DEADHORSE AIRPORT IMPROVEMENTS

Final Environmental Assessment

Prepared for:
U.S. Department of Transportation
Federal Aviation Administration
222 West 7th Avenue
Anchorage, Alaska 99513-7587

On behalf of:
State of Alaska
Department of Transportation & Public Facilities Northern Region
2301 Peger Road
Fairbanks, Alaska 99709

Prepared by:
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August 30, 2023

State Project Number:
NFAPT00549

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This Environmental Assessment becomes a federal document when evaluated, signed, and dated by the responsible Federal Aviation Administration official.

KRISTI A WARDEN

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Signature of Responsible FAA Official Date

Printed Name

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Acronyms and Abbreviations

µg/kg	micrograms per kilogram
°	degree, degrees
AASP	Alaska Aviation System Plan
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
ADNR	Alaska Department of Natural Resources
AHRS	Alaska Heritage Resources Survey
AIP	Airport Improvement Program
APE	Area of Potential Effects
ARFF	Airport Rescue and Fire Fighting
ASTP	Alaska Statewide Transportation Plan
AWC	Anadromous Waters Catalog
BMP	best management practice
BTEX	benzene/toluene/ethylbenzene/xylene
CFR	Code of Federal Regulations
CO_2	carbon dioxide
CSMP	Contaminated Sites Management Plan
DOT&PF	Department of Transportation and Public Facilities
DRO	Diesel range organics
EA	Environmental Assessment
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FONSI	Finding of No Significant Impact
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
GRO	Gasoline range organics
HGM	hydrogeomorphic
ICAS	Inupiat Community of the Arctic Slope
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
mg/kg	milligrams per kilogram
MOA	Memorandum of Agreement
NHPA	National Historic Preservation Act
NOTAM	Notice to Airmen
NPL	National Priorities List
NRHP	National Register of Historic Places
NRCS	National Resource Conservation Service
NSBMC	North Slope Borough Municipal Code
NWI	National Wetlands Inventory
OG	Original ground

PAH	Polycyclic aromatic hydrocarbons
PFAS	perfluoroalkyl and polyfluoroalkyl substances
proposed action	Deadhorse Airport Improvements Project
PUB	Palustrine Unconsolidated Bottom
PUS	Palustrine Unconsolidated Shorelines
ROI	Region of influence
SHPO	State Historic Preservation Officer
TSA	Transportation Safety Administration
USDOT	U.S. Department of Transportation
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VEC	Valued Environmental Component
VOR	Very High Frequency Omnidirectional Radio Range
WOUS	waters of the U.S.

1 Purpose and Need

1.1 Introduction

Deadhorse Airport is located on the north coastal plain of Alaska at the north end of the Dalton Highway, approximately 5 miles south of Prudhoe Bay and 380 air miles north of Fairbanks. Proposed airport improvements are located at 70.20 degrees (°) North Latitude and 148.46° West Longitude; Township 10 N, Range 14 E, Sections 24, 25, 26, and 36; Township 10 N, Range 15 E, Sections 19, 30, and 31; Umiat Meridian, United States Geological Survey Quadrangle Beechey Point A-3 NE. The proposed action location, vicinity, and Deadhorse Airport property boundaries are shown on Figures 1 and 2.

Deadhorse Airport serves the commercial and general aviation needs of the region. The airport is vital to oilfield development and the Trans-Alaska Pipeline operation because it is the area's only major public airport. The airport supports daily flights to Anchorage, Fairbanks, and surrounding villages.

The Deadhorse Airport, with a single, paved runway, serves as a key regional aviation hub in arctic Alaska which is owned and operated by the State of Alaska, Department of Transportation and Public Facilities (DOT&PF). The Deadhorse Airport provides daily freight and passenger service between Deadhorse and Anchorage, Fairbanks, and Utqiagvik; commercial fixed-wing and helicopter flight services; support for oilfield and Trans-Alaska Pipeline system logistics and operations; and various regional air services that provide daily critical travel, shipping, and medevac air links to surrounding villages that are not connected to the road system.

DOT&PF is requesting federal funding through the FAA Airport Improvement Program for this project. As a result, the improvements to the Deadhorse Airport require FAA Alaskan Airports Division approval and federal funding of the Proposed Action (a federal nexus as defined under the National Environmental Policy Act [NEPA]), requires an Environmental Assessment (EA). This document serves to evaluate the environmental effects of the Proposed Action.

1.2 Purpose and Need of the Proposed Action

The Alaska Department of Transportation and Public Facilities (DOT&PF) in cooperation with FAA, proposed airport improvements at Deadhorse Airport, Alaska. The Deadhorse Airport Improvements Project (proposed action) is funded by FAA through the Airport Improvement Program (AIP).

