Grand Forks International Airport (GFK) Airport Traffic Control Tower (ATCT)
Grand Forks, North Dakota

Final Environmental Assessment

June 2024

This Environmental Assessment becomes a Federal document when evaluated, signed, and dated by the Responsible FAA Official.

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ACRONYMS AND ABBREVIATIONS

ACHP..... Advisory Council on Historic Preservation
AFTIL .....Airport Facilities Terminal Integration Laboratory
AGL.....Above Ground Level
AIRFA.....American Indian Religious Freedom Act
APE.....Area of Potential Effect
ARPA .....Archaeological Resources Protection Act
ARSR.....Air Route Surveillance Radars
ARTCC.....Air Route Traffic Control Centers
ASL .....Above Sea Level
AST .....Aboveground Storage Tank
ATCB.....Air Traffic Control Beacons
ATCT..... Airport Traffic Control Tower
BLM.....Bureau of Land Management
BMP.....Best Management Practice
CAA .....Clean Air Act
CEQ.....Council on Environmental Quality
CERCLA .....Comprehensive Environmental Response, Compensation, and Liability Act
CFR.....Code of Federal Regulations
CO .....Carbon Monoxide
CO2.....Carbon Dioxide
CSA .....Central Service Area
CZMA.....Coastal Zone Management Act
CWA.....Clean Water Act
DOI .....Department of Interior
DOT .....Department of Transportation
EA.....Environmental Assessment
EIS.....Environmental Impact Statement
EO .....Executive Order
EPA.....U.S. Environmental Protection Agency
ESA .....Endangered Species Act
FAA.....Federal Aviation Administration
FEMA.....Federal Emergency Management Agency
FONSI .....Finding of No Significant Impact
GFK.....Grand Forks Airport
GHG.....Greenhouse Gas
HAP .....Hazardous Air Pollutants
HMS.....Hazardous Materials Survey
LBP.....Lead-based Paint
MBTA .....Migratory Bird Treaty Act
MOU.....Memorandum of Understanding
NAAQS .....National Ambient Air Quality Standards
NAGPRA.....Native American Graves Protection and Repatriation Act
NAS.....National Airspace System
NDDEQ .....North Dakota Department of Environmental Quality
NEPA .....National Environmental Policy Act
NFIP .....National Flood Insurance Program
NHPA.....National Historic Preservation Act of 1966
NMFS.....National Marine Fisheries Service
NO2 .....Nitrogen Dioxide
NOAA.....National Oceanic and Atmospheric Administration
NPDES.....National Pollutant Discharge Elimination System
NPL.....National Priorities List
NRHP.....National Register of Historic Places
PCB.....Polychlorinated Biphenyls
PM.....Particulate Matter
ppm.....parts per million
RCRA .....Resource Conservation and Recovery Act
SARA.....Superfund Amendments Reauthorization Act
SHPO.....State Historic Preservation Officer
SIP.....State Implementation Plan
SO2 .....Sulfur Dioxide
TAF.....Terminal Area Forecast
TCP.....Traditional Cultural Property
THPO .....Tribal Historic Preservation Officer
TIP .....Tribal Implementation Plan
TMDL.....Total Maximum Daily Load
TSCA .....Toxic Substances Control Act
U.S.C. .....U.S. Code
USFWS .....U.S. Fish and Wildlife Service
UST .....Underground Storage Tank
VFR.....Visual Flight Rules
WSRA .....Wild and Scenic Rivers Act

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SECTION | 1 INTRODUCTION

1.1 INTRODUCTION

The Federal Aviation Administration (FAA) Central Service Area (CSA) is proposing to replace the existing Airport Traffic Control Tower (ATCT) at the Grand Forks International Airport (GFK) in Grand Forks, North Dakota. The proposed federal action is described in detail in Section 1.2, Proposed Action.

The FAA prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code [U.S.C.] § 4321 et seq.); the White House Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508); FAA Order 1050.1F, Environmental Impacts: Policies and Procedures; and other applicable federal laws and regulations to provide sufficient evidence and analysis for determining whether to prepare a Finding of No Significant Impact (FONSI) or an Environmental Impact Statement (EIS). NEPA requires that a federal agency prepares a statement of environmental impacts as part of the development process for projects requiring a federal action, such as funding, approving, or permitting.

FAA Order 1050.1F states that the "establishment or relocation of facilities such as air route traffic control centers (ARTCC), airport traffic control towers (ATCT), off airport air route surveillance radars (ARSR), air traffic control beacons (ATCB), and next generation radar (NexRad)" are actions that normally require an Environmental Assessment (EA). This EA analyzes the environmental consequences of the tower alternatives and considers cumulative impacts of these (CEQ, 2014). The FAA is the lead federal agency for the Proposed Action.

1.2 PROPOSED ACTION

The FAA's Proposed Action is to replace the existing FAA-owned ATCT with a modern, sustainable ATCT facility at GFK. The Proposed Action is anticipated to include the following activities:

- Construction and operation of a replacement ATCT, an administrative base building, and other associated facility support features such as a parking area and security fences.
- Extension and/or relocation of utilities, such as electricity, water, and telephone/cable lines, to the replacement ATCT.
- Removal of decommissioned road (portion of Airport Drive) and addition of new driveway from Airport Drive to the replacement ATCT parking area.
- Modification and/or relocation of existing interior National Airspace System (NAS) facilities or airport structures necessary to enable project implementation.
- Installation of modern air traffic control electronic equipment in the replacement ATCT.

- Commissioning of the replacement ATCT, cutover of air traffic services to the replacement ATCT, and decommissioning of the existing ATCT.
- Demolition and disposal of the existing ATCT facility and associated infrastructure.
- Update the Airport Layout Plan.

The proposed timeframe to replace the ATCT is five years from the start of construction. Figure 3-1 displays the preliminary layout of the proposed ATCT.

1.3 BACKGROUND

1.3.1 Airport Information

The Grand Forks International Airport, Mark Andrews Field (ID: GFK), is a medium to large sized, multi-use airport (FAA, 2019). Located in Grand Forks County five miles west of the city of Grand Forks in northwestern North Dakota, this airport is classified by the FAA as a primary non-hub commercial service airport. The airport provides scheduled passenger service, air cargo, general aviation services, and U.S. Customs and Border Protection (U.S. CBP) services, in addition to being home to the University of North Dakota's flight training program. The airport is designated as "Class Delta airspace extending from the surface to 3,300 [mean sea level] msl" (FAA, 2022). The airport is located seven miles west of the Grand Forks Air Force base (ID: RDR) which conducts drone operations within its own Temporary Flight Restricted zone and similar Class Delta airspace extending to 3,400 msl. The GFK airport supports a diverse mix of aircraft from pre-solo pilot training students (aircraft and helicopter) to air carrier pilots and drone operators (FAA, 2022). The airport served 302,124 flight operations and enplaned 89,555 passengers in 2022 (Grand Forks International Airport, n.d.).

1.3.2 Existing Airport Traffic Control Tower Information

Constructed in 1986 and commissioned in 1987, the existing GFK ATCT is a Tier 2, Facility Level nine (9) visual flight rules (VFR) tower with radar. The tower is located northeast of the commercial passenger terminal (47.94887641, -97.1738537). The base building is approximately 1,519 square feet (sq. ft.), and the tower is an approximately 420 sq. ft. The cab floor is approximately 90 ft above ground level (AGL) with the tower structure located mid-field between Runways 17L-35R/17R-35L and south of Runway 9L-27R. The tower cab alone is approximately 220 sq. ft. The tower and base support building site are situated on approximately 0.57 acres. The ATCT is operational 17.5 hours per day, 365 days per year. (FAA, 2019) (Riesinger, Ryan, 2023).

1.3.3 Historic and Forecast Airport Activity

The FAA prepares a Terminal Area Forecast (TAF) providing aviation data users with historical and forecast data on passenger demand and aviation activity at U.S. airports. The TAF shows enplanements, airport operations, TRACON operations, and based aircraft. Table 1-1. GFK Terminal Area Forecast Detail Report shows the TAF detail report for Grand Forks International Airport (GFK) forecast. The proposed action is not anticipated to change or increase air traffic operations at GFK.

Table 1-1. GFK Terminal Area Forecast Detail Report

APO TERMINAL AREA FORECAST DETAIL REPORT
Forecast Issued February 2023

GFK

	AIRCRAFT OPERATIONS													
	Enplanements			Itinerant Operations					Local Operations					
Fiscal Year	Air Carrier	Commuter	Total	Air Carrier	Air Taxi & Commuter	GA	Military	Total	Civil	Military	Total	Total Ops	Total Tracon Ops	Based Aircraft
REGION:AGL **STATE:**ND **LOCID:**GFK														
CITY:GRAND FORKS **AIRPORT:**GRAND FORKS INTL														
2011	33,814	82,875	116,689	2,072	97,742	15,549	428	115,791	229,145	267	229,412	345,203	0	151
2012	57,515	77,212	134,727	2,360	102,150	18,043	377	122,930	247,960	1,122	249,082	372,012	0	158
2013	57,726	88,709	146,435	2,355	108,421	16,138	257	127,171	214,323	55	214,378	341,549	0	160
2014	62,075	84,456	146,531	2,255	101,288	16,422	154	120,119	204,073	4	204,077	324,196	0	147
2015	59,230	86,445	145,675	3,051	96,355	12,775	201	112,382	191,475	14	191,489	303,871	0	147
2016	54,975	81,519	136,494	3,039	99,438	13,041	173	115,691	205,445	0	205,445	321,136	0	135
2017	38,273	82,528	120,801	1,226	104,459	12,876	178	118,739	206,382	4	206,386	325,125	0	131
2018	32,783	81,193	113,976	893	108,462	12,209	224	121,788	242,006	0	242,006	363,794	0	131
2019	33,251	84,791	118,042	973	108,997	10,871	203	121,044	182,307	2	182,309	303,353	0	189
2020	19,104	47,327	66,431	1,144	80,637	10,047	135	91,963	143,706	0	143,706	235,669	0	189
2021	16,737	43,385	60,122	1,902	118,690	12,309	77	132,978	224,537	0	224,537	357,515	0	137
2022*	25,026	59,604	84,630	1,045	114,529	11,873	142	127,589	180,333	6	180,339	307,928	0	138
2023*	42,148	50,917	93,065	1,945	155,337	11,992	142	169,416	200,294	6	200,300	369,716	0	139
2024*	50,582	61,792	112,374	2,539	156,798	12,112	142	171,591	202,297	6	202,303	373,894	0	140
2025*	53,189	64,916	118,105	2,778	158,252	12,233	142	173,405	204,320	6	204,326	377,731	0	141
2026*	53,730	65,574	119,304	3,092	159,541	12,355	142	175,130	206,363	6	206,369	381,499	0	142
2027*	54,252	66,212	120,464	3,195	161,061	12,479	142	176,877	208,427	6	208,433	385,310	0	143
2028*	54,790	66,874	121,664	3,225	162,672	12,604	142	178,643	210,511	6	210,517	389,160	0	144
2029*	55,321	67,519	122,840	3,254	164,299	12,730	142	180,425	212,616	6	212,622	393,047	0	145
2030*	55,848	68,166	124,014	3,283	165,942	12,857	142	182,224	214,742	6	214,748	396,972	0	147

Source: (FAA, 2023)

SECTION | 2 PURPOSE AND NEED

Constructed in 1986, the existing GFK ATCT is not equipped to meet current and future airport demands. GFK averages 1,500 operations daily ranging from training students or new pilots to experienced carrier pilots. Occasionally the airport has over 1,900 daily operations, making it one of the busiest airports in the United States on those days. To accommodate this demand, the GFK ATCT cab operates with six to eight controller positions. The existing GFK ATCT cab is only designed for four operational positions and is outdated and undersized. The existing ATCT cab cannot support the anticipated increase in air traffic operations going forward. Given the current concern about controller positions within the existing GFK ATCT cab, in addition to the forecasted increase in airport activity, the FAA proposes to construct an updated GFK ATCT (FAA, 2019).

2.1 PROJECT PURPOSE AND NEED

The purpose is to provide GFK with an updated ATCT having sufficient space to accommodate the current and future demands of activity at the airport. The proposed construction of a larger ATCT is needed to increase the number of operational positions in the cab so that all future traffic may safely be handled by air traffic controllers at the airport. The current ATCT was only designed to accommodate four operational positions, which is insufficient for the current and forecasted use of the airport. Additional space for air traffic operations and new, modern equipment would be made available in the updated ATCT, along with improvements to the safety, efficiency, and resiliency of the NAS.

SECTION | 3 ALTERNATIVES

The NEPA process requires that all reasonable alternatives that might accomplish the objectives of a proposed action be identified and evaluated. This ensures that alternatives which may have a lesser impact on the existing environment are considered and reviewed.

3.1 SITING CRITERIA

Representatives from the FAA CSA and GFK airport conducted technical siting for this project working with the Airport Facilities Terminal Integration Laboratory (AFTIL) in Atlantic City, New Jersey. Evaluated technical siting requirements included the following:

- Location of the proposed ATCT site.
- ATCT eye level height.
- Total ATCT height.
- Exact ATCT height subject to Official Airspace Approval per FAA From 7460-1, Notice of Proposed Construction or Alteration.
- Consideration of weather, sun angle, ramp lighting, and look down angle. (FAA, 2019)

3.2 ALTERNATIVES CONSIDERED

The AFTIL evaluated several sites for the proposed new GFK ATCT. One ATCT location site was selected for consideration in this EA plus the No Action Alternative. To be considered a reasonable alternative, an alternative needed to meet the technical Siting Criteria and the purpose and need (see Section 3.1).

3.2.1 Alternative 2 (Site 2B, Preferred Alternative)

Site 2B (Latitude 47° 56' 53.5132" N, Longitude 97° 10' 30.3153" W) is located adjacent to the existing ATCT. However, the ATCT siting report identified Site 2B as having the best overall viewing angles to the movement areas. This proposed new 197-foot ATCT would include an intermediate level tower shaft having two elevators, two stairways, a 650 sq. ft cab., a cab floor level of 162 AGL, and a slatwall cab layout having four columns. The base building is estimated to be 10,000 sq. ft. to house the technical operations personnel and equipment. The airport plans to designate approximately four (4) acres of airport property for the new ATCT and base building. Figure 3-1 shows the preliminary proposed location and layout of the new ATCT, base building, and associated access and parking areas. Of the sites considered, Site 2B met the technical siting criteria providing more space for personnel and updated equipment with improved lines of sight. (FAA, 2019)

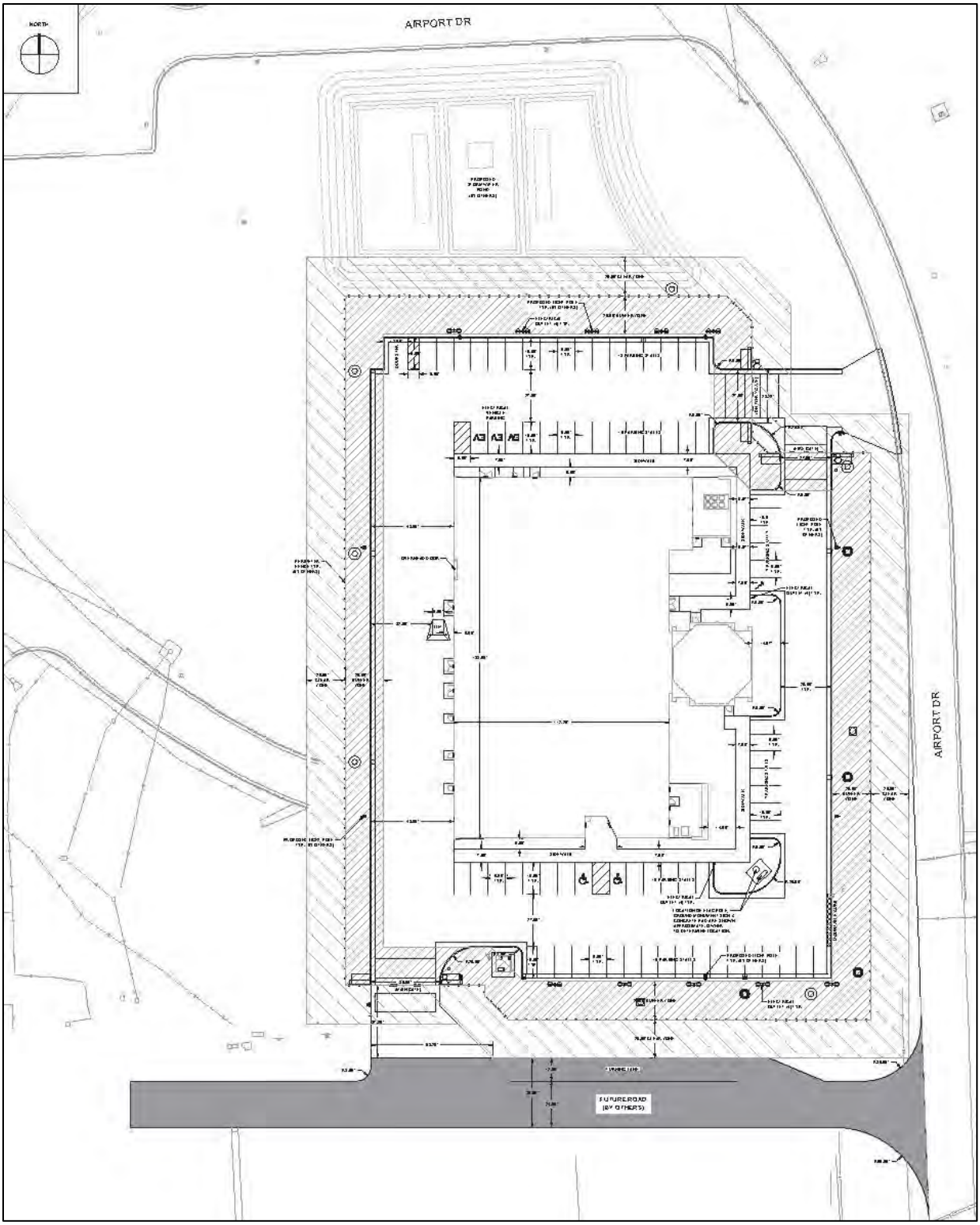

Figure 3-1. Preliminary Schematic of Proposed ATCT Site

Source: (CPS-Civil Engineering Planning Surveying, Ltd., 2018)

3.2.2 No Action Alternative

A No Action Alternative is required to be included in this EA in accordance with CEQ NEPA implementing regulations (40 CFR § 1508.14). The No Action Alternative is defined as maintaining the status quo (baseline conditions) without federal agency involvement. The No Action Alternative is used to evaluate the effects of not replacing the existing ATCT and provides a benchmark against which other alternatives may be evaluated.

