defaults were used in lieu of base-specific data, where possible.

D.2 REFERENCES

USEPA. 2010. *40 CFR Parts 51 and 93, Revisions to the General Conformity Regulations*. 75 FR 14283, EPA-HQ-OAR-2006-0669; FRL-9131-7. 24 March.

USEPA. 2018. NAAQS Table. <https://www.epa.gov/ground-level-ozone-pollution/table-historical-ozone-national-ambient-air-quality-standards-naaqs>. 20 February.

USEPA. 2020a. *NAAQS Table*. <https://www.epa.gov/criteria-air-pollutants/naaqs-table>. 07 March.

USEPA. 2020b. *General Conformity: De minimis Tables*. <https://www.epa.gov/general-conformity/de-minimis-tables>. 07 March.

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Appendix D-2

Detailed Air Conformity Applicability Model Report

Airfield BASH Mitigation EA
Grand Forks AFB, North Dakota

(For General Conformity Applicability Determination and National Environmental Policy Act Air Quality Assessment)

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1. General Information

- Action Location
Base: GRAND FORKS AFB
State: North Dakota
County(s): Grand Forks
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Airfield BASH Mitigation EA, Grand Forks AFB, North Dakota

- Project Number/s (if applicable): N/A

- Projected Action Start Date: 4 / 2024

- Action Purpose and Need:
The purpose of the Proposed Action is to improve ground maintenance accessibility and operations. Vegetative cover within the project area must be maintained at a height between 7 and 14 inches and be converted to locally adapted vegetation species deemed unattractive to birds and other wildlife. The Proposed Action also includes replacement of the Installation's west perimeter fence.

Grand Forks AFB needs to remove standing water, improve drainage, create unattractive habitat for wildlife, replace the western perimeter fence, control vegetation heights to bring the project area into compliance with AFI 91-202, The US Air Force Mishap Prevention Program, and AFI 91-212.

- Action Description:
Grand Forks AFB intends to remove standing water by regrading the airfield's west ditch (up to 14,000 linear feet), conducting perimeter drainage maintenance, installing up to 35 acres of drain tile, and mitigating wetlands/floodplains. The proposed action also includes reconstructing ground topography including filling, clearing, grubbing, regrading (via heavy-equipment operation), landscaping, cultivating, and re-seeding up to 150 acres of the project area and replacement of the Installation's west perimeter fence. (22,240 feet of fence line). Fence posts would be driven into the ground to a depth of 8 feet and 10 feet apart, with no digging or trenching required.

ACAM is performed for the Proposed Action comprising of separate projects: reconstructing ground topography, regrading, and drainage system redesign and fence replacement.

- Point of Contact
Name: Radhika Narayanan
Title: Environmental Scientist
Organization: Versar Inc
Email: rnarayanan@versar.com
Phone Number:

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Reconstructing Ground Topography - Proposed Action Alternative 1
3.	Construction / Demolition	Regrading Airfield West Ditch- Alternative 1
4.	Construction / Demolition	Redesign the Drainage System - Alternative 1
5.	Construction / Demolition	Fence Replacement - Alternative 1

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Grand Forks
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Reconstructing Ground Topography - Proposed Action Alternative 1

- Activity Description:
The goal of the reconstruction of the project area is to create both accessibility and functional grounds maintenance operations and unattractive wildlife habitat.

- Reconstructing Ground Topography involves the following activities: Filling, clearing, grubbing, regrading (via heavy-equipment operation), landscaping, cultivating, and re-seeding.
- Maximum area of the project area to be reconstructed: 150 acres (approx. 6,534,000 square feet)
- Maximum aquanity of fill material that will be brought onto site for reconstruction: 75,000 cubic feet
- To be conservative, assumed grading activity for emissions estimation from landscaping, grubbing, or other ground topography reconstruction activities. It is not anticipated that this project will involve only grading for the entire duration of the activity.
- The Off Road Equipment list in ACAM for this activity has been edited to include project-specific equipment.
- Number of hours for each equipment that has been added in ACAM is always assumed to be 8 hours a day.