Under the No Action Alternative, the existing GFK ATCT and associated facilities would not be replaced and demolished. The existing ATCT would continue to be used for air traffic control operations. A new ATCT would not be constructed, additional space for air traffic operations and new, modern equipment would not be available, and improvements to the safety, efficiency, and resiliency of the NAS would not be realized. Figure 3-2 provides an aerial image of the study area with both alternatives considered within this EA.

3.3 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

Two alternatives (Sites 1 and 7A) were eliminated from further study as they did not meet the technical siting criteria, specifically for line of sight and other visual obstructions.

3.3.1 Alternative 1 (Site 1)

Site 1 (Latitude 47° 56’ 55.66” N, Longitude 97° 10’ 31.51” W) is located in close proximity to the existing ATCT. This proposed new 197-foot ATCT would include an intermediate level tower shaft having two elevators, two stairways, a 650 sq. ft. cab, a cab floor level at 164 ft AGL, and a slatwall cab layout having four columns. The base building is estimated to be 10,000 sq. ft to house the technical operations personnel and equipment. (FAA, 2019)

Alternative 1 presented a hazard for loss of visual contact and blocked line of sight for Charlie, Delta, Mike, and Whiskey helicopter pads. This alternative also included a risk of loss of visual contact/line of sight of aircraft/vehicles stopped behind the new tower on the runway or taxiway. This alternative also posed a risk of blocking line of sight to look down angle blocking taxiway Alpha between Alpha 3 and Alpha 4.

3.3.2 Alternative 3 (Site 7A)

Site 7A (Latitude 47° 56’ 49.49” N, Longitude 97° 10’ 25.25” W) is located near the existing ATCT. Similar to the other sites, this proposed new 197-foot ATCT would include an intermediate level tower shaft having two elevators, two stairways, a 650 sq. ft. cab, a cab floor level of 164 ft AGL, and a slatwall cab layout having four columns. The base building would be estimated to be 10,000 sq. ft. to house the technical operations personnel and equipment. (FAA, 2019)

Alternative 3 presented a hazard for blocking line of sight for Charlie, Delta, Mike, and Whiskey helicopter pads, in addition to partial blockage of Charlie and Echo taxiways. This alternative also posed a risk of blocking line of sight to look down angle partially blocking taxiways Charlie and Echo.

Figure 3-2. Aerial Image showing the Alternative and Study Area

Source: (Google Earth, 2022)

SECTION | 4 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter provides the documentation of existing environmental resource conditions, or affected environment, at GFK within the potentially affected areas where tower sites are proposed. The environmental consequences for each resource described in the affected environment are analyzed as impacts from each alternative and proposed site.

Some resources identified under FAA Order 1050.1F are not present at GFK or would not be affected by the no action, proposed action, and reasonable alternatives.

The following resources are not included or analyzed in this EA for the reasons listed below:

- Coastal Resources – The sites identified within GFK for the ATCT locations are landlocked and are not adjacent to or near any coastal or inland shorelines, regulated by the National Oceanic and Atmospheric Administration (NOAA) under the Coastal Zone Management Act (CZMA) (16 U.S.C. §§ 1451 et seq.).
- Farmlands – The sites identified within GFK for the proposed ATCT locations are not within prime farmland and would not involve the disturbance, conversion, or removal or any prime farmland.
- Land Use – The sites identified within GFK for the proposed ATCT locations would not require any changes to land use as described in the Airport's master plan (KLJ, 2016).

4.2 AIR QUALITY

Air quality is the measure of the type and quantity of pollutants emitted into and currently exist in the atmosphere, the size and topography of the airshed, and meteorological (weather) conditions. Overall, the concentration of pollutants in the atmosphere forms the basis of air quality in an area. Air quality regulations are founded on concerns that high concentrations of air pollutants can harm human health, particularly for the elderly, children, and people with compromised health conditions, in addition to causing potential damage to the natural (e.g., agricultural lands, vegetation) and built environments (e.g., buildings, infrastructure).

4.2.1 Regulatory Setting

The Clean Air Act (CAA), as amended (42 U.S.C. §§ 7409, 7410, and 7502-7514), requires the establishment of National Ambient Air Quality Standards (NAAQS) for six common air pollutants (carbon monoxide [CO], nitrogen dioxide [NO_2], ozone [O_3], particulate matter [PM], sulfur dioxide [SO_2], and lead [Pb]) (40 CFR Part 50) and designating attainment or nonattainment areas based on those NAAQS within a state. The CAA also requires preparation of State Implementation Plans (SIP) for EPA approval for "nonattainment

areas"[1] (see Section 4.2.2). In addition, the CAA requires compliance with General and Transportation Conformity regulations.[2]

Section 176(c) of the CAA (42 U.S.C. §§ 7571-7574), Determining Conformity of General Federal Actions to State or Federal Implementation Plans (40 CFR Part 93, Subpart B) identifies criteria for determining if a proposed federal action conforms to state (or federal) air quality implementation plans. The FAA is only required to demonstrate general conformity for the proposed airport action/Preferred Alternative.

The CAA established national air quality standards, or NAAQS, for six common air pollutants (CO, NO_2, O_3, PM, SO_2, and Pb) and requires compliance with the NAAQS (40 CFR Part 50). Compliance is when the ambient outdoor levels of the NAAQS air pollutants are safe for human health, public welfare, and environment. These are further divided into primary standards to set limits to protect public health, including sensitive populations (e.g., elderly, children, asthmatics), and secondary standards to establish limits to protect from visibility issues and damage to the natural (e.g., animals, agricultural crops, vegetation) and built environments (e.g., physical structures) (USEPA, 2022a).

A variety of sources generate air pollution emissions:

- Carbon dioxide is generated by motor vehicles and from wood burning activities.
- Nitrogen dioxide is a product of combustion; observed as a brown haze.
- Ozone is formed when organic gases react with NO_2.
- Smoke includes particulate matter.
- Fossil fuel burning results in SO_2.

Compliance with the NAAQS provides a method to enforce air quality standards by establishing measurable maximum allowable amounts. Table 4-1 identifies the primary and secondary NAAQS for the six criteria pollutants.

Table 4-1. National Ambient Air Quality Standards from USEPA's Nonattainment Areas for Criteria Pollutants (Green Book)

Pollutant	Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)	primary	8 hours	9 parts per million (ppm)	not to be exceeded more than once per year
Carbon Monoxide (CO)	primary	1 hour	35 ppm	not to be exceeded more than once per year

[1] The USEPA designates areas as "attainment" when meeting NAAQS or "nonattainment" when not meeting NAAQS after collecting monitoring data.

[2] The Transportation Conformity Regulations apply to highways and mass transit and establish the criteria and procedures for determining whether transportation plans, programs, and projects funded under title 23 U.S.C. or the Federal Transit Act conform with the SIP (EPA, 2022i).

Pollutant	Primary/ Secondary	Averaging Time	Level	Form
Lead (Pb)	primary and secondary	Rolling 3-month average	0.15 microgram (µg)/meter (m)^3 (1)	not to be exceeded
Nitrogen Dioxide (NO_2)	primary	1 hour	100 parts per billion (ppb)	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
Nitrogen Dioxide (NO_2)	primary and secondary	1 year	53 ppb (2)	annual mean
Ozone (O_3)	primary and secondary	8 hours	0.070 ppm (3)	annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particulate Matter (PM) - $PM_{2.5}$	primary	1 year	12.0 µg/m^3	annual mean, averaged over 3 years
Particle Pollution (PM) – $PM_{2.5}$	secondary	1 year	15.0 µg/m^3	annual mean, averaged over 3 years
Particle Pollution (PM) – $PM_{2.5}$	primary and secondary	24 hours	35.0 µg/m^3	98th percentile, averaged over 3 years
Particulate Matter (PM) - PM_{10}	primary and secondary	24 hours	150 µg/m^3	not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO_2)	primary	1 hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
Sulfur Dioxide (SO_2)	secondary	3 hours	0.5 ppm	not to be exceeded more than once per year

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

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

(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O_3 standards are not revoked and remain in effect for designated areas. Additionally, some areas may have certain continuing implementation obligations under the prior revoked 1-hour (1979) and 8-hour (1997) O_3 standards.

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

Source: (USEPA, 2022a)

Under the CAA, when an area does not meet the NAAQS for a criteria pollutant, it may be subject to a formal rulemaking that designates it as a "nonattainment" area categorized based on the severity of their NAAQS exceedance from marginal, moderate, serious, severe, to extreme (USEPA, 2022a). Attainment status can be described in one of four ways and determines whether air pollution control measures are required and for which criteria air pollutants an area may be in attainment for some pollutants and in nonattainment for others (40 CFR Part 81).

The four attainment classifications are:

- Attainment: Area meets the NAAQS (primary or secondary) for the pollutant.
- Nonattainment: Area that does not meet (or that contributes to a nearby area that does not meet) the NAAQS (primary or secondary) for the pollutant.
- Maintenance: Area that once violated the NAAQS (previous nonattainment areas) but currently achieves the NAAQS.
- Unclassifiable: Area that cannot be classified based on available information for the pollutant (40 CFR Part 81).

The CAA requires preparation of State Implementation Plans (SIPs) for EPA approval for "nonattainment areas." A SIP includes those regulations and documents used by a state, territory, or local air district to implement, maintain, and enforce NAAQS (or for a Tribe a Tribal Implementation Plan (TIP)). A SIP or TIP typically includes control measures (statutes, regulations, or source-specific requirements) adopted by the state, non-regulatory components submitted by the state, or other requirements identified by the EPA to meet Section 110 or Part D of the CAA (EPA, 2022b).

In addition to the NAAQS, air quality can be impacted by hazardous air pollutants (HAP). These are chemicals that might not be as widespread but are potentially more toxic (e.g., benzene, mercury). The 1990 CAA Amendments identified a list of 188 chemicals and compounds considered as HAPs. A list of regulated HAPs can be found on the U.S. Environmental Protection Agency's (USEPA) Air Toxics website at: http://www.epa.gov/ttn/atw/orig189.html.

Under 72 Federal Register 145, Federal Presumed to Conform Actions Under General Conformity, the FAA identified a list of actions presumed to conform to an applicable SIP for the criteria pollutants and their precursors as identified under 40 CFR Part 93.153(b)(1) and (b)(2) and in the NAAQS. With this Rule, under existing exemptions, Routine Installation and Operation of Navigation Aids, the in-kind replacement of navigational aids, such as ATCTs, are "presumed to conform because these activities would not generate emissions that exceed *de minimis* levels" (Federal Register, 2007).

4.2.2 Affected Environment

Grand Forks International Airport (GFK) is in a designated attainment area for all criteria pollutants per NAAQS according to the EPA (USEPA, 2023a). North Dakota Ambient Air Quality Standards are not more stringent than that of federal standards making GFK in

attainment for state standards (North Dakota Department of Environmental Quality, 2020). The North Dakota Department of Environmental Quality (NDDEQ) monitors ambient air quality at 11 sites in North Dakota. The nearest monitoring site to GFK is located approximately 75 miles south-southeast in Fargo, North Dakota. This monitoring site reported no NAAQS exceedances in its 2023 Annual Report for 2022 air quality data (NDDEQ, 2023).

Wind data for Grand Forks from 1930 to 1996 shows winds consistently originating from the north at about 9 to 10 miles per hour (mph) (NOAA National Climatic Data Center, 1998). Wind rose data collected from 1991 to 2012 shows winds predominately originating from the north-northwest in the winter and spring (November to May) and shifting to the west-northwest in the summer and early fall (June to October) (North Dakota State University - North Dakota State Climate Office, 2015). Wind speed averaged approximately 10.25 mph from 1996 to 2014 (North Dakota State University, 2016).

GFK is located on the western edge of the Red River Valley at approximately 840 ft above sea level (ASL) (North Dakota Game and Fish, 2019). Elevation to the north of GFK is fairly consistent, varying only 5 to 20 ft to the Canadian border, and elevations rise slightly to the south, ranging upward to over 1,000 ft ASL, with an elevation of about 960 ft 50 miles due south. Land to the west is slightly higher in elevation about 1,500 ft at a point approximately 50 miles due west of GFK, with relatively flat topology containing some glaciated undulations (Google LLC, 2023b) (North Dakota Game and Fish, 2019). The land to the east slopes downward approximately 60 ft towards the Red River, where the elevation then begins to rise to approximately 1,100 ft ASL 50 miles to the east (Google LLC, 2023b). Based on the wind direction, low variability of terrain surrounding GFK, and no exceedances of measured air quality pollutants, GFK's air quality exceedances are unlikely (NDDEQ, 2023).

4.2.3 Environmental Consequences

As noted in the FAA Order 1050.1F Desk Reference, the FAA has established a significance threshold for air quality (FAA, 2020a).

- No Impact: Impacts to air quality would not occur as a result of the Proposed Action.
- Significant Impact: The FAA identified the significance threshold as pollutant concentrations to exceed one or more of the NAAQS (Table 4-1) "for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations" (FAA, 2015).

4.2.3.1 Site 2B (Preferred Alternative)

Demolition of the existing ATCT and construction of the Preferred Alternative replacement ATCT is unlikely to result in an exceedance of air quality standards or in more than a temporary *de minimis* increase in emissions. The demolition and construction of the replacement ATCT is presumed to conform under the CAA. A new outdoor electric generator would be installed to replace the less efficient older existing generator. This would result in a long-term reduction in emissions from reduced energy use in the new ATCT. Following the CAA, the FAA identified the in-kind replacement of an ATCT as "presumed to conform

because these activities would not generate emissions that exceed *de minimis* levels." Emissions generated by heavy construction equipment used to transport workers and equipment to the project sites are negligible given the temporary nature of these activities and the limited number of vehicles involved (Federal Register, 2007).

Emissions would not be expected to exceed criteria air pollutants as defined in Table 4-1. It is anticipated that air quality impacts resulting from construction-related activities under the Preferred Alternative would be short-term and temporary[3] in nature. Demolition of the existing ATCT and construction of a new ATCT is unlikely to result in an exceedance of air quality standards, regulated release of HAPs, or in more than a *de minimis* increase in emissions and are presumed to conform with the CAA. Additional emissions resulting from the construction of roadway extensions are not anticipated; the new ATCT site location is accessible via existing access roads. Any utility relocations required for the construction of the new ATCT would be minor, as the ATCT and associated utilities are located less than 500-feet southwest of the current ATCT. The construction of the proposed ATCT would not increase the previously forecasted number of future operations, therefore no additional aircraft-related emissions at GFK would be anticipated. No significant impacts to air quality are anticipated to occur under Site 2B (Preferred Alternative).

4.2.3.2 No Action Alternative

Under the No Action Alternative, the current ATCT would not be removed and replaced, and activities associated with the ATCT would remain the same. No impacts to existing air quality conditions or emissions would occur.

4.2.4 Mitigation

Construction-related emissions for air quality can be reduced or mitigated using best management practices (BMP). The following actions include examples of mitigation measures to help reduce or offset emissions:

- Dust control BMPs can include, but are not limited to, spraying water to minimize dust, limiting the area of uncovered soil to the minimum needed for each activity, proper siting of staging areas to minimize fugitive dust, placement of mulch or a temporary gravel cover, using a soil stabilizer (or chemical dust suppressor), limiting the number and speed of construction vehicles at the site, and adding covers to trucks hauling dirt on or off the site.
- Revegetation of sites immediately following ground disturbance.
- Emission BMPs for construction vehicles and equipment can include, but are not limited to, limiting vehicle idling times, usage of low or ultra-low sulfur fuel and biodiesel, conducting proper vehicle engine maintenance, and using electric instead of gas-powered tools.

[3] Short-term and temporary refers to the duration of the construction period of the project.

- Source locally available products and materials to reduce transportation-related emissions to the site.

4.3 BIOLOGICAL RESOURCES (INCLUDING FISH, WILDLIFE, AND PLANTS)

Biological resources are the singular or collective living things inhabiting the Earth, which include native plants, animals, and their habitats. Protected and sensitive biological resources include federally listed (endangered[4] or threatened[5]), proposed,[6] and candidate[7] species designated by the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), or a State. Sensitive habitats described in this section include those areas designated by the USFWS as critical habitat[8] protected by the Endangered Species Act of 1973 (ESA; 16 U.S.C. Chapter 35 § 1531 et seq.) and sensitive ecological areas as designated by state or federal rulings. Sensitive habitats also include wetlands, plant communities that are unusual or of limited distribution, and important seasonal use areas for wildlife (e.g., migration routes, breeding areas, and crucial summer and winter habitats).

4.3.1 Regulatory Setting

The Endangered Species Act (ESA) (16 U.S.C. §§ 1531-1544) requires federal agencies to conserve endangered species by listing endangered and threatened species of plants and animals and designating critical habitats for animal species. The ESA defines an endangered species as "any species which is in danger of extinction throughout all or a significant portion of its range" and a threatened species as "any species which is likely to become an endangered species within the foreseeable future." Section 7 of the ESA requires federal agencies, in consultation with USFWS and/or NMFS, to ensure their actions are not likely to jeopardize the continued existence of any endangered or threatened species or to result in the destruction or adverse modification of critical habitat. The ESA defines critical habitat as specific geographic areas that are essential for the conservation of a threatened or

[4] Endangered species are "any species which is in danger of extinction throughout all or a significant portion of its range" (ESA, Section 3(6))

[5] Threatened species are "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range" (ESA, Section 3(20))

[6] Proposed species are "any species of fish, wildlife, or plant that is proposed in the Federal Register to be listed under Section 4" of the ESA (EA, Section 402.02). USFWS and NMFS issue a rulemaking to propose an ESA species for listing or delisting to allow for public comment.