- Activity Start Date
Start Month: 4
Start Month: 2024

- Activity End Date
Indefinite: False
End Month: 6
End Month: 2024

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.342879
SO_x	0.006117
NO_x	1.911360
CO	1.859242
PM 10	65.070700

Pollutant	Total Emissions (TONs)
PM 2.5	0.070623
Pb	0.000000
NH_3	0.000666
CO_2e	607.3

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 4
Start Quarter: 2
Start Year: 2024

- Phase Duration
Number of Month: 2
Number of Days: 0

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 6534000
Amount of Material to be Hauled On-Site (yd^3): 2778
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings
Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Aerial Lifts Composite	1	8
Dumpers/Tenders Composite	3	8
Graders Composite	2	8
Off-Highway Trucks Composite	7	8
Other Construction Equipment Composite	2	8
Other General Industrial Equipmen Composite	4	8
Other Material Handling Equipment Composite	4	8
Rollers Composite	2	8
Rubber Tired Dozers Composite	5	8
Scrapers Composite	6	8
Skid Steer Loaders Composite	1	8
Sweepers/Scrubbers Composite	1	8
Tractors/Loaders/Backhoes Composite	4	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

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

- Worker Trips
Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

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

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Aerial Lifts Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0195	0.0003	0.1441	0.1651	0.0054	0.0054	0.0017	34.765
Dumpers/Tenders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0091	0.0001	0.0581	0.0313	0.0021	0.0021	0.0008	7.6451
Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0714	0.0014	0.3708	0.5706	0.0167	0.0167	0.0064	132.90
Off-Highway Trucks Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1188	0.0026	0.5286	0.5400	0.0163	0.0163	0.0107	260.33
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0461	0.0012	0.2243	0.3477	0.0079	0.0079	0.0041	122.61
Other General Industrial Equipmen Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0784	0.0016	0.4362	0.4445	0.0151	0.0151	0.0070	152.41
Other Material Handling Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0732	0.0015	0.4243	0.4361	0.0145	0.0145	0.0066	141.35
Rollers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0434	0.0007	0.2707	0.3772	0.0139	0.0139	0.0039	67.130
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1747	0.0024	1.1695	0.6834	0.0454	0.0454	0.0157	239.47
Scrapers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1564	0.0026	0.9241	0.7301	0.0368	0.0368	0.0141	262.83
Skid Steer Loaders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0190	0.0003	0.1389	0.2106	0.0022	0.0022	0.0017	30.317
Sweepers/Scrubbers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0434	0.0009	0.2456	0.4846	0.0076	0.0076	0.0039	78.641
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0348	0.0007	0.1980	0.3589	0.0068	0.0068	0.0031	66.875

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

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**Pb**	**NH_3**	**CO_2e**
LDGV	000.373	000.002	000.252	003.923	000.012	000.011		000.022	00315.355
LDGT	000.429	000.003	000.424	005.101	000.015	000.013		000.024	00405.567
HDGV	000.684	000.005	001.035	014.684	000.031	000.028		000.044	00739.043
LDDV	000.149	000.003	000.137	002.337	000.004	000.004		000.008	00301.750
LDDT	000.278	000.004	000.383	003.938	000.007	000.006		000.008	00428.704
HDDV	000.570	000.013	005.533	001.873	000.166	000.153		000.029	01470.692
MC	002.160	000.003	000.840	013.926	000.029	000.026		000.055	00399.677

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
VMT_{VE} = (HA_{OnSite} + $HA_{OffSite}$) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

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

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

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

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

3. Construction / Demolition

3.1 General Information & Timeline Assumptions

- Activity Location
County: Grand Forks
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Regrading Airfield West Ditch- Alternative 1

- Activity Description:
Grand Forks AFB intends to remove standing water by regrading the airfield west ditch.
Grading: Maximum area to be regraded is 420,000 square feet.
Maximum quantity of material that will be taken offsite is 40,000 cubic feet (1,481.5 CY)