[7] Candidate species are any species whose status is under review "to determine whether it warrants listing under the ESA" (ESA, Section 4)

[8] Critical habitat refers to "(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species." (ESA, Section 3(5)(A))

endangered species and that may require special management and protection (USFWS, 2007).

Executive Order (EO) 13112, Invasive Species, as amended EO 13751, directs federal agencies whose actions may affect the status of invasive species to use relevant programs and authorities, to the extent practicable and subject to available resources, to prevent the introduction of invasive species, and to provide for the restoration of native species and habitat conditions in ecosystems that have been invaded. Agencies are directed not to conduct actions that they believe are likely to cause or promote the introduction or spread of invasive species unless the benefits of such actions clearly outweigh the potential harm, and all feasible and prudent measures to minimize risk of harm are taken. An invasive species is defined by the order as a non-native (regarding a particular ecosystem) organism whose introduction causes or is likely to cause economic or environmental harm, or harm to human, animal, or plant health.

The Migratory Bird Treaty Act of 1918 (MBTA) (16 U.S.C. §§ 703-711; see 50 CFR Part 10 for implementing regulations) prohibits actions of taking, selling, or conducting other activities that would harm migratory birds, their eggs, or nests (such as removal of an active nest or nest tree). If it is determined there are no feasible alternatives to taking the migratory bird or its nest, USFWS and the Secretary of Interior must issue a permit for the taking and would likely require mitigation.

EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds, directs federal agencies to further implement and strengthen the Migratory Bird Treaty Act. Specifically, federal agency actions that have, or are likely to have, a measurable negative effect on migratory bird populations require development and implementation of a Memorandum of Understanding (MOU) with USFWS that promotes the conservation of migratory bird populations. The EO and MOUs are the regulatory basis for conservation actions or renewal of contracts, permits, delegations, or other third-party agreements associated with migratory birds. MOUs established under EO 13186 are published in the Federal Register.

In addition to the federal laws and EOs protecting biological resources, state regulations applicable to biological resources (e.g., state-listed species or habitats) would be addressed.

4.3.2 Affected Environment

4.3.2.1 Vegetation

The GFK airport is located in the Red River Valley within the Lake Agassiz Plain ecoregion along the eastern boarder of the state. This area was once a glacial lakebed comprised of clay deposits silt, and glacial deposits with tallgrass prairie species prevalent; however, most of the area's vegetation has been replaced by agriculture. (EPA, 2022c; Dyke, Johnson, & Isakson, 2015)

The proposed ATCT site is located centrally on the GFK property and surrounded by existing buildings, hangars, and runways. The preferred alternative at Site 2A is located on a mowed grassy area that was previously a paved parking lot. The current ATCT site has landscaping

surrounding the structures, consisting of ornamental shrubs, ash trees (*Fraxinus sp*.), and lawns. The airport grounds are consistently mowed within and outside of the study area shown in Figure 3-2.

4.3.2.2 Wildlife and Fish

Due to the proposed ATCT site being located within an active airport on previously disturbed areas, native and natural habitat for wildlife species is not present. The study area contains lower elevation sites and small drainage ditches that seasonally convey water. These small ditches could provide limited habitat for waterfowl, aquatic insects, and amphibians; however, the proposed ATCT site does not contain these areas. Due to the ditches' limited habitat suitability and location within an active airport, the habitat value is low. Common wildlife species that may use mowed habitat, areas of standing water, or adjacent agricultural land within the airport include American Robin, Mallard, white-tailed deer, coyote, red fox, and small rodents. (North Dakota Game and Fish Department, 2023; North Dakota Game and Fish Department, 2016)

Much of the landscape surrounding GFK outside of the study area is agricultural fields, with seasonal wetlands, and a nearby wastewater treatment plant, making the area surrounding GFK desirable habitat for many bird species. The prevalence of bird species increases the danger of bird strikes with aircraft. When there is a risk of bird or other wildlife strike and because of GFK's status as a commercial service airport, GFK is obligated to comply with the wildlife hazard management requirements, standards, and recommendations made by the FAA in Advisory Circulars and other regulations to maintain a safe operating environment. GFK has a wildlife hazardous management plan in place to mitigate and prevent the risk of bird and wildlife strikes on or near the airport. (Mead and Hunt; Kadramas, Lee, and Jackson, 2006; FAA, 2021)

4.3.2.3 Special Status Species

The USFWS lists five protected species that are known or believed to occur in Grand Forks County, where GFK is located, shown in Table 4-2. Appendix A contains the USFWS federally listed species report for Grand Forks County.

Table 4-2. Federally Listed Species in Grand Forks County

Listing Status	Group	Common Name	Scientific Name
Endangered	Mammal	Northern long-eared bat	*Myotis septentrionalis*
Under review	Mammal	Little brown bat	*Myotis lucifugus*
Candidate	Insect	Monarch butterfly	*Danaus plexippus*
Under review	Insect	Regal fritillary	*Speyeria idalia*

Source: (USFWS, 2023b)

The federally listed species are also identified among 36 others as the highest priority (Level I) state species of conservation priority in North Dakota's Wildlife Action Plan, which are in decline or at risk. Within the Red River Valley, 32 total species of birds, mammals, amphibians, reptiles, and insects are listed as species of conservation priority. While many of these species could occur within the airport, reviews of range maps and habitat maps show that a majority of these species are primarily aquatic or use Grand Forks County as secondary habitat. Species that are motile such as birds, mammals, or flying insects could be found within the proposed ATCT site and study area, but due to the disturbed and developed nature of the airport, it is unlikely that desirable habitat is present. (Dyke, Johnson, & Isakson, 2015; North Dakota Game and Fish, n.d.)

A focused search for federally listed species within the airport boundary resulted in a single species, the candidate monarch butterfly (USFWS, 2023c). The list of federally listed species, migratory birds, and critical habitat for the project area within GFK is included in Appendix A.

Adult monarch butterflies feed on the nectar of flowering plants and their larva requires milkweed plants to develop. Monarch butterflies only reproduce where milkweed plants are located (USDA, n.d.). If present, the species could use airport habitat for resting or feeding if flowering plants. The site survey conducted in May 2023 did not identify any milkweed plants. Given the nature of the land at the proposed sites and the high level of development, the available habitat and food sources are limited.

The endangered Northern long-eared bat, although included in the USFWS list of species that may occur within Grand Forks County, was not identified as a species of concern within the airport boundary; however, given the mobility of this species and the little brown bat (under review), these bat species could use trees adjacent to the existing tower for roosting or nesting from April to October.

4.3.2.4 Migratory Birds

The USFWS lists 19 migratory bird species as potentially using the area around GFK (USFWS, 2023d). A biological survey conducted at Grand Forks Air Force Base (GFK AFB) from 2008-2009 identified 118 bird species with 52 being species of concern (AECOM, 2011). These sightings were attributed to seasonal migratory patterns of neotropical birds and waterfowl. Land surrounding GFK includes wetlands and grasslands that are ideal for nesting and stopover locations for migrating species (KLJ, 2021). GFK lies between the Central Flyway and Mississippi Flyway and experiences seasonal visitation of these species (KLJ, 2021).

4.3.2.5 Invasive Species

The state of North Dakota maintains a list of 13 noxious weeds. Grand Forks County includes an additional invasive species. displays all 14 noxious weeds identified for the state and county.

Table 4-3. Noxious Weeds in North Dakota and Grand Forks County

Common Name	Scientific Name
Absinth Wormwood	*Artemisia absinthium*
Canada Thistle	*Cirsium arvense*
Dalmatian Toadflax	*Linaria genistifolia ssp. dalmatica*
Diffuse Knapweed	*Centaurea diffusa*
Houndstongue	*Cynoglossum officinale*
Kochia (County-listed species)	*Kochia scoparia*
Leafy Spurge	*Euphorbia esula*
Musk Thistle	*Carduus nutans*
Palmer Amaranth	*Amaranthus palmeri*
Purple Loosestrife	*Lythrum salicaria, Lythrym virgatum, and all cultivars*
Russian Knapweed	*Centaurea repens*
Saltcedar	*Tamarisk spp.*
Spotted Knapweed	*Centaurea maculosa*
Yellow Toadflax	*Linaria vulgaris*

Source: (North Dakota Department of Agriculture, n.d.; North Dakota Department of Agriculture, 2023)

Vehicles, machinery, wildlife, and natural forces such as by wind or water can spread noxious invasive plants. Areas that are disturbed through construction, by vehicles, or fire may be vulnerable to the introduction and spread of noxious weeds. GFK conducts a noxious weed management and landscape maintenance program, which includes mowing and herbicide application. During the site survey of the proposed tower location, an observation of one thistle species occurred but not affirmatively identified as any of the thistle species in Table 4-3.

4.3.3 Environmental Consequences

The FAA does not have a threshold of significance for non-listed species.

- No Impact: Impacts to biological resources (non-listed species) would not occur as a result of the Proposed Action.

Factors to consider include if the action would have the potential for:

- "A long-term or permanent loss of unlisted plant or wildlife species, i.e., extirpation of the species from a large project area (e.g., a new commercial service airport).
- Adverse impacts to special status species (e.g., state species of concern, species proposed for listing, migratory birds, bald and golden eagles) or their habitats;
- Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or

- Adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality (e.g., road kills and hunting), or ability to sustain the minimum population levels required for population maintenance." (FAA, 2015)

As noted in the FAA Order 1050.1F Desk Reference, the FAA identified the significance threshold for biological resources (including fish, wildlife, and plants) as when the USFWS or NMFS determines that the action would be likely to jeopardize the continued existence of a federally-listed threatened or endangered species, or would result in the destruction or adverse modification of federally-designated critical habitat (FAA, 2020a). Impacts to federally listed threatened and endangered species were evaluated using the terminology defined under the ESA as follows:

- No effect: ESA listed species or designated critical habitat would not be affected, or listed species or designated critical habitats are not present.
- May affect/not likely to adversely affect: Effects on ESA listed species or designated critical habitat are insignificant, discountable,[9] or beneficial. During consultation, USFWS or NMFS would provide written concurrence of a "not likely to adversely affect" determination.
- May affect/likely to adversely affect: An adverse effect to an ESA listed species or designated critical habitat may occur as a result of implementing the Proposed Action or its interrelated or independent actions, and the effect is not discountable, insignificant, or beneficial. If a Proposed Action is "likely to adversely affect," the federal agency initiates a formal Section 7 consultation and may also require the preparation of an EIS.
- Likely to jeopardize proposed species/adversely modify proposed critical habitat: Projects that could jeopardize a proposed species or adversely modify critical habitat to a species require a conference with USFWS or NMFS, and the preparation of an EIS may also be required.

4.3.3.1 Site 2B (Preferred Alternative)

Site 2B (Preferred Alternative) would involve construction on a previously disturbed portion of the GFK property. No critical habitat exists at this location and construction activities are not likely to impact native vegetation, wildlife and fish, migratory birds, or special status species. Therefore, the effect determination under the ESA would be 'No effect.' The increase of human foot traffic, vehicles, and heavy equipment during construction and demolition could introduce noxious weeds and invasive, non-native plant species within and surrounding the construction and demolition sites. This could lead to the introduction or spread of noxious weeds into the construction and demolition sites and to surrounding habitat, degrading nearby native vegetation and food sources for wildlife species. Site 2B is within a developed area with existing exterior lighting. Although the new tower cab will be

[9] Extremely unlikely to occur and not able to be meaningfully measured, detected, or evaluated

taller than the existing tower, exterior lighting is unlikely to result in any new effects on wildlife species.

4.3.3.2 No Action Alternative

Under the No Action Alternative, the current ATCT would not be replaced or removed, and activities associated with the ATCT would remain the same. Under the No Action Alternative, no impacts to vegetation, wildlife, habitat, or invasive species would occur.

4.3.4 Mitigation

Mitigation and BMPs that would help preclude impacts to biological resources may be implemented. Examples of BMPs include those that would prevent or reduce habitat loss, disturbance of wildlife species, and erosion and runoff to habitat and water bodies. Adherence to state guidelines to reduce threats to local fauna could offset potential impacts from introducing or spreading noxious weeds.

4.4 CLIMATE

Climate change is caused by the emission of greenhouse gases (GHG) such as CO_2, methane, nitrous oxide, and other aerosols from human activity and the burning of fossil fuels (EPA, 2022d). GHGs trap heat in the Earth's atmosphere, which results in an increase of average global temperature causing weather changes (EPA, 2022d). Under NEPA, a federal action needs to access the impacts of their project to climate change and the potential impacts that may result from climate change.

4.4.1 Regulatory Setting

The Council on Environmental Quality (CEQ) released a notice of interim guidance effective immediately on January 1, 2023. CEQ issued this guidance to assist federal agencies in their consideration of the effects of GHG emissions and climate change when evaluating proposed major federal actions in accordance with NEPA and to improve the efficiency and consistency of reviews of proposed federal actions for agencies, decision makers, project proponents, and the public. This guidance provides federal agencies a common approach while recognizing each of their unique circumstances (CEQ, 2023).

The CAA requires establishing NAAQS for six common air pollutants (CO, NO_2, O3, PM, SO_2, and Pb) and designating attainment or nonattainment areas based on those NAAQS within a state (see Section 4.1.1). The CAA also requires preparation of SIPs for EPA approval for "nonattainment areas." In addition, the CAA requires compliance with General and Transportation Conformity rules.

EO 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, directs federal agencies to immediately review and take action to address the promulgation of recent federal regulations to improve public health and protect our environment; to ensure access to clean air and water; to limit exposure to dangerous chemicals and pesticides; to hold polluters accountable, including those who disproportionately harm communities of color and low-income communities; to reduce

greenhouse gas emissions; to bolster resilience to the impacts of climate change; to restore and expand our national treasures and monuments; and to prioritize both environmental justice and the creation of the well-paying union jobs necessary to commence work to confront the climate crisis.

4.4.2 Affected Environment

Small shifts in average temperature causes shifts in climate and weather, which has a wide range of environmental impacts (NASA, 2023). Impacts of climate change include increased frequency and severity of extreme weather events, changes in precipitation patterns, sea level rise, and ocean acidification (EPA, 2022d). The average surface temperature in the continental U.S. "has risen at an average rate of 0.17 °F per decade, although temperatures have risen more quickly since the late 1970s" (EPA, 2022e).

Figure 4-1 shows the rate of temperature change between 1901 and 2021, with the Grand Forks area of North Dakota experiencing a rate of change of 2.0-2.5 °F per century. This rate of temperature change shows North Dakota's sensitivity to climate change compared to other states. North Dakota's climate is expected to see increased precipitation in the future with colder winters and warmer summers (USEPA, 2016). The study area (see Figure 3-2) is located geographically within Grand Forks County and will withstand general effects of climate change such as flooding, due to GFK's distance from the Red River.

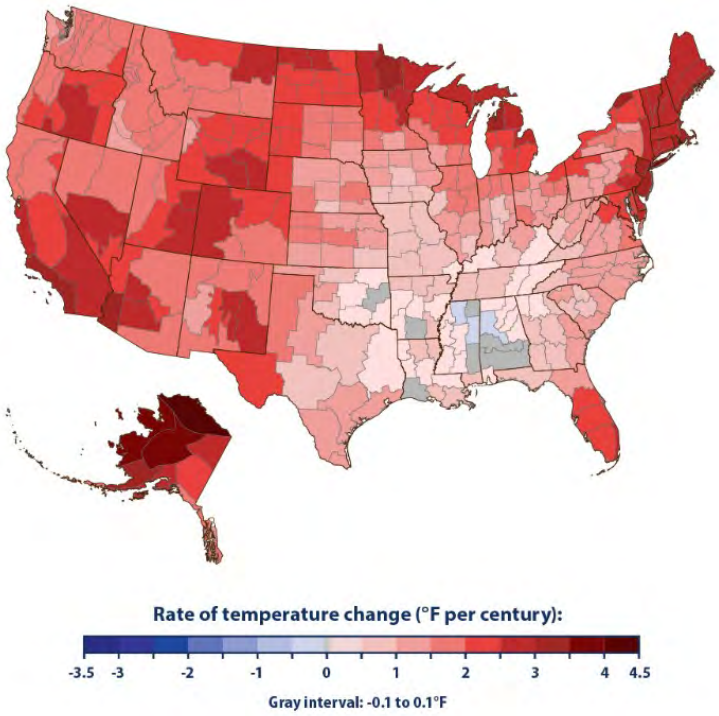

Figure 4-1. Rate of Temperature Change in the U.S.

Source: (EPA, 2022e)

4.4.3 Environmental Consequences

The FAA has not established a significance threshold for climate (FAA, 2015).

- No Impact: Impacts to climate would not occur as a result of the Proposed Action.

As noted in the FAA Order 1050.1F Desk Reference, "there are no significance thresholds for aviation or commercial space launch GHG emissions, nor has the FAA identified specific factors to consider in making a significance determination for GHG emissions. There are currently no accepted methods of determining significance applicable to aviation or commercial space launch projects given the small percentage of emissions they contribute" (FAA, 2020a). The CEQ's interim guidance identifies an approach for assessing projected GHG emissions (CEQ, 2023). Given the ongoing scientific research being undertaken to improve the understanding of climate change, FAA's guidance notes that significance determination criteria "will evolve as the science matures or if new Federal requirements are established" (FAA, 2020a).

4.4.3.1 Site 2B (Preferred Alternative)

The Preferred Alternative would involve a temporary increase in GHG emissions from burning fossil fuels during construction activities. Over the long term, reduced energy use from an efficient ATCT design would result in fewer CO_2 emissions, leading to fewer impacts to climate change. The proposed ATCT within the study area (see Figure 3-2) is not expected to increase the currently forecasted amount of airport operations at GFK, therefore no net increase in aircraft emissions would be anticipated with the construction of the proposed ATCT. The proposed ATCT would involve the temporary generation of GHGs associated with construction activities. Long-term climate impact would decrease due to the higher efficiency of the proposed ATCT.

4.4.3.2 No Action Alternative

Under the No Action Alternative, the current ATCT would not be replaced or removed, and activities associated with the ATCT would remain the same. The No Action Alternative would not change existing ATCT emissions at GFK or emit additional GHGs. The No Action Alternative would not impact the existing climate surrounding GFK or the production climate-impacting substances. Benefits would not be realized from the operation of a more efficient ATCT, such as reductions in energy and resources usage and the resultant decreases in GHG emissions.