- Activity Start Date
Start Month: 4
Start Month: 2024

- Activity End Date
Indefinite: False
End Month: 5
End Month: 2024

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.042041
SO_x	0.000760
NO_x	0.236728
CO	0.298162
PM 10	4.187174

Pollutant	Total Emissions (TONs)
PM 2.5	0.009001
Pb	0.000000
NH_3	0.000144
CO_2e	74.6

3.1 Site Grading Phase

3.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 4
Start Quarter: 2
Start Year: 2024

- Phase Duration
Number of Month: 1
Number of Days: 0

3.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 420000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 1481.5

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

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	1	8
Graders Composite	1	8
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	8
Tractors/Loaders/Backhoes Composite	3	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

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

- Worker Trips

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

- Worker Trips Vehicle Mixture (%)

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

3.1.3 Site Grading Phase Emission Factor(s)

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

Excavators Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0584	0.0013	0.2523	0.5090	0.0100	0.0100	0.0052	119.71
Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0714	0.0014	0.3708	0.5706	0.0167	0.0167	0.0064	132.90
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0461	0.0012	0.2243	0.3477	0.0079	0.0079	0.0041	122.61
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1747	0.0024	1.1695	0.6834	0.0454	0.0454	0.0157	239.47
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0348	0.0007	0.1980	0.3589	0.0068	0.0068	0.0031	66.875

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

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.373	000.002	000.252	003.923	000.012	000.011		000.022	00315.355
LDGT	000.429	000.003	000.424	005.101	000.015	000.013		000.024	00405.567
HDGV	000.684	000.005	001.035	014.684	000.031	000.028		000.044	00739.043
LDDV	000.149	000.003	000.137	002.337	000.004	000.004		000.008	00301.750
LDDT	000.278	000.004	000.383	003.938	000.007	000.006		000.008	00428.704
HDDV	000.570	000.013	005.533	001.873	000.166	000.153		000.029	01470.692
MC	002.160	000.003	000.840	013.926	000.029	000.026		000.055	00399.677

3.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
VMT_{VE} = (HA_{OnSite} + $HA_{OffSite}$) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

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

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

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

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

4. Construction / Demolition

4.1 General Information & Timeline Assumptions

- Activity Location
County: Grand Forks
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Redesign the Drainage System - Alternative 1

- Activity Description:
The project would involve the installation of drain tile to remove stagnant water and would generally involve the following construction activities: trenching/excavation for pipe installation, hydroseeding, soil erosion/sediment control and top soil placement.

- Maximum area of the drain tile project for tile installation: 35 acres (approx. 1,525,000 square feet)
- Maximum quanity of fill material to be brought onto site for project: 16,000 cubic feet (approx. 592.59 CY)
- Assumed trenching/excavation activity in ACAM for emissions estimation from drain tile installation project.
- The Off Road Equipment list in ACAM for this activity has been edited to include project-specific equipment.
- Number of hours for each equipment that has been added or edited in ACAM is always assumed to be 8 hours a day.

- Activity Start Date
Start Month: 7
Start Month: 2024

- Activity End Date
Indefinite: False
End Month: 8
End Month: 2024

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.202166
SO_x	0.003796
NO_x	1.064412
CO	1.195953
PM 10	22.710926

Pollutant	Total Emissions (TONs)
PM 2.5	0.038278
Pb	0.000000
NH_3	0.000429
CO_2e	371.4

4.1 Trenching/Excavating Phase

4.1.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date
Start Month: 7
Start Quarter: 2
Start Year: 2024

- Phase Duration
Number of Month: 1
Number of Days: 15

4.1.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information
Area of Site to be Trenched/Excavated (ft^2): 1525000
Amount of Material to be Hauled On-Site (yd^3): 592.59
Amount of Material to be Hauled Off-Site (yd^3): 0