4.4.4 Mitigation

The following list includes examples of mitigation measures that could prevent or reduce impacts to the climate:

- Use energy efficient equipment.
- Use of materials and products free from chemicals known to pose health risks.
- Use of renewable mass timber when usable.

4.5 DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(F)

Section 4(f) of the U.S. Department of Transportation (DOT) Act of 1966 (codified in 49 U.S.C. § 303 and 23 U.S.C. § 138) applies to projects that receive funding from or require approval by agencies within the DOT and provides for the consideration of the certain properties of national, state, and/or local significance during transportation project development, such as:

- Publicly owned parks. This includes publicly owned land, open to the public, used as a public park.
- Recreational areas. This includes publicly owned land, open to the public, used as a recreational area, such as a baseball complex, tennis court, or other recreational facility.
- Wildlife and waterfowl refuges. This includes publicly owned land, open to the public, used as a wildlife and waterfowl refuge.
- Public and private historic sites. This includes publicly or privately owned land of an historic site listed or eligible for listing on the National Register of Historic Places (NRHP) and considered a historic property under the National Historic Preservation Act of 1966 (NHPA) (P.L. 89–665, as amended by P.L. 96-515, 54 U.S.C. § 300101 et seq.) and its implementing regulations (36 CFR Part 800).

Before approving a transportation project requiring the use of these properties, the DOT agency must determine that there is no feasible and prudent alternative to using that land and the project includes all possible planning to minimize harm resulting from the use (FAA, 2020a).

4.5.1 Regulatory Setting

Section 4(f) of the U.S. Department of Transportation Act of 1966 (codified in 49 U.S.C. § 303 and 23 U.S.C. § 138) and its implementing regulations (23 CFR Part 774) provides for the consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development (FHWA, n.d.(a)). In 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Section 6009, amended Section 4(f) to simplify the process and approval of projects having only de minimis impacts (or no adverse effects) of 4(f) properties (FHWA, n.d. (b)). Procedures for Section 4(f) compliance are in DOT Order 5610.1C (DOT, n.d.).

Under Section 4(f), the DOT agency is responsible for consulting with the relevant agencies and officials with jurisdiction over the Section 4(f) properties. When a draft Section 4(f) evaluation is prepared, it must be provided to the officials with jurisdiction over Section 4(f) properties, the Department of Interior (DOI), and other agencies, as appropriate, for a minimum 45-day review period. Section 4(f) evaluations and determinations must reflect consultation with these parties. The DOT agency must document evidence of concurrence or efforts to obtain concurrence of federal, state, or local officials having jurisdiction over Section 4(f) properties regarding the project's use plans to minimize harm of the Section 4(f) property (FAA, 2020a).

Section 4(f) intersects with the NHPA. Both Section 4(f) and NHPA's Section 106 mandate the consideration of historic properties, or historic sites listed on or eligible for listing on the NRHP. Coordination between the Section 106 process and Section 4(f) evaluation is effective for project-level NEPA documentation since the Section 106 process identifies, evaluates, and determines impacts on historic properties within a project area. Section 106 findings can also support Section 4(f) determinations for historic sites.

4.5.2 Affected Environment

In accordance with applicable federal laws and regulations, the FAA evaluated the proposed alternatives for Section 4(f) properties. In general, actions having the potential to affect Section 4(f) properties involve a physical or constructive use of such properties. A physical use can include temporary occupancy for construction-related activities; physical occupation of the property; alteration of structures or facilities on the property; or a physical taking, such as purchase or a permanent easement of the property (FAA, 2020a). A constructive use involves the project's proximity significantly impacting a Section 4(f) property so the attributes that qualify the property for protection are substantially impaired; this can include the effects of noise, vibration, access restrictions, visual impacts, and ecological intrusions (FHWA, n.d.(a)).

There are no Section 4(f) properties within or adjacent to the study area (shown in Figure 3-2). The closest wildlife refuge, the Kelly's Slough National Wildlife Refuge, is located about four miles east of the airport study area, as shown in Figure 4-2. Nearby public parks or recreation areas are four miles west of the airport within the city of Grand Forks' boundaries (Google, 2023).

The existing Grand Forks ATCT is a Leo Daly/HNTB Low Activity Level standard design that was first implemented in the 1980s (FAA, 2020b). The name references creators of the ATCT design, the architecture firm Leo Daly and Associates and engineering firm HNTB. The FAA used this design type to build ATCTs through the 1990s and into the 2000s. Commissioned in 1987, the existing Grand Forks ATCT is less than 50 years of age and not a property achieving significance within the past 50 years of exceptional importance under Criterion G for NRHP eligibility (NPS, 1997). The Grand Forks ATCT does not qualify as a historic property under the NHPA.

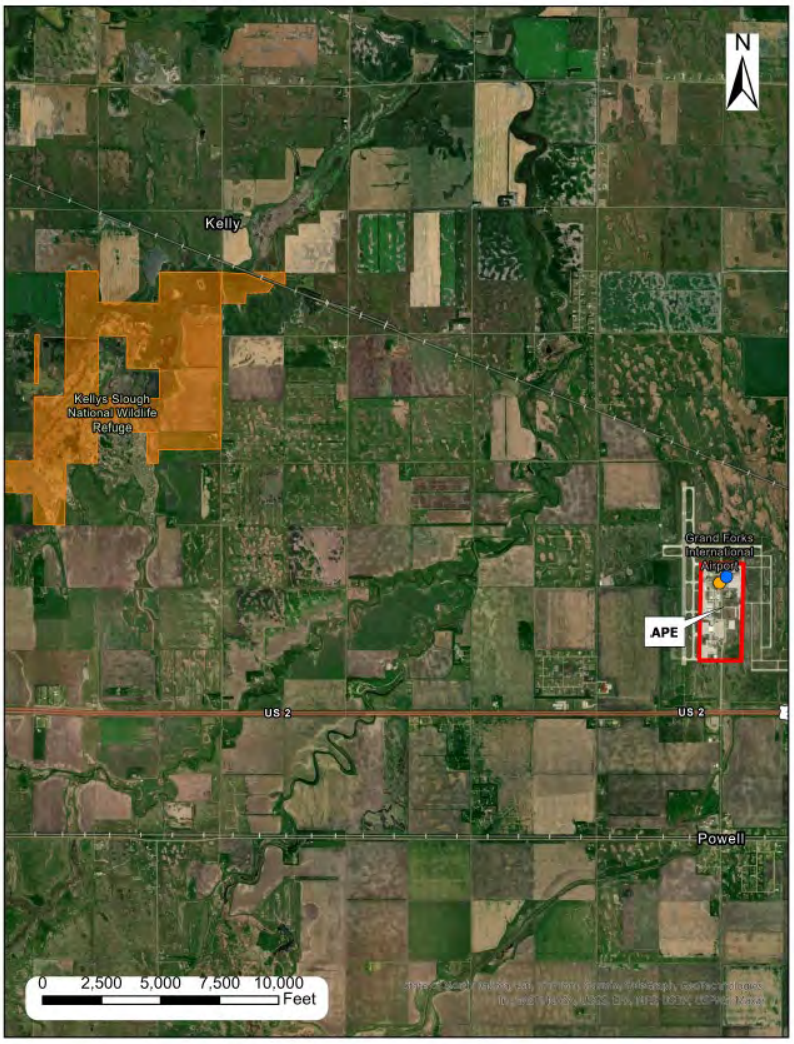

Figure 4-2. Proximity of APE and Kelly's Slough National Wildlife Refuge

Source: (Google, 2023)

Based on the 2020 Final Environmental Assessment, Runway 9L/27R Expansion Project and associated Class III Cultural Resources Inventory and Tribal review for the project's study area (which included all of and extended beyond the airport property [Figure 4-3]), no historic properties are within or near the project area. The study updated one previously recorded site, 32GF3553; the site is the location of the former airport terminal, which was razed to develop an airport facility building. Site 32GF3553 is neither listed or eligible for the NRHP and recorded as demolished with no recommendations for further work. Another site, 32GF3815, is also previously recorded as a sparse scatter of historic artifacts and was recommended as not eligible for the NRHP. No other cultural or historic resources were encountered during the survey. Based on this inventory, the State Historic Preservation Office (SHPO) concurred with a "No Historic Properties Affected" determination for the runway site on April 2, 2020 (KLJ, 2021). Also, according to the NRHP Database, there are no historic properties listed on the NRHP within five miles of Grand Forks airport (NPS, 2020). Therefore, no historic properties are known within or near the project area.

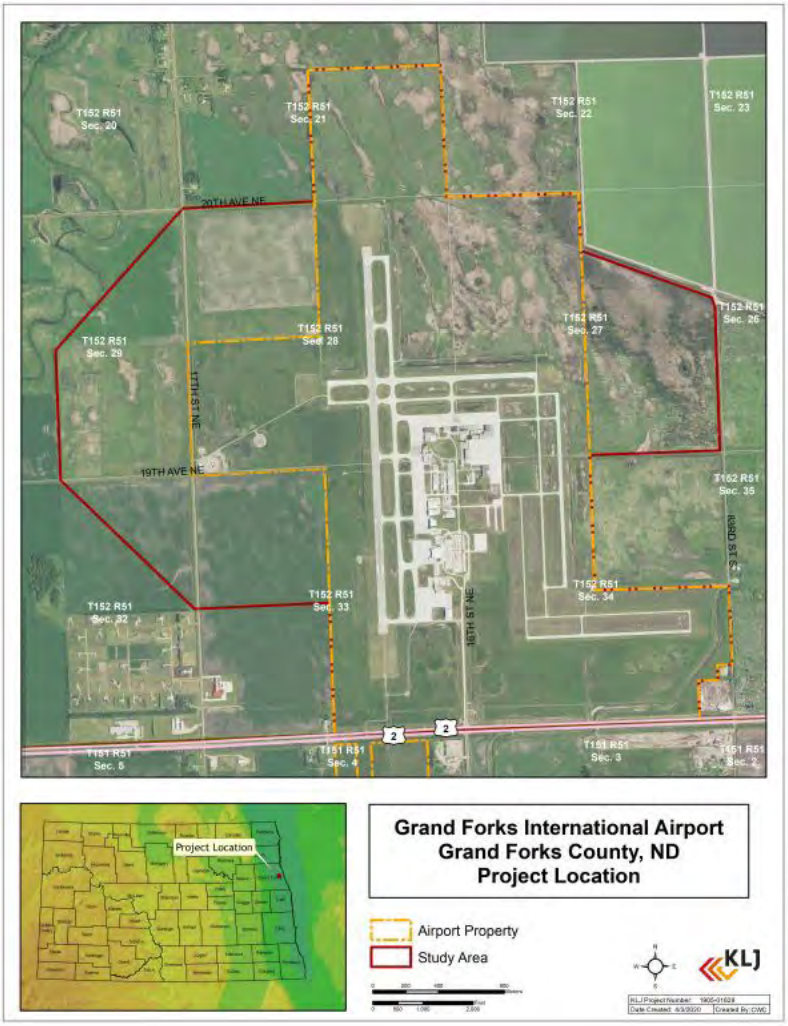

Figure 4-3. Class III Cultural Resources Inventory and Tribal Review from the Runway 9L/27R Expansion Project Final EA

Source: (KLJ, 2021)

4.5.3 Environmental Consequences

Impacts to Section 4(f) properties were evaluated using the following criteria:

- No Impact: Impacts to any Section 4(f) properties would not occur, or such conditions are not present.
- No Significant Impact: Impacts (after considering measures to minimize harm to the property) would be minor, not be a constructive use of a Section 4(f) property, and not adversely affect the activities, features, and attributes that qualify a property for protection under Section 4(f).
- Significant Impact: Impacts would result in a constructive use and/or more than a minor physical use of a Section 4(f) property.

This requires a written Section 4(f) evaluation that explains the need for the project, discusses available feasible and prudent alternatives to the use of the property, and determines if there is a feasible and prudent alternative to avoid use of the property. A feasible and prudent alternative avoids use of the property without creating greater problems that outweigh the importance of protecting the Section 4(f) property (23 CFR Part 774.17). If there is a feasible and prudent alternative, it must be selected. If there is no feasible and prudent alternative to avoid use of the property, the evaluation must include all possible planning to minimize harm to the Section 4(f) property, and the alternative with the least overall harm to the property must be selected (FHWA, n.d.(a)). In evaluating measures to minimize harm, the FAA must consider the views of the officials having jurisdiction over the property, the preservation purpose of Section 4(f), and the reasonableness of the measures, including their costs and benefits (FAA, 2020a). The draft Section 4(f) evaluation is usually made available to the officials with jurisdiction over the property, the Department of Interior, and other agency officials, as appropriate, for a 45-day review period.

4.5.3.1 No Action Alternative

Under the No Action Alternative, the current ATCT would not be replaced or removed, and activities associated with the ATCT would remain the same. The No Action Alternative would not impact Section 4(f) resources.

4.5.3.2 Site 2B (Preferred Alternative)

There are no Section 4(f) properties within the study area. The nearest eligible Section 4(f) property, the Kelly's Slough National Wildlife Refuge, is located about four miles east of the airport. The Refuge's distance from GFK removes the area from 4(f) consideration, and it would not sustain any visual effects or other impacts. Therefore, the preferred Site 2B alternative would not impact or result in a use of Section 4(f) resources.

4.5.4 Mitigation

Because no Section 4(f) properties would be impacted by the project, Section 4(f) does not apply and there would be no need to mitigate for Section 4(f) properties for any of the project alternatives.

4.6 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

Hazardous materials are considered any substance or material that has been determined to be capable of posing unreasonable health, safety, or property risk (USEPA, 2022f). The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) defines hazardous characteristics as toxicity, ignitability, corrosivity, or reactivity. The EPA regulates hazardous chemicals, substances, and wastes under CERCLA, Superfund Amendments Reauthorization Act, Resource Conservation and Recovery Act. and Toxic Substances Control Act. These regulations provide uniform requirements for the generation, transportation,

treatment, and disposal of hazardous materials and hazardous waste as well as the operation and maintenance of underground and aboveground storage tanks.

A hazardous material is "any substance or material that has been determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce" (FAA, 2020a). Hazardous materials include hazardous wastes and hazardous substances, in addition to petroleum and natural gas substances and materials per 49 CFR § 172.101. The RCRA implementing regulations define a solid waste "as any discarded material that meets specific regulatory requirements, and can include such items as refuse and scrap metal, spent materials, chemical by-products, and sludge from industrial and municipal wastewater and water treatment plants" (FAA, 2020a).

4.6.1 Regulatory Setting

The Resource Conservation and Recovery Act (RCRA) (42 U.S.C. §§ 6901-6992k) amended the Solid Waste Disposal Act to establish guidelines for hazardous waste and non-hazardous solid waste management activities in the U.S. RCRA also gives the USEPA the authority to regulate the generation, storage, treatment, and disposal of waste as well as address environmental problems that could result from underground storage tanks storing hazardous substances (40 CFR Parts 240-299). The RCRA database is updated regularly with relevant information regarding hazardous and solid waste compliance, and violation notices.

The Toxic Substances Control Act (TSCA) (15 U.S.C. §§ 2601-2697), as amended by the Lautenberg Chemical Safety Act (Pub. Law 114–182), provides the USEPA with the authority to regulate the production, importation, use, and disposal of chemicals defined as toxic, including lead, radon, asbestos, and polychlorinated biphenyls (PCB), that have the potential to cause unreasonable risk of injury to public health or the environment (40 CFR Parts 745, 761, and 763). This Act also mandates the USEPA to execute risk-based chemical assessments with clear and enforceable deadlines.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments Re-authorization Act of 1986 and the Community Environmental Response Facilitation Act of 1992 (42 U.S.C. §§ 9601-9675) establishes joint and several liabilities for those parties responsible for hazardous substance releases to pay cleanup costs and establishes a trust fund to finance cleanup costs in situations in which no responsible party could be identified. Enables the creation of the NPL, a list of sites with known releases or threatened releases of hazardous substances in the United States and its territories, used to guide the USEPA in determining which sites warrant further investigation. As conditions of a sale, release, or transfer of federal lands or facilities used to store hazardous materials or where a release or disposal of hazardous materials has occurred, federal agencies must: identify those lands or facilities, and complete waste or contaminate clean-up of these lands or facilities (40 CFR Parts 300, 311, 355, 370, and 373).

The Solid Waste Disposal Act, as amended by the Federal Facilities Compliance Act (42 U.S.C. § 6961), waives any immunity otherwise applicable to federal agencies for substantive or procedural requirement in connection with a federal, state, interstate, or local solid waste or hazardous waste regulatory programs (40 CFR Part 22).

4.6.2 Affected Environment

The Grand Forks airport (study area shown in Figure 3-2) is following federal, state, and local rules and regulations regarding the use, generation, and storage of all chemicals and materials on the Airport property. Land in the area has been used by the airport since 1963 and consists primarily of light industrial and commercial development (Grand Forks International Airport, 2023).

The airfield operates multiple underground storage tanks (USTs) and aboveground storage tanks (ASTs), and de minimis spills and staining are expected during day-to-day airport operations. The existing ATCT and its support buildings have an active 1,000-gal diesel AST and an associated 25-gal day tank. There are eight ASTs associated with the GFK fuel farm. A Department of Defense (DoD)-owned jet A fuel underground pipeline runs from the airport to the Grand Forks AFB. The pipeline does not have any known issues, leaks, or spills. The jet fuel pipeline is no longer active and was decommissioned and sold to CENX/CHS. CENX/CHS removed a portion of the jet fuel pipeline (over 2,000 ft) for road reconstruction. The pipeline is not very deep, only 2-3 ft below the surface. No remediation is expected to be required (Booz Allen, 2023).

Based on information from a Phase I Environmental Site Assessment (Terracon, 2017) and a review of the USEPA's UST Finder database, there are USTs and ASTs located on the airport property. The USTs associated with Avis and Hertz rental car companies on the GFK airport property were removed in 1994 and 1995.[10] Based on a review of the North Dakota Department of Environmental Quality's (NDDEQ) Leaking UST (LUST) database,[11] there is no evidence of current spills or contamination related to these USTs. Figure 4-4 shows the locations of five Closed USTs, two UST Releases, and multiple active ASTs within the APE at GFK.

In Figure 4-4, the dark blue point visible is co-located with another UST Release their two associated closed USTs. The two release sites have been listed with a No Further Action (NFA) status since the 1990s. The three Closed UST Sites south and west of Site 2B include (from southeast to northwest) USTs previously owned and operated by Hertz Rent A Car, Avis Rent A Car, and the FAA. According to the EPA, there are no active USTs or UST release sites within the APE for this project. The active fuel storage tanks are a 1,000-gallon diesel AST associated with the existing ATCT, a 2,000-gallon diesel AST associated with the FAA Flight Operations building, and the fuel storage tanks associated with the GFK Fuel Farm. The Fuel Farm includes four 20,000-gallon jet fuel tanks, two 20,000-gallon aviation gas tanks, one 12, 000-gallon diesel fuel tank, and one 12,000-gallon unleaded gasoline tank (Terracon, 2017). All existing fuel storage tanks are maintained with adequate secondary containment and leak monitoring measures.

10 https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=b03763d3f2754461adf86f121345d7bc

11 https://deq.nd.gov/foia/UST-LUST-DataExport/lust-data.aspx

Figure 4-4. USTs and ASTs within the GFK Study Area

Source: (Google, 2023)

No National Priority List (NPL) sites or other hazardous waste sites have been identified[12] in the vicinity of the airport. It is possible that other unrecorded sites may contain hazardous materials, hazardous waste, and/or environmental contamination on the airport property. Not all sites, spills, and problems are publicly reported; therefore, the information contained in this section is intended for planning purposes and not meant to replace environmental audits or environmental site assessments to be conducted prior to project construction or land acquisition.

The Grand Forks airport does not produce a significant amount of solid waste as compared to the broader community (KLJ, 2016). The airport currently contracts with Waste Management for single stream recycling and a container for collection outside the terminal

[12] https://www.epa.gov/superfund/search-superfund-sites-where-you-live#map

facility. Waste Management transfers the recyclable materials to a materials recovery facility that sorts products for processing. Additionally, the airport repurposes or recycles larger containers such as paint buckets, steel drums, and totes. Scrap metal is collected and reused for future projects or brought to a recycling facility for revenue. When a construction project occurs, any debris that can be reused in the project, such as recycled asphalt, is reused when possible. The airport does not currently have a formal pollution prevention plan for operation of the airport (KLJ, 2021).

The Grand Forks Landfill is located 1.5 miles east of the airport on 69th Street. The landfill accepts construction/demolition waste (e.g., lumber, brick, concrete), non-friable asbestos, contaminated soil, and municipal waste.

4.6.3 Environmental Consequences

The FAA has not established a significance threshold for hazardous materials, solid waste, or pollution prevention.

- No Impact: Impacts from hazardous materials, solid waste, and pollutants would not occur as a result of the Proposed Action.

Factors to consider include if the action has the potential to:

- "Violate applicable Federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management;
- Involve a contaminated site (including but not limited to a site listed on the National Priorities List). Contaminated sites may encompass relatively large areas. However, not all of the grounds within the boundaries of a contaminated site contain regulated levels of contamination, which leaves space for siting a facility on non-contaminated land within the boundaries of a contaminated site. An EIS is not necessarily required. Paragraph 6-2.3.a of this Order [FAA Order 1050.1F] allows for mitigating impacts below significant levels (e.g., modifying an action to site it on non-contaminated grounds within a contaminated site). Therefore, if appropriately mitigated, actions within the boundaries of a contaminated site would not have significant impacts;
- Produce an appreciably different quantity or type of hazardous waste;
- Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity; or
- Adversely affect human health and the environment" (FAA, 2015).

4.6.3.1 Site 2B (Preferred Alternative)

A Phase I Environmental Site Assessment would be conducted to identify any potential impacts to soil and groundwater at the property. There are eight ASTs associated with the GFK fuel farm, located approximately 680 feet southwest of the preferred site location (Terracon, 2017). Any active, inactive, and removed storage tanks would be identified to determine their location, status, and potential to impact Alternative 2 (Preferred

Alternative). If contaminated soils are suspected or discovered, the appropriate measures and disposal actions would be taken in accordance with all applicable regulations.

Given the nature and previous uses of the ATCT facilities, the potential contaminants of concern include asbestos-containing materials, lead-based paint, and PCBs; these constituents are commonly associated with paint and building materials on historic structures. Hazardous materials such as asbestos-containing materials, lead-based paint, and PCBs may be encountered during demolition of ATCT facilities constructed prior to the mid-1980s. A Hazardous Materials Survey shall be conducted prior to demolition of the existing ATCT to identify any hazardous materials present at the property. Short-term and temporary impacts may be experienced during construction activities and with the use of fuels and chemicals.

Under the TSCA, PCB disposal facilities are permitted by the EPA to handle and dispose of PCB waste. The EPA maintains a database of PCB disposal and storage facilities. The PCB disposal facility closest to GFK is located approximately 290 miles south of GFK in Colman, South Dakota (NDDEQ, 2019; EPA, 2023). Grand Forks Municipal Solid Waste landfill is an approved landfill that accepts asbestos-containing material and hazardous paint wastes on a case-by-case basis as coordinated with the landfill manager (NDDEQ, ND). Prior to disposal of lead-based paint, the material must be bagged and sealed to minimize human exposure (NDDEQ, ND). Prior to asbestos disposal, friable asbestos-containing material must be wetted to reduce dust and placed in leak-tight containers. The NDDEQ recommends that asbestos-containing materials not be handled under windy conditions that increase the risk of human exposure (NDDEQ, 2022).

29 CFR 1926.1101 regulates construction area safety while operating in the presence of asbestos-containing material. Measures shall be taken to demarcate the area where asbestos exposure is possible, regulate access to the demarcated area, require respirators for individuals entering the area, and ensure individuals entering the area are trained and competent (CFR, 2023). Airborne asbestos monitoring shall be conducted through the end of asbestos removal to determine safe concentrations around areas where abatement occurred.

Individuals performing lead abatement must be trained and certified under TSCA sections 402/404 for proper handling of lead waste to minimize exposure to humans and the environment (EPA, 2023).

Construction activities under Alternative 2 could subject workers to heavy machinery, power tools, chemicals, or hazardous conditions. Mitigation measures and BMPs would reduce or prevent impacts to workers and other personnel from these concerns.

Decommissioning and demolishing the existing GFK ATCT would result in industrial and construction material waste. The FAA intends to recycle all materials to the greatest extent possible. Proper storage, management, and disposal procedures would be implemented during decommissioning and demolition activities. The FAA would follow specific state or local regulations on the handling of solid waste and intends to comply with those standards

by disposing of all waste in the proper licensed sanitary and construction landfills in the vicinity. Short-term and temporary impacts from demolition and removal of waste or other unknown materials from older ATCT sites may result.

During the operational phase of the proposed new ATCT, similar, if not lesser, volumes of waste would be generated relative to previous operations at the existing ATCT. No additional hazardous wastes would be generated; minimal quantities of fuel would be stored on site to serve the emergency generator. Volumes consistent with household cleaning products would be stored onsite to aid in the maintenance of the proposed new ATCT.

4.6.3.2 No Action Alternative

The No Action Alternative would not result in any change to the current ATCT or involve construction activities associated with construction of a new ATCT. The current GFK ATCT would not be replaced and removed, and activities associated with the ATCT would remain the same. However, there are potential safety concerns for the No Action Alternative to retain the existing ATCT as is.

- Commissioned on March 1, 1971, the GFK ATCT therefore likely contains lead-based paint (LBP). Leaving the paint in place would increase the risk of exposure to employees as the paint deteriorates.
- Based on the commission year of the existing GFK ATCT, Polychlorinated Biphenyls (PCBs)[13] and asbestos[14] are likely present and pose a concern of exposure over time. Leaving these materials in place would increase the risk of exposure to employees.

Leaving the existing GFK ATCT as is could increase the risk of exposure over time if these hazardous materials are present. The FAA regularly monitors and tests for these hazardous materials. There is a higher probability that these materials are present in ATCT structures constructed prior to 1979.

4.6.4 Mitigation

Potential measures and BMPs to mitigate impacts related to hazardous materials, solid waste, and pollution include the following:

- Obtain a Construction General Permit (CGP) for stormwater discharges from construction activities.
- Prepare an ASTM Standard E1527-21 Phase I Environmental Site Assessment prior to the acquisition and termination of leases associated with the replacement ATCT.

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13 The USEPA defines PCBs as "a group of man-made organic chemicals consisting of carbon, hydrogen and chlorine atoms" and were manufactured in several construction and industrial materials from 1929-1979 (EPA, 2022j).

14 The USEPA defines asbestos as a fibrous mineral historically used in a variety of building construction materials, such as floor tile, insulation, drywall, and siding (EPA, 2022k).

- Conduct a Hazardous Materials Survey (HMS) prior to demolition activities and conduct abatement activities, as necessary.
- Comply with mitigation or monitoring requirements applicable to prior or ongoing cleanup activities.
- Employ source reduction strategies such as recovering, recycling, or composting waste materials.
- Recycle construction debris associated with the action.

Appropriate measures are required during project execution to alert workers of the potential for contamination and provide guidance for proper notification if a spill or release occurs. In such an event, the site would cease operations until protective measures are implemented the appropriate regulatory authorities are consulted. Performing environmental due diligence and conducting a hazardous material survey prior to project execution would minimize exposure to lead, PCBs, asbestos, or other hazardous materials during the demolition of the existing ATCT.

If hazardous materials (such as oil, gas, and/or petroleum) would be required during construction, detailed plans would be developed for site-specific protocols on the handling, storage, and management of hazardous materials at the construction site and transportation to and from the construction area.

A CGP would be required by the EPA and NDDEQ for construction activities disturbing one or more acres of land. The CGP covers stormwater discharges like runoff from construction sites and staging areas; dewatering activities; equipment washdown and line flushing without use of detergents; and hydrant flushing. The purpose of the permit is to minimize pollution from soil erosion and contaminants like fuel, oil, and waste. To obtain a CGP from NDDEQ, a Stormwater Pollution Prevention Plan (SWPPP) must be developed for the construction activity which describes the impacted area, pathway of stormwater runoff, and proposed schedule for construction. Once a the SWPPP is developed a Notice of Intent (NOI) is submitted to the NDDEQ and the project is automatically covered under the permit seven days after the NOI is received. After construction is completed a Notice of Termination is submitted to close the permit (NDDEQ, 2023).

4.7 HISTORICAL, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES

Historic and cultural resources are sites, structures, buildings, districts, or objects, associated with important historic events or people, demonstrating design or construction associated with a historically significant movement, or with the potential to yield historic or prehistoric data, that are considered important to a culture, a subculture, or a community for scientific, traditional, religious, or other reasons (NPS, 1997). Historic and cultural resources may be subdivided into the following categories:

- Archaeological resources. This includes prehistoric or historic sites where human activity has left physical evidence of that activity, but few aboveground structures remain standing.
- Architectural resources. This includes buildings or other structures or groups of structures that are of historic or aesthetic significance.
- Native resources. These include resources of traditional, cultural, or religious significance to a Native American Tribe, Native Hawaiian, or Native Alaskan organization.
- Traditional cultural properties (TCPs). These include archaeological resources, structures, neighborhoods, prominent topographic features, habitats, or areas where particular plants, animals, or minerals exist that any cultural group considers to be essential for the preservation of traditional cultural practices (NPS, 1998).

4.7.1 Regulatory Setting

There are multiple federal regulations that protect historic and cultural resources. NEPA (42 U.S.C. § 4321 et seq.), under 40 CFR Part 1508.8, requires federal agencies to consider the effects of actions on historic and cultural resources. It is important to note that NEPA's definitions of historic and cultural resources are broad and can include resources not eligible for the National Register of Historic Places (NRHP) (ACHP, 2013).

The National Historic Preservation Act of 1966 (NHPA) (P.L. 89–665, as amended by P.L. 96-515, 54 U.S.C. § 300101 et seq.) directs the federal government to consider the effects of its actions on historic properties listed or eligible for listing in the NRHP under Section 106 through a compliance process, set forth in the law's implementing regulations, 36 CFR Part 800. The NHPA defines historic properties as sites, structures, buildings, districts, or objects that are typically 50 years old, with some younger exceptions, which are significant within their historical context, retain their historical integrity, and are able to convey their significance. It is noteworthy, however, that the law does not necessarily mandate preservation but does mandate a carefully considered decision making process.

Conducting the Section 106 process in coordination with NEPA review of a federal action is an effective way to gather the information needed to assess broad impacts on historical, architectural, archeological, and cultural resources. Steps of the Section 106 compliance process include the following (ACHP, n.d.):

1) Establish whether the Proposed Action constitutes an undertaking. Per 36 CFR Part 800.16, an undertaking is an action funded in whole or in part under the direct or indirect jurisdiction of a federal agency. If the Proposed Action is an undertaking with the potential to affect historic properties, the appropriate SHPO or Tribal Historic Preservation Office (THPO) and other consulting parties (stakeholders), such as relevant Tribes, are identified and consulted with on the project in good faith.
2) Identify NRHP-listed or eligible properties. Eligible historic properties in the geographic area of the Proposed Action (also known as the area of potential effects [APE]) are identified and evaluated for significance, including properties potentially

eligible or listed with the NRHP that may be affected by the Proposed Action. If historic properties are not present, the federal agency seeks concurrence of the SHPO/THPO in a 30-day review period and makes information available to other consulting parties.

3) Assess effects of the Proposed Action on eligible historic properties. If the assessment determines no historic properties or no adverse effect to eligible historic properties, the SHPO/THPO and other consulting parties are informed and given a 30-day review period. If the assessment determines actual or potential adverse effect to eligible historic properties, the SHPO/THPO and other consulting parties are notified for further consultation.
4) Resolve adverse effects to eligible historic properties through consultation with the SHPO/THPO, Advisory Council on Historic Preservation (ACHP), and other consulting parties, as necessary.

Other federal laws and regulations involving consideration of actions that have the potential to impact historic and cultural resources include those that affect:

- Cultural items as defined in the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 (P.L. 101-601, 25 U.S.C. 3001 et seq.), particularly the inadvertent discovery of Native American cultural items, including human remains, on federal and tribal lands (43 CFR Parts 1025 and 262.8).
- Religious sites and objects that are important to Native Americans, including Alaska Natives and Native Hawaiians, under the American Indian Religious Freedom Act (AIRFA) of 1978 (P.L. 95–341, 42 U.S.C. § 1996).
- Sacred sites under EO 13007, Indian Sacred Sites (61 Federal Register 26771), which requires federal agencies to consult on a government-to-government basis with Tribes if a proposed project involves a sacred site.
- Archaeological resources as defined by the Archaeological Resources Protection Act (ARPA) of 1979 (P. L. 96–95, 16 U.S.C. §470).
- Archaeological collections, material remains, religious remains, and associated records as defined by 36 CFR Part 79.

4.7.2 Affected Environment

In accordance with applicable federal laws and regulations, the FAA evaluated the proposed alternatives and APE for historic and cultural resources. The APE is "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist." (36 CFR § 800.16(d)). The FAA assessed previously identified cultural resources within the APE and the potential for unidentified resources for each alternative.

Actions that have the potential to affect historic and cultural resources typically involve construction, ground disturbance, or modification of a historic property or a property in the viewshed of a historic property or district. Other effects to consider include noise, vibration, lighting, and increased traffic. Because all actions with the potential to affect historic and

cultural resources would occur within the active airport property, the APE is defined as the area outlined in red and shown on Figure 4-2.

The existing ATCT on the property is of a Leo Daly/HNTB Low Activity Level standard design first implemented in the 1980s (FAA, 2020b). The name references the architecture firm Leo Daly and Associates, an engineering firm HNTB that created the design. This design type was used by the FAA to build ATCTs through the 1980s and into the 2000s. The existing GFK ATCT was originally commissioned in 1987 and is not a property achieving significance within the past 50 years of exceptional importance under Criterion G for NRHP eligibility (NPS, 1997). The GFK ATCT does not qualify as a historic property under the NHPA.

Based on the 2020 *Final Environmental Assessment, Runway 9L/27R Expansion Project* that included a Class III Cultural Resources Inventory and Tribal review for the project's study area (which included and extended beyond the airport property [see Figure 4-3]), no historic or cultural resources are within the project area. One previously recorded site, 32GF3553, was updated during the study; the site is the location of the former airport terminal, which was razed to develop an airport facility building. Site 32GF3553 is neither listed nor eligible for the NRHP and recorded as demolished with no recommendations for further work. Another site, 32GF3815, is also previously recorded as a sparse scatter of historic artifacts and was recommended as not eligible for the NRHP. No other cultural or historic resources were encountered during the survey. Based on this inventory, the SHPO concurred with a "No Historic Properties Affected" determination for the runway site on April 2, 2020 (KLJ, 2021).

The runway site's study area contained all three alternative locations for the GFK ATCT and this project's APE. According to the NRHP Database, there are no historic properties listed within five miles of the airport (NPS, 2020). Therefore, no cultural or historic resources are known within the APE or the project alternatives.

4.7.3 Environmental Consequences

The FAA has not established a significance threshold for historical, architectural, archeological, and cultural resources (FAA, 2015).

- No Impact: Impacts to historical, architectural, archaeological, and cultural resources would not occur as a result of the Proposed Action.

Factors to consider include if the action "would result in a finding of Adverse Effect through the Section 106 process" (FAA, 2015). When evaluating impacts to historic and cultural resources, NHPA's implementing regulations must be followed by federal agencies to properly identify and assess effects to historic properties (resources eligible for listing or are listed within the NRHP) within the APE. Section 106 determinations and findings of effects to historic properties should be included in environmental documentation. Section 106 documentation should provide enough information for consulting parties to understand which historic properties are involved in the undertaking and how the agency determined effects to those properties (ACHP, 2013).