- Trenching Default Settings
Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Dumpers/Tenders Composite	2	8
Excavators Composite	3	8
Off-Highway Trucks Composite	4	8
Other General Industrial Equipmen Composite	3	8
Other Material Handling Equipment Composite	1	8
Pumps Composite	1	8
Rollers Composite	1	8
Rubber Tired Dozers Composite	2	8
Tractors/Loaders/Backhoes Composite	3	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

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

- Worker Trips
Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

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

4.1.3 Trenching / Excavating Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

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

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.709	000.007	000.685	006.214	000.025	000.022		000.033	00360.544
LDGT	000.864	000.010	001.162	008.954	000.026	000.023		000.034	00480.581
HDGV	001.279	000.015	002.987	025.004	000.058	000.051		000.044	00741.969
LDDV	000.290	000.003	000.322	003.307	000.006	000.006		000.008	00362.930
LDDT	000.577	000.005	000.853	006.657	000.008	000.007		000.008	00565.948
HDDV	000.925	000.014	009.475	002.915	000.364	000.335		000.030	01550.284
MC	002.262	000.008	000.864	015.679	000.031	000.028		000.051	00398.901

4.1.4 Trenching / Excavating Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
VMT_{VE} = (HA_{OnSite} + $HA_{OffSite}$) * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

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

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

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

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

5. Construction / Demolition

5.1 General Information & Timeline Assumptions

- Activity Location
County: Grand Forks
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Fence Replacement - Alternative 1

- Activity Description:
The project would involve replacement of the Installation's west perimeter fence (approx. 22,500 feet of fence line). Fence posts would be driven into the ground to a depth of 8 feet and 10 feet apart, with no digging or trenching required.
Project associated construction activities would generally include: fencing, minimal grading, hydroseeding, soil erosion/sediment control and top soil placement. No grading or trenching for fence installation is assumed.

- Maximum length of the fencing would be approx. 22,500 feet. Maximum area estimated to be 180,000 sf.
- Maximum quanity of fill material to be brought onto site for project: 8,000 cubic feet (approx. 296.29 CY)
- Assumed trenching/excavation activity in ACAM for emissions estimation for the fencing project.
- The Off Road Equipment list in ACAM for this activity has been edited to include project-specific equipment.
- Number of hours for each equipment that has been added in ACAM is always assumed to be 8 hours a day.

- Activity Start Date
Start Month: 8
Start Month: 2024

- Activity End Date
Indefinite: False
End Month: 9
End Month: 2024

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.116251
SO_x	0.002134
NO_x	0.628968
CO	0.653138
PM 10	1.813168

Pollutant	Total Emissions (TONs)
PM 2.5	0.022516
Pb	0.000000
NH_3	0.000229
CO_2e	210.8

5.1 Trenching/Excavating Phase

5.1.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date
Start Month: 8
Start Quarter: 2
Start Year: 2024

- Phase Duration
Number of Month: 1
Number of Days: 0

5.1.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information
Area of Site to be Trenched/Excavated (ft^2): 180000
Amount of Material to be Hauled On-Site (yd^3): 296.29
Amount of Material to be Hauled Off-Site (yd^3): 0

- Trenching Default Settings
Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Cement and Mortar Mixers Composite	1	8
Graders Composite	1	8
Off-Highway Trucks Composite	4	8
Other General Industrial Equipmen Composite	2	8
Other Material Handling Equipment Composite	1	8
Pumps Composite	1	8
Rollers Composite	1	8
Rubber Tired Dozers Composite	2	8
Skid Steer Loaders Composite	1	8
Tractors/Loaders/Backhoes Composite	2	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

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

- Worker Trips
Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

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

5.1.3 Trenching / Excavating Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

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

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.709	000.007	000.685	006.214	000.025	000.022		000.033	00360.544
LDGT	000.864	000.010	001.162	008.954	000.026	000.023		000.034	00480.581
HDGV	001.279	000.015	002.987	025.004	000.058	000.051		000.044	00741.969
LDDV	000.290	000.003	000.322	003.307	000.006	000.006		000.008	00362.930
LDDT	000.577	000.005	000.853	006.657	000.008	000.007		000.008	00565.948
HDDV	000.925	000.014	009.475	002.915	000.364	000.335		000.030	01550.284
MC	002.262	000.008	000.864	015.679	000.031	000.028		000.051	00398.901