Determinations and findings of effects under Section 106 conclude one of the following:

- No Historic Properties Affected: If no historic properties are identified within the APE or if the undertaking would have no effect on historic properties, then this finding should be documented and shared with consulting parties for a 30-day review period. This finding equates to No Impact on historic properties.
- No Adverse Effect on Historic Properties: If historic properties are identified within the APE and (after consultation with the SHPO/THPO and other consulting parties, as appropriate) it is determined that the undertaking would not affect any historic properties in a way that would alter their NRHP-qualifying characteristics, then this finding should be documented and shared with consulting parties for a 30-day review period. This finding equates to No Significant Impact on historic properties.
- Adverse Effect on Historic Properties: If the undertaking would cause direct, indirect, or cumulative impacts on historic properties, then this finding should be documented, and adverse effects resolved through avoidance, minimization, or mitigation in coordination with consulting parties.

Impacts to historic and cultural resources include cumulative, direct, and indirect effects from construction and operation activities. Cumulative effects are impacts that can incrementally accumulate and "result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions" (FAA, 2015). Direct effects occur as a direct result of a Proposed Action and often physically change or impact historic and cultural resources, such as through demolition or ground disturbance. Indirect effects occur as an indirect result of a Proposed Action and foreseeably change the character of historic and cultural resources or their viewshed; these typically include audible, visual, and atmospheric effects (ACHP, 2013). To determine the nature of impacts to historic properties, as defined under the NHPA, consultation with the relevant SHPO/THPO may be required.

When determining the significance of environmental impacts, it is important to consider the context and intensity of impacts (FAA, 2015). The significance of impacts on historic and cultural resources and their short- and long-term effects should be analyzed in the context of society, the affected region, the affected interests, and the locality. The intensity or severity of impacts on historic and cultural resources should be evaluated by considering how impacts may:

- Be both beneficial and adverse.
- Affect the unique characteristics of the geographical area such as proximity to historic or cultural resources.
- May establish a precedent for future actions with significant effects.
- Be cumulative.
- Adversely affect resources listed in or eligible for listing in the NRHP.
- Violate a federal, state, or local law or requirements.

In environmental documentation, impacts to historic and cultural resources protected under laws other than NHPA should be evaluated and considered. FAA guidance recommends discussing these resources separately from those evaluated under Section 106 (FAA, 2020a). If no significant historic or cultural resources subject to other laws are identified within the project area, then no further analysis is needed for NEPA documentation.

4.7.3.1 Site 2B (Preferred Alternative)

Because no cultural or historic resources have been identified within the project area or APE, the preferred Site 2B alternative would not impact historic or cultural resources. The FAA initiated consultation with the North Dakota SHPO concurrently with the public notice (see Section 6) on April 10, 2024, to confirm the determination of "No Historic Properties Affected." The FAA received concurrence from the North Dakota SHPO on May 1, 2024 (see Appendix B).

4.7.3.2 No Action Alternative

Under the No Action Alternative, the current ATCT would not be replaced or removed, and activities associated with the ATCT would remain the same. The No Action Alternative would not impact historic or cultural resources.

4.7.4 Mitigation

If unanticipated discovery of cultural resources occurs during project implementation, activities would immediately stop in the area of the resource (FAA, 2020a). In accordance with the Discovery Plan for General Aviation Projects in the Dakotas, the FAA Airports District Office in Bismarck would be contacted and notified of the discovery (KLJ, 2021). The uncovered resources would be protected. In compliance with all applicable laws and regulations, the FAA would consult with the SHPO and Tribes on the discovery. The FAA would consider their recommendations, carry out appropriate actions, then provide a report of those actions after they are completed (36 CFR 800.13).

4.8 NATURAL RESOURCES AND ENERGY SUPPLY

The term natural resources are often used to refer to finite forms of energy generating materials (coal, natural gas, oil, etc.) that are federally regulated for efficiency and conservation. Natural resources can also refer to water, wood, aggregate, and asphalt. Consumption and impact on natural resources would be evaluated and monitored prior to and during the Proposed Action.

Public services and utilities are the essential systems that support daily operations in a community and cover a broad array of public services, such as electricity, water, wastewater, and solid waste. Utility lines often cross or run along stream corridors, either overhead or underground. Public services and utilities include fire protection, law enforcement, Emergency Medical Services, schools, water, wastewater, sanitation, solid waste disposal, stormwater drainage, electric utilities, natural gas, and telephone/telecommunications.

There are no specific federal requirements in place to regulate the consumption and use of natural resources and energy supply, it is the policy of the FAA to encourage the development of facilities that exemplify the highest standards of design, including principles of sustainability. All elements of the transportation system should be designed with a view to their aesthetic impact, conservation of resources such as energy, pollution prevention, harmonization with the community and environment, and sensitivity to the concerns of the traveling public (USFWS, 2007). States may have individual departments of natural resources; consideration of state level requirements would take place during site-specific research.

4.8.1 Regulatory Setting

Energy Independence and Security Act (42 U.S.C. § 17001 et seq.) requires federal agencies to take actions to move the United States toward greater energy independence and security, to increase the production of clean renewable fuels, to protect consumers, to increase the efficiency of products, buildings, and vehicles, to promote research on and deploy GHG capture and storage options, and to improve the energy performance of the federal government.

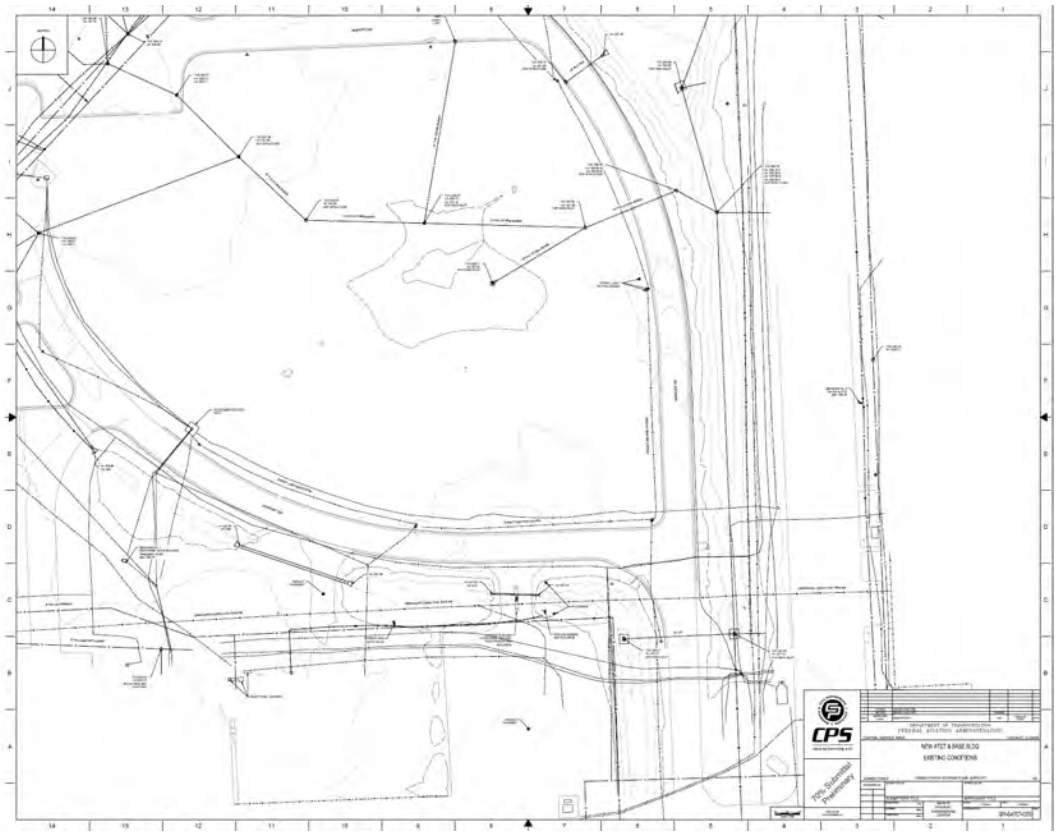
Energy Policy Act (42 U.S.C. § 15801 et seq.) requires federal agencies to take actions to ensure jobs for our future with secure, affordable, and reliable energy. The Energy Policy Act contains provisions that address energy production, including energy efficiency, renewable energy; oil and gas; coal, Tribal energy, nuclear matters and security, vehicles and motor fuels, energy tax incentives, hydropower and geothermal energy, and climate change technology.

EO 13834, Efficient Federal Operations (83 Federal Register 23771), requires federal agencies to meet energy and environmental performance statutory requirements in a manner that increases efficiency, optimizes performance, eliminates unnecessary use of resources, and protects the environment. Agencies are tasked to prioritize actions that reduce waste, cut costs, and enhance the resilience of federal infrastructure and operations.

4.8.2 Affected Environment

The use of natural resources and energy for this project would involve raw materials, electricity, fuel, and water in quantities that will be determined based on final project design. Electricity, water, and sewage at the airport are supplied by the City of Grand Forks. Figure 4-5 displays the existing utilities at the proposed ATCT site.

The airport has two vault locations for gas, power, and communications (KLJ, 2016). One is located in the old SRE building and one is located near the corner of Runway 17L/35R and Runway 9R/27L. The vault building in the old SRE building supplies the majority of the airport infrastructure on the west-side of the airfield. An underground fuel pipeline runs east-west through airport property to serve the Grand Forks Air Force Base. This fuel line is associated with an existing 20-ft easement. Minimal changes to total demands for natural resources and energy are anticipated. Temporary, direct impacts to fuel needs are expected during construction; however, this increase is not anticipated to exceed existing capacity.



Source: (FAA, 2024)

Figure 4-5. Existing Utility Conditions at Proposed ATCT Site

Water supply for the GFK airport is sourced from the well-station located on the northeast corner of Airport Drive and Gateway Drive. The Grand Forks Wastewater Treatment Plant is also located northeast of the study area, within approximately 2,700-ft. This treatment plant includes four water treatment lagoons to treat surface water supply from the Red River of the North, the Red Lake River, or a combination of both.

The storm sewer at GFK airport flows north from the north airfield area, west from the central area, and east from the southern area into the English Coulee Diversion channel and east of Runway 27L.

4.8.3 Environmental Consequences

As noted in the FAA Order 1050.1F Desk Reference, the FAA has not established a significance threshold for natural resources and energy supply.

- No Impact: Impacts to natural resources and energy supply would not occur as a result of the Proposed Action.

The factor to consider is if "the action would have the potential to cause demand to exceed available or future supplies of these resources" (FAA, 2020a).

4.8.3.1 Site 2B (Preferred Alternative)

The proposed design of the new ATCT would consist of consumable materials that could be locally sourced. Consumption of these natural resources is expected to be stable and is not expected to deplete supplies or have an impact on overall demands of the region. In the unlikely event that the materials are scarce or unusual, the FAA would identify appropriate alternatives for sourcing the materials. During construction activities, energy, water, and fuel consumption could temporarily increase. To ensure local capacity to sustain this increase, energy managers would be consulted for each eligible site to review demand and usage for the duration of construction activities.

In addition to generated energy, fuel would be used to transport the necessary construction materials and to run the heavy equipment (construction vehicles). Beyond this standard use, it is not expected that a major increase of fuel would be consumed. Demolition and removal of the old ATCT would require machinery and equipment for the short-term, powered by fossil fuels and electricity. Components of the old ATCT would be repurposed or recycled whenever possible, reducing waste of resources.

Under the Preferred Alternative, the proposed ATCT is designed to be thermally efficient and use less energy than the existing ATCT. The proposed ATCT would also implement efficient plumbing fixtures, reducing overall potable water consumption. With completion of the new ATCT, it is likely that over the long term, beneficial impacts would result as the new ATCT would consume less energy and natural resources in accordance with the FAA's energy goals to continue to reduce energy and potable water use intensity.

4.8.3.2 No Action Alternative

Under the No Action Alternative, the current ATCT would not be replaced and removed, and energy consumption would remain the same. Outdated materials and design of the existing ATCT would not be upgraded for energy efficiency and conservation goals. The No Action Alternative would not impact natural resources and energy supplies.

4.8.4 Mitigation

The sustainable design of the ATCT considers measures to prevent or reduce impacts to natural resources and energy supply, which include the following:

- Use repurposed materials or high-recycled steel and metal products.
- Use of energy efficient equipment.
- Use of renewable mass timber when usable.

4.9 NOISE

Sound is a physical phenomenon consisting of pressure fluctuations that travel through a medium, such as air, and are sensed by the human ear. Noise is considered unwanted sound that can disturb routine activities (e.g., sleep, conversation, student learning) and can cause annoyance (FAA, 2020a).

Noise can come from several sources and at varying frequencies and may be continuous or intermittent, persistent, or occasional. Noise and sound share the same physical aspects; however, noise is generally considered a disturbance, whereas sound is defined as a particular auditory effect produced by a given source (e.g., motor running). Sound is interpreted, as either pleasant (e.g., bird song) or unpleasant (e.g., jackhammer), depending on the listener's current activity, past experience, and attitude toward the source.

4.9.1 Regulatory Setting

The Airport and Airway Improvement Act (49 U.S.C. § 47101 et seq.) authorizes funding for noise mitigation and noise compatibility planning and projects, and establishes certain requirements related to noise-compatible land use for federally funded airport development projects.

The Aviation Safety and Noise Abatement Act (49 U.S.C. § 47501 et seq.) directs the FAA to establish, by regulation, a single system for measuring noise and determining the exposure of people to noise; which includes noise intensity, duration, frequency, and time of occurrence; and to identify land uses normally compatible with various noise exposures (14 CFR Part 150).

There may be additional state and local noise laws and ordinances that apply, in addition to the federal requirements discussed above.

4.9.2 Affected Environment

No residential sites or schools are located within one mile of the airport study area. The nearest residential area is located approximately 1.2 miles southwest of the study area, and the nearest school (other than the University of North Dakota School of Aerospace Sciences on-site) is located over 5 miles southeast of the airport. Construction noise would only be heard temporarily by individuals working on or visiting GFK property.

4.9.3 Environmental Consequences

For some noise analyses, it is necessary to include noise sources other than aircraft departures and arrivals. For this project, the relevant noise impact analysis is construction noise. FAA Order 1050.1F includes significant thresholds for noise related to aircraft operations at an airport; however, the FAA does not have a threshold of significance for construction noise (FAA, 2020a). If appropriate, surface transportation impacts, including construction noise, should be conducted using accepted methodologies from the appropriate modal administration, such as the Federal Highway Administration for highway noise."

- No Impact: Impacts of noise would not occur as a result of the Proposed Action.

In general, special attention should be given to noise sensitive areas when developing mitigation. In addition, FAA Order 1050.1F notes that "special consideration needs to be given to the evaluation of the significance of noise impacts on noise sensitive areas within Section 4(f) properties (including, but not limited to, noise sensitive areas within national parks; national wildlife and waterfowl refuges; and historic sites, including traditional

cultural properties) where the land use compatibility guidelines in 14 CFR part 150 are not relevant to the value, significance, and enjoyment of the area in question.

4.9.3.1 Site 2B (Preferred Alternative)

During construction activities, noise resulting from construction vehicles using roadways and the operation of backup generators for providing emergency power could be sources of additional noise. Noise levels would exceed natural (ambient) sounds but would not exceed typical noise levels produced by heavy equipment (construction vehicles) and taking place during working hours. Noise generated by construction and operation of the ATCT would be temporary or short-term in nature. Once the new ATCT is constructed, it is expected that noise at the airport would return to levels equivalent to those prior to demolition and construction. No impacts from construction or demolition noise activities are anticipated. The replacement of the existing ATCT would not change the operations (number of departures or arrivals), fleet mix, flight paths, or landing or takeoff procedures at the airport. Noise levels due to aircraft operations would have no significant impact.

4.9.3.2 No Action Alternative

Under the No Action Alternative, the current ATCT would not be replaced and removed, and activities with the ATCT would remain the same. Noise levels would remain the same as current conditions. The No Action Alternative would not change existing noise conditions or impact surrounding areas. The No Action Alternative would not require any construction or demolition activities. No impacts of noise are anticipated from the No Action Alternative.

4.9.4 Mitigation

Measures to mitigate impacts from noise include the following construction-related actions:

- Use of proper mufflers for construction equipment.
- Limit construction activities to daytime hours.
- Apply measures to limit noise from machinery or trucks as they traverse streets in noise sensitive areas.

4.10 SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

The socioeconomics of a project encompass economic or social aspects, or a combination of both. Elements such as employment, housing, population, and public services are socioeconomic attributes considered in a NEPA document. Environmental justice focuses on "the fair treatment of populations and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies" (EPA, 2023b). EO 13045, Children's Environmental Health and Safety Risks, prioritizes four areas due to the vulnerability of young people to these conditions—asthma, cancer, unintentional injuries, and developmental disorders (e.g., lead poisoning) when compared to adults (FAA, 2020a).

4.10.1 Regulatory Setting

The Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970 (42 U.S.C. § 61 et seq) contains provisions that must be followed if acquisition of real property or displacement of people would occur as a result of implementing the selected alternative (49 CFR Part 24).

Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. §§ 2000d-2000d-7), states that "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Title VI explicitly prohibits any discrimination in federally funded programs and projects, including those sponsored by the FAA (28 CFR § 42.401).

EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (59 Federal Register 7629), requires federal agencies to incorporate environmental justice into their programs, policies, and activities.

EO 14096, Revitalizing Our Nation's Commitment to Environmental Justice for All (88 *Federal Register* 25251), builds upon and strengthens EO 12898 by requiring federal agencies to create their own environmental justice plans, conducting research on issues related to environmental justice, and the establishment of a new Environmental Justice Interagency Council and White House Office of Environmental Justice. The CEQ's Environmental Justice: Guidance Under the National Environmental Policy Act outlines how environmental justice could be considered in NEPA documents. This guidance provides widely used definitions of minority, low-income, and other environmental justice concepts (CEQ, 1997).

The Memorandum of Understanding on Environmental Justice and Executive Order 12898 identified that participating federal agencies (which includes the FAA) agreed to declare the continued importance of identifying and addressing environmental justice considerations in their programs, policies, and activities (White House, 1998).

The DOT's Environmental Justice Strategy describes the framework for comprehensively incorporating environmental justice into all of DOT's programs, policies, and activities (DOT, 2023).

DOT Order 5610.2(a), Environmental Justice in Minority and Low-Income Populations (77 Federal Register 27534), establishes principles for integrating environmental justice into current policies and practices.