5.1.4 Trenching / Excavating Phase Formula(s)

- Fugitive Dust Emissions per Phase

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

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

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

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

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

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

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

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

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

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

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

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

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Appendix D-3

Summary Air Conformity Applicability Model Reports
Record of Air Analysis (ROAA)

Airfield BASH Mitigation EA
Grand Forks AFB, North Dakota

(For General Conformity Applicability Determination and National Environmental Policy Act Air Quality Assessment)

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

1. General Information

The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:
Base: GRAND FORKS AFB
State: North Dakota
County(s): Grand Forks
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Airfield BASH Mitigation EA, Grand Forks AFB, North Dakota

c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 4 / 2024

e. Action Description:

Grand Forks AFB intends to remove standing water by regrading the airfield's west ditch (up to 14,000 linear feet), conducting perimeter drainage maintenance, installing up to 35 acres of drain tile, and mitigating wetlands/floodplains. The proposed action also includes reconstructing ground topography including filling, clearing, grubbing, regrading (via heavy-equipment operation), landscaping, cultivating, and re-seeding up to 150 acres of the project area and replacement of the Installation's west perimeter fence. (22,240 feet of fence line). Fence posts would be driven into the ground to a depth of 8 feet and 10 feet apart, with no digging or trenching required.

ACAM is performed for the Proposed Action comprising of separate projects: reconstructing ground topography, regrading, and drainage system redesign and fence replacement.

f. Point of Contact:
Name: Radhika Narayanan
Title: Environmental Scientist
Organization: Versar Inc
Email: rnarayanan@versar.com
Phone Number:

2. Air Impact Analysis

Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

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

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2024

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.703	250	No
NOx	3.841	250	No
CO	4.006	250	No
SOx	0.013	250	No
PM 10	93.782	250	No
PM 2.5	0.140	250	No
Pb	0.000	25	No
NH3	0.001	250	No
CO2e	1264.2		

2025 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

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

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality.Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs.No further air assessment is needed.

_____ _____

Radhika Narayanan, Environmental Scientist DATE

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APPENDIX E.
WETLAND JURISDICTION DETERMINATION

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DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, OMAHA DISTRICT
NORTH DAKOTA REGULATORY OFFICE
3319 UNIVERSITY DRIVE
BISMARCK, NORTH DAKOTA 58504

June 4, 2024

SUBJECT: NWO-2023-00600-BIS – Grand Forks Air Force Base Airfield Reconstruction – Approved Jurisdictional Determination

Ms. Kristen Rundquist
Grand Forks Air Force Base
Environmental Compliance/Natural Resources
319 CES/CD
525 Tuskegee Airman Boulevard
Grand Forks Air Force Base, North Dakota 58205

Dear Ms. Rundquist:

This letter is in response to the request received on April 24, 2023 for an approved jurisdictional determination for the Airfield Reconstruction Project at Grand Forks Air Force Base. The site is located in Sections 14, 23, 26, 34, and 35 in Township 152 North, Range 53 West, Grand Forks County, North Dakota. Your request has been assigned the Corps Regulatory File Number referenced above. Please reference this file number on any correspondence to us or to other interested parties when referencing this project or concerning this request.

The U.S. Army Corps of Engineers (Corps) regulates the discharge of dredged and fill material into waters of the United States under Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344) and structures or work in, over, and under navigable waters of the United States under Section 10 of the Rivers and Harbors Act (RHA) (33 U.S.C. 403). The implementing regulations for these Acts are published in the Code of Federal Regulations at 33 CFR parts 330-332.