The USEPA's Interagency Working Group on Environmental Justice and NEPA Committee published *Promising Practices for EJ Methodologies in NEPA Reviews*, a compilation of methodologies obtained from current federal agency practices concerning the interface of environmental justice considerations through NEPA (USEPA, 2022g).

EO 13045, Protection of Children from Environmental Health Risks and Safety Risks (62 Federal Register 19885), directs federal agencies to analyze their policies, programs, activities, and standards for any environmental health or safety risks that may disproportionately affect children. Included in these categories are risks to health or safety that are attributable to products or substances that a child is likely to encounter or ingest, such as air, food, water, recreational waters, soil, or products they might use or be exposed to.

4.10.2 Affected Environment

There are 174 people residing within the one-mile radius study area of GFK Airport, according to the EPA's Environmental Justice Screening and Mapping Tool Community Report (EPA, 2023c). Figure 4-5 displays the community information of the residents within the 1-mile boundary surrounding GFK, including race and age. Aside from the aviation school located at the airport, no schools, daycares, or children's health centers are located within a mile of GFK (KLJ, 2021).

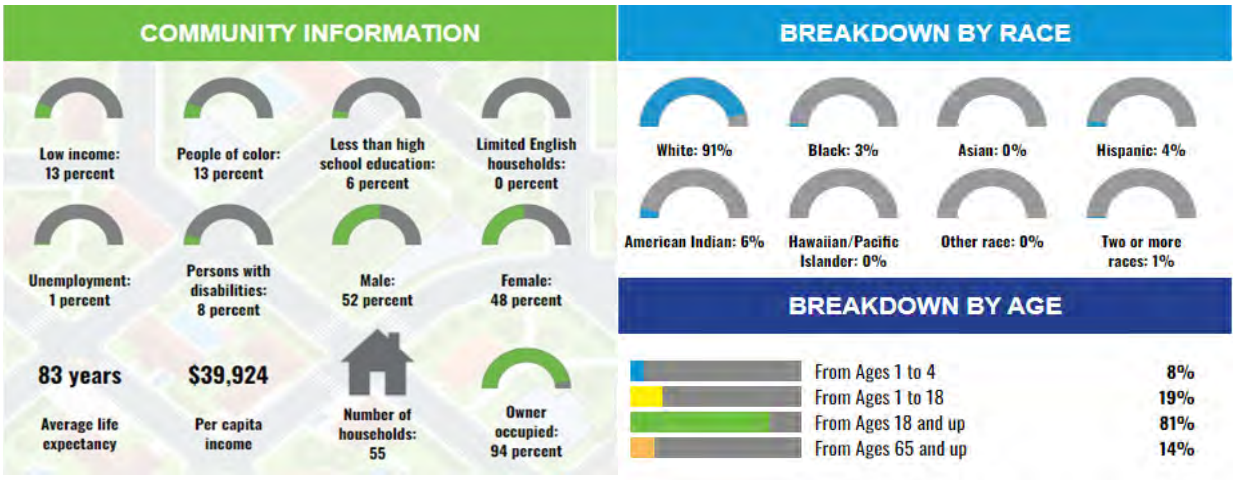


Figure 4-6. Environmental Justice and Socioeconomic Data for GFK and Surrounding 1-Mile Boundary

Source: (EPA, 2023c)

Data points included in the community information shown in Figure 4-5 are lower than both the statewide and U.S. percentages, displayed in Table 4-4 below.

Table 4-4. Socioeconomic Comparison - GFK, North Dakota, and U.S.

Socioeconomic Indicator	GFK and 1-Mile Boundary	North Dakota	U.S.
Low Income	13%	26%	31%
People of Color	13%	16%	39%
Unemployment Rate	1%	3%	6%
Limited English-Speaking Households	0%	1%	5%

Socioeconomic Indicator	GFK and 1-Mile Boundary	North Dakota	U.S.
Less than High School Education	6%	7%	12%
Under Age 5	8%	7%	6%
Over Age 64	14%	17%	17%

Source: (EPA, 2023c)

The area surrounding GFK shows lower than average populations of low income, people of color, and unemployment compared to the state and U.S. There are slightly more children under the age of 5 within the area, compared to ND and the U.S. (EPA, 2023c)

4.10.3 Environmental Consequences

The FAA has not established significance thresholds for socioeconomics, environmental justice, and children's environmental health and safety; however, the FAA has identified factors to consider when evaluating the context and intensity of potential environmental impacts for socioeconomics. environmental justice, and children's environmental health and safety (see Exhibit 4-1 of FAA Order 1050.1F). The determination that significant impacts exist in the socioeconomic impact category is normally dependent on whether the potential socioeconomic impact(s) are interrelated with or inseparable from a physical or natural environmental effect. Note these factors are not intended to be thresholds. If these factors exist, there is not necessarily a significant impact; rather, the FAA must evaluate these factors considering context and intensity to determine if there are significant impacts (FAA, 2020a). The FAA has also identified factors to consider when evaluating the context and intensity of potential environmental impacts for environmental justice and for children's environmental health and safety. (FAA, 2015)

- No Impact: Impacts to socioeconomics, environmental justice, and children's environmental health and safety would not occur as a result of the Proposed Action.

Factors to consider that may be applicable to socioeconomic resources, include but are not limited to, situations in which the action would have the potential to:

- Induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing projects in an undeveloped area).
- Disrupt or divide the physical arrangement of an established community.
- Cause extensive relocation when sufficient replacement housing is unavailable.
- Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities.
- Disrupt local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities.
- Produce a substantial change in the community tax base.

The factors to consider that may be applicable to environmental justice include, but are not limited, to a situation in which the Proposed Action or alternative(s) would have the potential to lead to a disproportionately high and adverse impact to an environmental justice population (i.e., low-income or minority population) due to:

- Significant impacts in other environmental impact categories; or
- Impacts on the physical or natural environment that affect an environmental justice population in a way that the FAA determines is unique to the environmental justice population and significant to that population.

The factor to consider that may be applicable to children's environmental health and safety includes, but is not limited to, situations in which the Proposed Action or alternative(s) would have the potential to lead to a disproportionate health or safety risk to children.

4.10.3.1 Site 2B (Preferred Alternative)

Under the Preferred Alternative, a slight increase in local employment could occur during construction, decommissioning, and demolition activities; however, the workforce could be from existing businesses with current employees, making a minimal impact on local employment levels. Expenditures to local economies and businesses could have a slight increase during the implementation of the ATCT project with purchases of materials, fuels, and equipment from the local area. This project location would have minor, short-term increases in employment and local expenditures until the activities are complete. No permanent jobs are expected to result from the Preferred Alternative.

Temporary, minor increases of construction vehicle noise and traffic may occur during daytime hours but would be less than significant due to the projects being located on active airports. Following the existing ATCT decommissioning and demolition, and construction of a new ATCT, operation and staffing of the tower would be the same or similar to previous conditions. The Preferred Alternative would not cause the relocation of residences, businesses, or schools. No long-term effects to socioeconomics, environmental justice, and children's environmental health and safety risks are anticipated.

4.10.3.2 No Action Alternative

Under the No Action Alternative, the current ATCT would not be replaced and removed, and activities would remain the same. No changes would occur to the existing socioeconomic, environmental justice, and children's environmental health and safety risk conditions. No impacts to socioeconomics, environmental justice, or children's environmental health and safety risks are anticipated from the No Action Alternative.

4.10.4 Mitigation

Mitigation measures could be applied, where appropriate, to further prevent or reduce impacts to socioeconomics, environmental justice, and children's environmental health and safety risks such as outreach to share ongoing information about the new ATCT and NEPA.

4.11 VISUAL EFFECTS

Visual effects are considered under two categories: light emissions and visual resources/character. Light emissions from outdoor lighting in parking lots, streets, and within businesses or homes affect the darkness of the night sky, particularly in rural areas where fewer light sources are present. Light emissions also occur from reflective surfaces during the daytime when sunlight reflects off windows, metals, and other shiny surfaces. Visual resources are natural or human-made features such as traditional cultural properties, buildings, and the natural landscape. Visual character is the overall description of an area, such as rural, farmland, urban, coastal, or mountainous. (FAA, 2020a)

4.11.1 Regulatory Setting

There are no special purpose laws or requirements for visual effects. Specific visual resources are protected under federal, state, or local regulations. Protected visual resources may include, but are not limited to:

- Federal, state, or local scenic roadways/byways.
- Wild and scenic rivers.
- National scenic areas.
- Scenic easements.
- Trails protected under the National Trails System Act or similar state or local regulations.
- Biological resources.
- Parks, recreation areas, and wildlife/waterfowl refuges.
- Historic properties.
- Features protected under other federal, state, or local regulations.

Although there are no federal special purpose laws or requirements specific to light emissions and visual effects, there are special purpose laws and requirements that may be relevant. In addition to NEPA, laws protecting resources that may be affected by visual effects include Section 106 of the NHPA (see Section 4.6) and the Wild and Scenic Rivers Act (see Section 4.11), and state and regional coastal protection acts. Visual resources are also protected and managed on federal resource lands, such as under U.S. Forest Service Resource Management Plans and the Bureau of Land Management (BLM) Visual Resource Management System. In addition, there may be state and local regulations, policies, and zoning ordinances that apply to visual effects.

4.11.2 Affected Environment

The potential new ATCT sites are all located within approximately 700 feet of the existing ATCT and centrally within the study area shown on Figure 3-2. The surrounding area is characterized as rural and agricultural with sparse housing and industrial development. The nearest sensitive receptor is a residential neighborhood located approximately 1.2 miles

southwest of the existing ATCT. Once completed, the new ATCT at GFK would be one of the highest structures in the state of North Dakota. The assessment of visual impacts and aesthetic qualities of structures and light emission is a highly subjective process due to the difference in perception and value that a user associates with the specific feature and its surrounding landscape.

4.11.2.1 Light Emissions

At present, the GFK airport lighting features include:

- Interior lighting within buildings and structures.
- Exterior lighting on buildings, along roadways, and in parking lots.
- Rotating beacon (airport identification light) operates sunrise to sunset.
- Medium/high intensity runway and taxiway edge and apron lighting.
- Runway centerline lighting, touchdown zone lighting, and other safety lighting on runways.
- Precision approach path indicators light box.
- Flashing runway end identifies.
- Visual approach slope indicator light box.
- MALSAR (flight lights to assist pilots on approach).
- Lighted wind cone. (KLJ, 2016)

The tower operates from 6:00 am to 11:30 pm and the lighting of the runways, taxiways, and other airfield safety lights are controlled by air traffic controllers. During off hours, airfield lighting is controlled by pilots through common air traffic frequency. (KLJ, 2016) The proposed site for the new tower (Site 2B) is located centrally within the study area, which is developed and contains existing lighting that illuminates the area at night.

Wildlife, especially nocturnal species, may be sensitive to nighttime light sources which may disrupt migratory or breeding cycles. As mentioned in Section 4.3, the light-sensitive Northern long-eared bat was not identified as a species of concern within the study area; however, given the mobility of this species and the little brown bat, these bat species could use trees adjacent to the existing tower for roosting or nesting from April to October.

4.11.2.2 Visual Resources and Visual Character

The area around the airport is characterized as rural, with surrounding agriculture, sparse housing, and industrial development. Visual resources surrounding the airport property include agricultural land, local roadways, and highways. Visual resources within the airport area include active runways and taxiways, a commercial terminal building, and Fixed Base Operations buildings, snow removal equipment building, aircraft rescue and firefighting building, fueling facilities, various aircraft hangars, and the University of North Dakota flight school. The tallest structure at GFK is the ATCT, with a cab floor height of 90 ft. The next

tallest structure is the five-story University of North Dakota administration building to the east of the current ATCT.

4.11.3 Environmental Consequences

The FAA has not established a significance threshold for visual effects. The factors listed below may be considered when determining impacts from light emissions and to visual resources and visual character.

- No Impact: Impacts to visual effects would not occur as a result of the Proposed Action.

For light emissions, factors to consider include the extent the action has the potential to:

- Create annoyance or interfere with normal activities from light emissions; and
- Affect the visual character of the area due to the light emissions, including the importance, uniqueness, and aesthetic value of the affected visual resources.

For visual resources and visual character, factors to consider include the extent the action has the potential to:

- Affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources.
- Contrast with the visual resources and/or visual character in the study area.
- Block or obstruct the views of visual resources, including whether these resources would still be viewable from other locations. (FAA, 2015)

4.11.3.1 Site 2B (Preferred Alternative)

Under the Preferred Alternative, a slight change in light emissions could occur following construction of the new ATCT due to lighting in a new parking lot and exterior lighting on the new ATCT and support building. It is expected the change would be minimal based on the existing lighting present at the airport. Light emissions would be reduced following decommissioning and removal of the existing tower. The reflective surfaces of the new ATCT and support building could alter the visual character of the airport area due to the height of the tower and change to the viewshed. The change in location of light emission from the old tower to the new tower is unlikely to create additional light emissions once the old tower is decommissioned and the new tower is operational. The addition of a new, lighted parking area for the new tower could result in slight light emissions; however, Site 2 has existing lighting. The overall increase of light emissions is expected to be minimal. The closest visual receptor, 1.2 miles to the southwest, would receive minimal to no effects from the minor changes in lighting due to the distance from the airport and the existing lighting present. Artificial lighting of habitat supporting bat roosts, access points, and foraging pathways could disturb bat species and should be avoided throughout construction. Wildlife dispersion is regularly completed by airport personnel to remove species from areas within the AOA as part of the Airport's wildlife management program (KLJ, 2020). The minimal increase in lighting would not create hazards for migrating wildlife, bats, and avian species.

Changes to visual resources and visual character from construction of the new tower and removal of the existing tower would not affect or obstruct visually important resources. Although the new proposed ATCT would be 90 ft taller than the existing GFK ATCT, it would not contrast with the area's visual character upon completion due to the study area being an existing and active airport. Because an ATCT has been present on the study area, construction of a new, taller tower in a slightly different location could result in minimal, if any, noticeable effects to visual resources.

4.11.3.2 No Action Alternative

Under the No Action Alternative, the existing GFK ATCT would not be replaced and removed. Light emissions would remain the same, as would the visual character of the airport and surrounding area. No impacts to visual effects would occur from the No Action Alternative.

4.11.4 Mitigation

Due to the minimal effects from visual and light emissions, no mitigation measures are expected to be needed.

4.12 WATER RESOURCES

Water resources encompass several subjects which include wetlands, floodplains, surface water, groundwater, and wild and scenic rivers. These resources provide drinking water, irrigation, and other water uses for communities, in addition to recreation and transportation opportunities, and habitat for vegetation and wildlife species. Water resources are interconnected and can be affected through impacts above ground and below the surface.

4.12.1 Regulatory Setting

The Clean Water Act (33 U.S.C. §§ 1251-1387) establishes the basic structure for regulating the discharge of pollutants into waters of the United States and the National Pollutant Discharge Elimination System (NPDES) permit program.

EO 11990, Protection of Wetlands, requires federal agencies to "avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative." The stated purpose of EO 11990 is to "minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands."

DOT Order 5660.1A, Preservation of the Nation's Wetlands, implements the guidelines set forth in EO 11990. Transportation facilities should be planned, constructed, and operated to assure the protection and enhancement of wetlands to the fullest extent practicable.

The National Flood Insurance Act (42 U.S.C. § 4001 et seq.) established the National Flood Insurance Program (NFIP), a voluntary floodplain management program for communities (cities, towns, or counties), implemented by the Federal Emergency Management Agency

(FEMA). Any action within a FEMA-mapped floodplain in a participating community must follow the community's FEMA-approved floodplain management regulations.

EO 11988, Floodplain Management (42 Federal Register 26951), requires federal agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of 100-year floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.

DOT Order 5650.2, Floodplain Management and Protection, implements the guidelines set forth in EO 11988. This DOT Order states that DOT agencies should ensure that proper consideration is given to avoid and mitigate adverse floodplain impacts in agency actions, planning programs, and budget requests.

The Safe Drinking Water Act (42 U.S.C. §§ 300(f)-300j-26) prohibits federal agencies from funding actions that would contaminate any EPA-designated sole source aquifer or its recharge area (40 CFR Parts 141-149).

The Wild and Scenic Rivers Act (WSRA) (16 U.S.C. §§ 1271-1287) preserves certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations and established the National Wild and Scenic River System, which consists of those rivers and river segments deemed by Congress to have one of more "outstandingly remarkable" scenic, recreational, geologic, fish and wildlife, historic or cultural values. Rivers in the system are classified based on the degree of development present along the river, and whether the river is wild, scenic, or recreational.

There may be additional state and local surface water, wetlands, floodplains and groundwater statutes and regulations that apply, in addition to the federal requirements discussed above. This would be determined on a case-by-case basis by contacting relevant state and local regulatory agencies in the initial stages of project planning.

4.12.2 Affected Environment

4.12.2.1 Wetlands

The USFWS shows the nearest wetland as 0.7-acre temporary wetland 0.3 miles west of the existing ATCT study area (USFWS, 2023a). Multiple other small, temporary, wetlands are scattered within and beyond GFK property, shown in Figure 4-6. A wetland delineation was conducted in August 2019 by KLJ. A total of 87 wetland segments were delineated totaling 584.07 acres of the 1,750-acre study area surrounding the airport. This wetland delineation also identified multiple 0.01-0.05 created ditches within the study area (KLJ, 2021). No wetlands are located within or adjacent to the proposed ATCT site and the existing tower.

Figure 4-7. Aerial Image of Wetlands within the Study Area

Source: (Google Earth, 2022)

4.12.2.2 Floodplains

According to the Federal Emergency Management Agency's (FEMA) National Flood Hazard Layer Viewer, GFK is located in an area of minimal flood hazard (FEMA, 2020). Floodplain

zones indicate areas near rivers that have a one percent chance of flooding each year (or an expected occurrence once every 100 years). The Flood Hazard Map does not show GFK in any 100-year floodplains and the closest river (Red River) is more than 5 miles to the east (FEMA, 2020).