Based on our evaluation of the information provided and other available information, we have determined the following resources are jursidictional: **FLE-07i, FLE-19, FLE-20, FLE-37, FLN-06b, FLN-06h, FLN-06j, FLS-16, FLS-17, FLW-01a through FLW-01e, FLW-06, FLW-07, FLW-47, and FLW-65**. The attached approved jurisdictional determination provides rationale for why these aquatic resources meet the definition of waters of the United States. Based on this determination, a Department of the Army permit **is** required for the discharge of dredged or fill material into these aquatic resources.

Also, based on our evaluation of the information provided and other available information, we have determined the following resources are non-jurisdictional: **FLE-01a, FLE-05a, FLE-11, FLE-12, FLE-14, FLE-16, FLE-25, FLE-27, FLE-28, FLE-31, FLE-32,**

FLE-33, FLE-34, FLE-35, FLE-36, FLE-38, FLN-01, FLN-08, FLN-09, FLN-12, FLN-13, FLN-14, FLN-15, FLN-17, FLN-18, FLN-19, FLN-20, FLN-21, FLN-22, FLN-23, FLN-24a, FLN-24b, FLN-24c, FLN-24d, FLN-24e, FLS-18, FLS-25, FLS-31a, FLS-31c, FLS-31d, FLS-31h, FLS-45, FLS-51, FLW-02, FLW-03, FLW-05, FLW-08, FLW-09, FLW-10, FLW-72, FLW-73, FLW-74, FLW-75, FLW-76a, FLW-76b, FLW-76c, FLW-77, FLW-78, FLW-79, FLW-80a_n, FLW-80b_n, FLW-80c_n, FLW-80d_n, and FLW-81. The attached approved jurisdictional determination provides rationale for why these aquatic resources do not meet the definition of waters of the United States. Based on this determination, a Department of the Army permit **is not** required for the discharge of dredged or fill material into these aquatic resources.

These determinations do not eliminate requirements to obtain any other applicable federal, state, tribal, or local permits.

Attached to this letter is the approved jurisdictional determination for your project site. This jurisdictional determination is valid for a 5-year period from the date of this letter, until **June 4, 2029**, unless new information warrants revision of the determination before the expiration date. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR part 331. Enclosed you will find a *Notification of Administrative Appeal Options and Process and Request for Appeal* (NAO-RFA) form. If you request to appeal this determination, you must submit a completed NAO-RFA form to the address listed on the form.

For an NAO-RFA to be accepted by the Corps, the Corps must determine that it is completed, that it meets the criteria for appeal under 33 CFR 331.5, and that it has been received by the Division Office within 60 days of the date of the NAO-RFA. Should you decide to submit an NAO-RFA form, it must be received at the Division Office by **August 2, 2024**. It is not necessary to submit an NAO-RFA form to the Division Office if you do not object to the determination in this letter.

In the event that you disagree with this approved jurisdictional determination and you have **new information** not considered in the original determination, you may request reconsideration of this determination by contacting this office prior to initiating an appeal. To request this reconsideration based upon new information, you must submit the new information to this office so that it is received within 60 days of the date of the NAO-RFA.

The Corps' Omaha District, Regulatory Branch is committed to providing quality and timely service to our customers. In an effort to improve customer service, please take a moment to complete our Customer Service Survey found on our website at https://regulatory.ops.usace.army.mil/customer-service-survey/. If you do not have Internet access, you may call and request a paper copy of the survey that you can complete and return by mail. Additionally, further information regarding the Omaha District Regulatory Program can be obtained by visiting our website at https://www.nwo.usace.army.mil/Missions/Regulatory-Program/.

If you have any questions concerning this jurisdictional determination, please contact Mr. Hadden Carlberg at the above address, by phone at 701-255-0015, ext. 2012, or by email at *Hadden.J.Carlberg@usace.army.mil*, and reference file number **NWO-2023-00600-BIS**.

Sincerely,

Benjamin N. Soiseth
Chief, North Dakota Section

Enclosures