4.12.2.3 Surface Water

There are no man-made or naturally occurring ponds or lakes within the study area and GFK airport. The closest streams are the Salt Water Coulee, located approximately 0.21 miles west of the airport boundary, and the Fresh Water Coulee, located approximately one mile west of the airport boundary (shown on Figure 4-7) (USEPA, n.d.). The USEPA listed the Salt Water Coulee as an impaired and threatened (Section 303[d]) waterbody in 2018 (USEPA, 2018). According to the USEPA, the Salt Water Coulee needs a Total Maximum Daily Loads (TMDL) restoration plan (USEPA, 2018). Once the state develops the plan and gains approval by the USEPA, the stream would be removed from the 303(d) list. (EPA, 2022h)

Figure 4-8. Aerial Image of Surface Waters within the Study Area

Source: (Google Earth, 2022)

The GFK airport and its surrounding land have flat topography that results in slow drainage, standing water, and an environment to support wetland species. A network of drainage ditches at GFK facilitates the discharge of stormwater from two points on the north and southeast of airport property. The northern discharge point flows through a 60-inch storm sewer and discharges into the Salt Water Coulee. The southeastern discharge point flows through a 54-inch storm sewer that discharges into English Coulee approximately one mile east of the airport and into the Red River (KLJ, 2021).

4.12.2.4 Groundwater

The Northern Great Plains aquifer system spans most of North Dakota and Grand Forks County (Miller, 1999). The closest aquifer, the Dakota Aquifer, is located approximately three miles east of the project area. No sole source aquifers are located under or adjacent to the project site. Groundwater may be present in varying depths due to the layering of glacial drift deposits of sand and gravel throughout Grand Forks County. The flow of groundwater is eastward toward the Red River Valley. (Kelly & Paulson, 1970; USGS, 2023; North Dakota Department of Environmental Quality - Division of Water Quality, 2021)

4.12.2.5 Wild and Scenic Rivers

According to the National Wild and Scenic River System map, there are no wild and scenic rivers listed in North Dakota (NPS, n.d.).

4.12.3 Environmental Consequences

Significant Impact criteria for water resources are included in the content below.

- No Impact: Current water quality, hydrologic conditions, wetlands, floodplains, and wild and scenic rivers would not be altered, or conditions do not exist for impacts to occur.

- Significant Impact –Wetlands:
    - If an action would “adversely affect a wetland’s function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers.
    - Substantially alter the hydrology needed to sustain the affected wetland system’s values and functions or those of a wetland to which it is connected.
    - Substantially reduce the affected wetland’s ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare.
    - Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands.
    - Promote development of secondary activities or services that would cause the circumstances listed above to occur.
    - Be inconsistent with applicable state wetland strategies.” (FAA, 2015)

- Significant Impact – Floodplains: "The action would cause notable adverse impacts on natural and beneficial floodplain values," as defined in Paragraph 4.k of DOT Order 5650.2, Floodplain Management and Protection. (FAA, 2015)
- Significant Impact – Surface Water: "The action would exceed water quality standards established by federal, state, local, and tribal regulatory agencies; or contaminate public drinking water supply such that public health may be adversely affected" (FAA, 2015). Factors to consider include if an action would have the potential to "[a]dversely affect natural and beneficial water resource values to a degree that substantially diminishes or destroys such values; adversely affect surface waters such that the beneficial uses and values of such waters are appreciably diminished or can no longer be maintained, and such impairment cannot be avoided or satisfactorily mitigated; or present difficulties based on water quality impacts when obtaining a permit or authorization." (FAA, 2015)
- Significant Impact – Groundwater: "The action would exceed groundwater quality standards established by federal, state, local, and tribal regulatory agencies; or contaminate an aquifer used for public water supply such that public health may be adversely affected" (FAA, 2015). Factors to consider include if an action would have the potential to: "adversely affect natural and beneficial groundwater values to a degree that substantially diminishes or destroys such values; adversely affect groundwater quantities such that the beneficial uses and values of such groundwater are appreciably diminished or can no longer be maintained, and such impairment cannot be avoided or satisfactorily mitigated; or present difficulties based on water quality impacts when obtaining a permit or authorization." (FAA, 2015)
- Wild and Scenic Rivers: The FAA has not established criteria; however, factors to consider that may be applicable to wild and scenic rivers include, but are not limited to, situations in which the proposed action and or alternative(s) would have an adverse impact on the values for which a river was designated (or considered for designation) through the following:
    - "Destroying or altering a river's free-flowing nature;
    - A direct and adverse effect on the values for which a river was designated (or under study for designation);
    - Introducing a visual, audible, or other type of intrusion that is out of character with the river or would alter outstanding features of the river's setting;
    - Causing the river's water quality to deteriorate;
    - Allowing the transfer or sale of property interests without restrictions needed to protect the river or river corridor (which cannot exceed an average of 320 acres per mile which, if applied uniformly along the entire designated segment, is one-quarter of a mile on each side of the river);
    - Any of the above impacts preventing a river on the NRI or a Section 5 (d) river not included in the NRI from being included in the Wild and

Scenic River System or causing a downgrade in its classification (e.g., from wild to recreational)." (FAA, 2015)

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4.12.3.1 Site 2B (Preferred Alternative)

Construction of a new ATCT would cause temporary, short-term surface disturbing activities within approximately four acres, involving increased vehicle traffic and use of machinery. No direct impacts to wetlands will occur due to the absence of these areas within and adjacent to Site 2b and the existing ATCT. Indirect impacts to wetlands are unlikely to occur given the distance of wetlands from Site 2b and the existing ATCT. Disruption of soil surfaces, introduction of non-native plant species through transfer of seeds, and contamination of soils from chemicals, such as hydraulic fluids or petroleum leaks, could occur during ground disturbing activities. Soil erosion or runoff from the construction site could result in offsite interface with surface water either adjacent to or downstream from the ATCT sites. Soil, sediment, or chemical runoff could directly or indirectly damage water quality, alter habitat from sediment build-up, or cause changes to the ecosystems from the introduction of non-native plant species. Any additional impervious surface beyond the original ATCT and surrounding development could result in a minimal increase of runoff into waterbodies, resulting in increased erosion, vegetation loss, and sediment inputs.

Excavation volume and depth for foundation structural components is unknown at this time. Groundwater could be encountered during excavation and construction activities. If this were to occur and pumping was needed to extract water to continue construction, the excess water may be discharged offsite through the GFK stormwater system. Discharge could result in sediment or chemical runoff which could directly or indirectly damage water quality or alter habitat from sediment build-up within the streams where outflow occurs. Disruption of groundwater or groundwater flow could occur at excavation sites and where placement of structural components are located. Introduction of chemicals, such as hydraulic fluids or petroleum leaks, could occur from excavation equipment, which could affect water quality if groundwater were to be encountered. Applying BMPs and mitigation measures such as monitoring of the construction area and runoff prevention could reduce or prevent impacts to groundwater from excavation and construction.

Demolition and removal of the decommissioned ATCT could result in disturbance of soils and loss of vegetation within and adjacent to the project area. Use of heavy machinery (construction equipment) could cause disruption of soil surfaces, dust, introduction of non-native plant species through transfer of seeds, and contamination of soils from chemicals such as hydraulic fluids or petroleum leaks. Any soil erosion or runoff from the area could result in interface with wetlands or surface water either adjacent to or downstream from the ATCT site. Soil, sediment, or chemical runoff could directly or indirectly damage water quality, alter habitat from sediment build-up, or cause changes to the ecosystems from introduction of non-native plant sources. Mitigation measures to contain runoff and prevent the introduction of non-native plants surrounding the project area would help reduce or prevent effects from demolition and removal of the ATCT.

As stated above, GFK is located in an area of minimal flood hazard and no impacts are anticipated to floodplains (FEMA, 2020). Decommissioning, demolition, and construction activities could have direct or indirect impacts on groundwater. The increased presence of heavy equipment (construction vehicles), fuel, chemicals, or solvents during the demolition or construction of an ATCT could affect groundwater if spills or leaks were to occur. The severity would depend on the volume and duration of the spill or leak, the ability to respond, and the time it takes to contain the spill or leak.

4.12.3.2 No Action Alternative

Under the No Action Alternative, the existing GFK ATCT would not be replaced and removed; activities at the ATCT would remain the same. Conditions of wetlands, floodplains, surface water, groundwater, and wild and scenic rivers would remain the same and no negligible impacts would occur.

4.12.4 Mitigation

Mitigation measures and BMPs to offset unavoidable impacts to water resources allow for on-site absorption of rainwater through permeable surfaces, allowing natural drainage processes, and erosion prevention measures. Descriptions of mitigation examples for wetlands, surface water, and ground water are below.

Mitigation measures to prevent or reduce impacts to wetlands include avoidance and minimization and compensatory mitigation. Avoidance and minimization measures include adjusting plans to reduce or prevent any encroachment or damage to wetlands and directing runoff from construction/demolition activities away from wetlands or other aquatic habitat.

- Use pervious surfaces where practicable.
- Control runoff, while ensuring the runoff control measure do not attract wildlife hazardous to aviation.
- Control waste and spoils disposal to prevent contaminating ground and surface water, while not attracting wildlife hazardous to aviation (e.g., control the use of pesticides and herbicides, maintain vegetative buffers to reduce sedimentation and delivery of chemical pollutants to the water body).
- Limit ground disturbance to the areas necessary for project-related construction.
- Employ erosion control measures to minimize sedimentation of surface waters.
- Restore vegetation on disturbed areas to prevent soil erosion following project completion.

Mitigation and BMPs to reduce direct impacts to groundwater include, but are not limited to, the following:

- Protect water quality of surface water runoff that may infiltrate into the ground.
- Restore vegetation on disturbed areas to prevent soil erosion following project completion.

- Limit the area of new impervious surfaces to the areas necessary for project-related construction.

4.13 CUMULATIVE IMPACTS

The FAA regulations implementing the procedural provisions of NEPA define cumulative impacts as:

> *"Cumulative impacts are those that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, whether Federal or non-Federal." (FAA, 2015)*

Based on these regulations, if an alternative does not have direct or indirect effects, there can be no cumulative effects resulting from the project because there would be no impacts added to past, present, or reasonably foreseeable actions.

The CEQ regulations also describe cumulative impacts as impacts that "can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR Part 1508.7). On a programmatic level and combined with other actions, Alternative 2 (Preferred Alternative) could lead to cumulative impacts depending on the scale (number of projects), geography (localized area) in which the actions are performed, and other construction-related activities that may occur at GFK.

In addition to the construction of a new GFK ATCT and demolition of the existing GFK ATCT covered within this EA, airport improvement projects have recently occurred at GFK Airport or are proposed to occur to support aircraft operations and address facility needs. These include construction of a new GA hangar (2016-2017), lighting rehabilitation on Runway 17R/35 L (2016-2018), extension of Runway 9L-27R (2025-2028), and land acquisition and construction of a new GA runway (2028-2035) (KLJ, 2021). These activities are expected to have no significant impacts because they do not involve significant risks or impacts to sensitive areas at GFK Airport.

Temporary cumulative impacts may result related to construction emissions and construction-related traffic. During construction activities, minor erosion and sedimentation may occur. The proposed ATCT would not contribute to a significant adverse cumulative impact to natural resources or energy supply. The sustainable design of the proposed ATCT is anticipated to exhibit energy and water efficiencies, thereby reducing energy and resource supply needs.

Related to noise, air quality emissions, and climate, the ATCT construction and demolition activities would contribute to an adverse cumulative impact, but on a temporary basis, if other projects are occurring during the same timeframe at the airport. The ATCT project would support an increase in construction funding, a positive benefit to the local economy at GFK.

Implementation of BMPs would further reduce the potential for any identified limited impacts. The cumulative impact of the replacement ATCT presented in this EA is not

anticipated to result in significant impacts or significant cumulative impacts to either human health or the environment.

4.14 MITIGATION

Mitigation measures may be applied to mitigate potential environmental impacts to or from each resource area. Construction activities would follow the FAA's Construction Specifications 01575, "Temporary Environmental Controls," to ensure that procedures are met. Mitigation measures were identified for each resource area in Sections 4.1 to 4.15; these are summarized in Table 5-1.

SECTION | 5 SUMMARY OF IMPACTS

Table 5-1 summarizes the potential impacts of each alternative on the resource areas.

Table 5-1. Summary of Impacts

Resource Area	Alternative 1: No Action	Alternative 2: Site 2B (Preferred Alternative)
Air Quality	No impact	Short-term and temporary increase in emissions and dust (particulate matter) during construction and demolition.
Biological Resources	No impact	Short-term impacts from noise, vegetation removal, and soil erosion during construction. Temporary impacts from noise and soil erosion during demolition.
Climate	No impact	Short-term increase in GHG emissions during construction and demolition activities. Long-term reduction in GHG emission from reduce energy use with new ATCT.
DOT Act, Section 4(f)	No impact	No impact
Hazardous Materials, Solid Waste, and Pollution Prevention	No impact	Short-term and temporary impacts during construction and use of fuels and chemicals. Short-term and temporary impacts from demolition and removal of waste or other unknown materials from ATCT site.
Historical, Architectural, Archeological, and Cultural Resources	No impact	No impact
Natural Resources and Energy Supply	Existing ATCT may not meet energy efficiency goals due to outdated electrical and HVAC equipment.	Long-term beneficial impacts from reductions in energy use.
Noise	No impact	Short-term impacts during construction and demolition from equipment and vehicle noise.
Socioeconomics, EJ, and Children's Environmental Health and Safety Risks	No impact	Short-term impacts for construction and demolition from minor increases in materials, employment, or equipment purchases.
Visual Effects	No impact	Minimal impacts from changes in viewshed.
Water Resources	No impact	Short-term impacts from soil disturbance, runoff, and erosion during construction. Temporary impacts from runoff and erosion during demolition.

Based on the analysis, the FAA has preliminarily determined there would not be a significant impact to the human environment from implementation of the Proposed Action.

SECTION | 6 PUBLIC INVOLVEMENT

The FAA provided a 508-compliant electronic copy of the Draft EA for review by the public on the following website: https://www.faa.gov/airtraffic/atf on April 10, 2024. Concurrently, the FAA published a Notice of Availability advertisement in the Grand Forks Herald identifying the availability of the Draft EA to allow the public to view the document electronically and where/how to submit comments. The FAA did not receive any comments in response to the publication of the Draft EA during the 30-day public comment period ending May 10, 2024.

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SECTION | 8 REFERENCES

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APPENDIX A | FEDERALLY LISTED SPECIES

This appendix contains the list of threatened, endangered, candidate, or species under review by the U.S. Fish and Wildlife Service for Grand Forks County. The site-specific species list, critical habitat, migratory birds, and other information is also provided.

U.S. Fish & Wildlife Service
ECOS

ECOS / Species Reports / Species County Report

Listed species believed to or known to occur in Grand Forks, North Dakota

This report includes species only if they have a **Spatial Current Range** in ECOS.

The following report contains species that are known to or are believed to occur in this county, based on the species current range, as defined by the USFWS. The definition of current range that the FWS uses is the general geographic area where we know or suspect that a species currently occurs.

This list of species by county cannot be used for consultation purposes. To obtain an official list of species that should be considered during consultation, please visit IPaC.

CSV

Show 10 entries Search:

5 Species Listings

Group	Name	Population	Status	Lead Region	Lead Office
Insects	Monarch butterfly (Danaus plexippus)	Wherever found	Candidate	3	Assistant Regional Director-Ecological Services
Mammals	Little brown bat (Myotis lucifugus)	Wherever found	Under Review	3	Indiana Ecological Services Field Office
Insects	Regal fritillary (Speyeria idalia)	Wherever found	Under Review	6	South Dakota Ecological Services Field Office
Mammals	Northern Long-Eared Bat (Myotis septentrionalis)	Wherever found	Endangered	3	Minnesota-Wisconsin Ecological Services Field Office

Birds	Sprague's pipit (Anthus spragueii)	Wherever found	Resolved Taxon	6	Assistant Regional Director-Ecological Services

Showing 1 to 5 of 5 entries Previous 1 Next

IPaC U.S. Fish & Wildlife Service

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Grand Forks County, North Dakota

Local office

North Dakota Ecological Services Field Office

(701) 250-4481
(701) 355-8513

3425 Miriam Avenue
Bismarck, ND 58501-7926

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. 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.

The following species are potentially affected by activities in this location:

Insects

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

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

There are bald and/or golden eagles in your project area.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list,click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season ( )
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Golden-plover Pluvialis dominica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Dec 1 to Aug 31

Black Tern Chlidonias niger This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20
Bobolink Dolichonyx oryzivorus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
California Gull Larus californicus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Clark's Grebe Aechmophorus clarkii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Franklin's Gull Leucophaeus pipixcan This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Henslow's Sparrow Ammodramus henslowii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds May 1 to Aug 31
Hudsonian Godwit Limosa haemastica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Long-eared Owl asio otus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Marbled Godwit Limosa fedoa This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds May 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10

Ruddy Turnstone Arenaria interpres morinella This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Western Grebe aechmophorus occidentalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5
Yellow Rail Coturnicops noveboracensis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9476	Breeds May 15 to Sep 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence ( )

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season ( )

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

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 at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND
- PEM1C
- PEM1A
- PEM1Ad
- PEM1Cd

RIVERINE
- R4SBCx

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX B | SHPO CONCURRENCE LETTER

STATE HISTORICAL SOCIETY OF NORTH DAKOTA

HISTORY FOR everyone.

May 1, 2024

Steven Myers
Environmental Protection Specialist
FAA Great Lakes Regional Office
Des Plaines, IL 60018

ND SHPO Ref.: 24-5643 Proposed Replacement Airport Traffic Control Tower at the Grand Forks International Airport, Grand Forks, Grand Forks County, North Dakota in portions of [T152N R51W Section 28]

Dear Steven,

We reviewed ND SHPO Ref.: 24-5643 Proposed Replacement Airport Traffic Control Tower at the Grand Forks International Airport, Grand Forks, Grand Forks County, North Dakota in portions of [T152N R51W Section 28] as submitted to our office on April 10, 2024. 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 and provided all borrow comes from an approved source.

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 Lisa Steckler, Historic Preservation Specialist at (701) 328-3577 or lsteckler@nd.gov

Sincerely,

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

24-5643

North Dakota Heritage Center & State Museum
612 East Boulevard Avenue
Bismarck, ND 58505-0830

701.328.2666
histsoc@nd.gov

history.nd.gov
statemuseum.nd.gov