The proposed action purpose is to correct Deadhorse Airport deficiencies, address safety concerns, improve drainage, and help bring the airport into compliance with FAA design standards (Part 139 Safety Enhancement) and criteria identified in the Alaska Statewide Transportation Plan (ASTP) and Alaska Aviation System Plan (AASP). Most of the Deadhorse Airport southern airside perimeter lacks fencing. Part 139 inspections have identified that a full perimeter fence is needed to manage wildlife hazards at the airport. A lack of a perimeter fence also does not satisfy the FAA Order 7050.1B (FAA 2021) initiative to reduce unauthorized access to the air operations area or meet Transportation Safety Administration (TSA) security standards. TSA requires airport operator compliance with the TSA Airport Security Program to provide for safety and security of persons and property on aircraft operating in air

transportation or intrastate air transportation against an act of criminal violence, aircraft piracy, and the introduction of an unauthorized weapon, explosive, or incendiary onto an aircraft (49 Code of Federal Regulations [CFR] 1542).

1 Purpose and Need

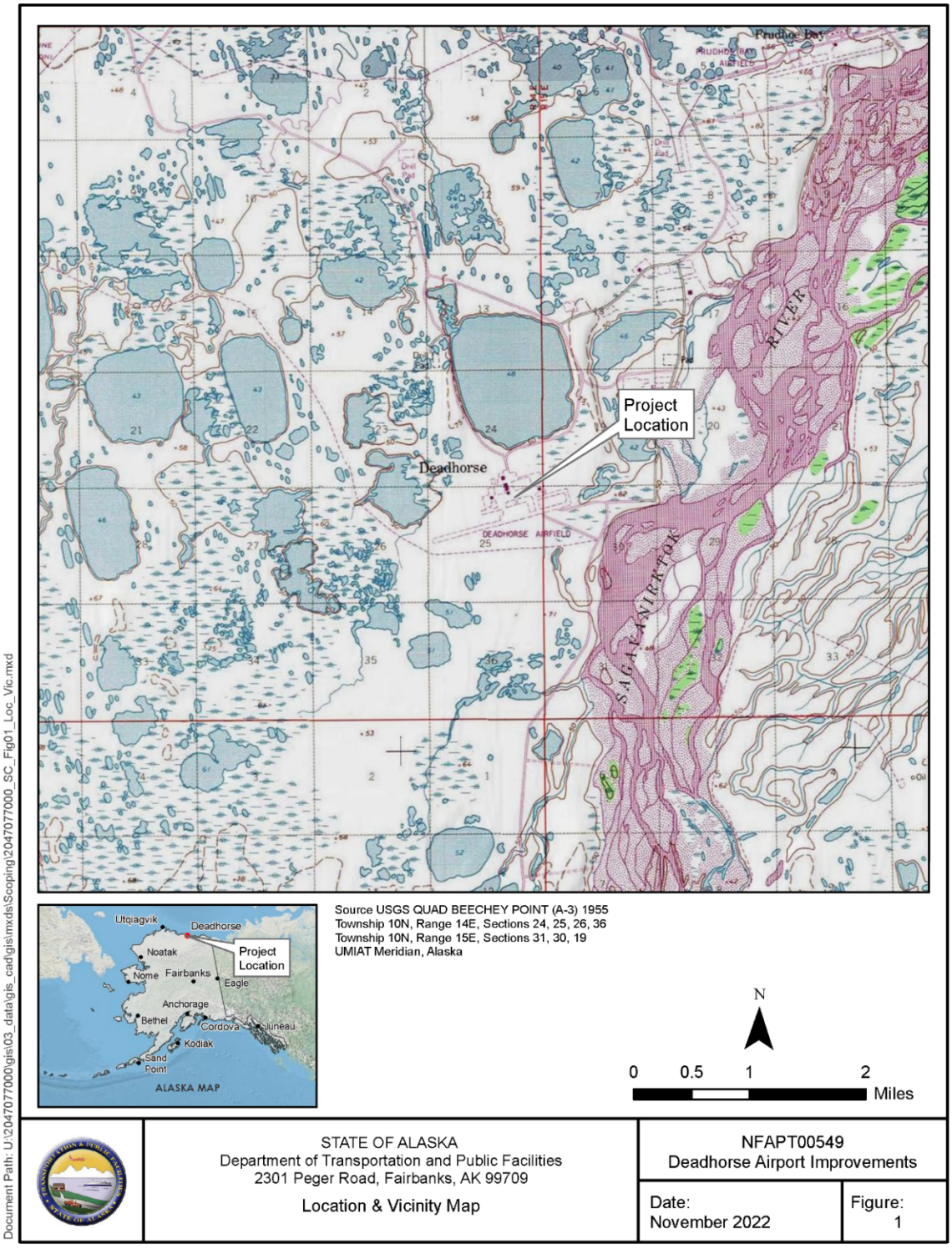

Figure 1. Project Location and Vicinity

1 Purpose and Need

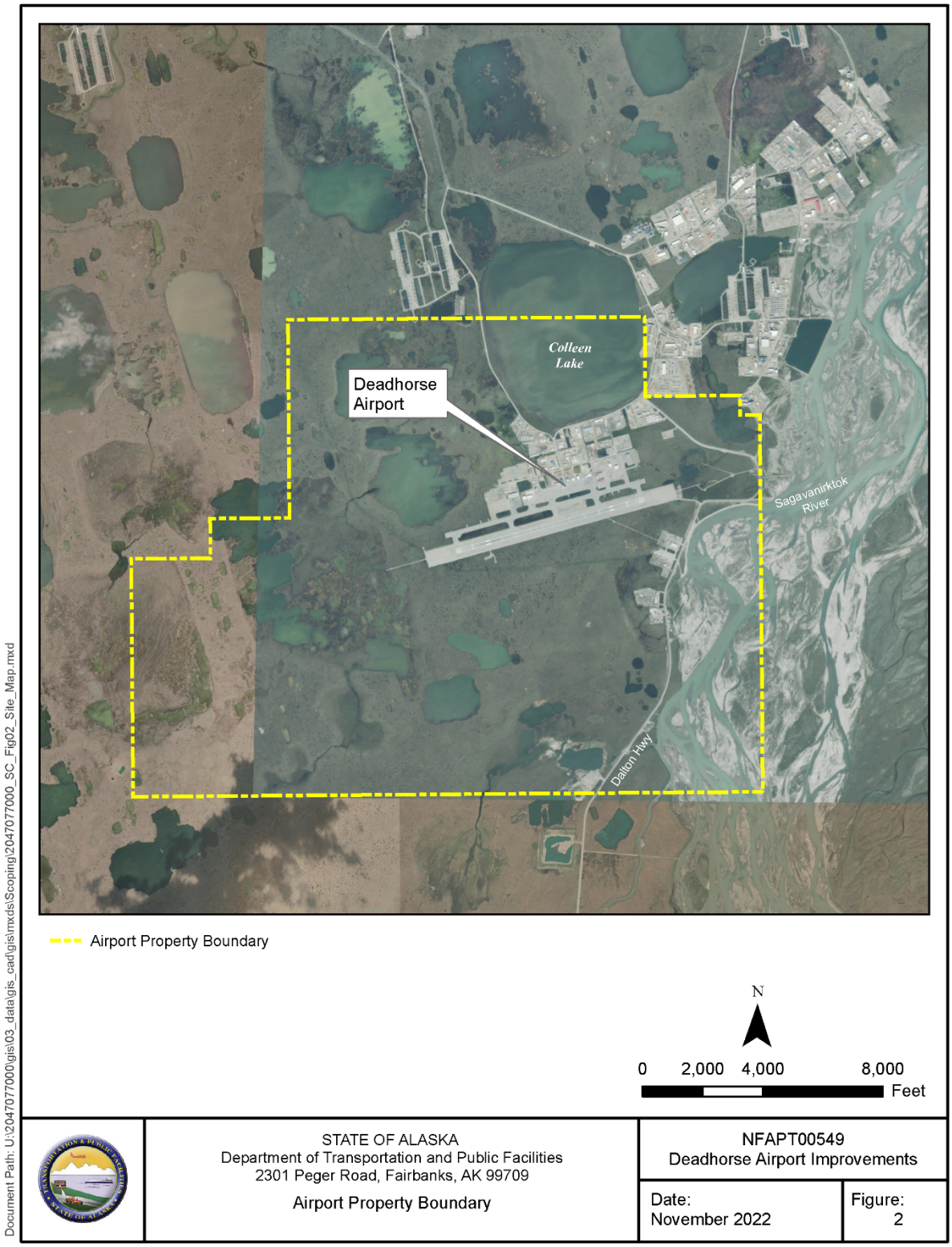

Figure 2. Airport Property Boundary

The proposed action need is three-fold:

- Address safety concerns caused by individual caribou, caribou herds, and other terrestrial mammals entering airport property and accessing the runway at Deadhorse Airport each year. A letter from FAA to DOT&PF, dated October 29, 2021 (Appendix A), stated that due to ongoing wildlife issues involving caribou on or near the Deadhorse Airport, a Part 139 safety hazard exists. FAA indicated it is imperative that the Deadhorse Airport install a full perimeter fence and access road to assist with wildlife response and safety, and allow airport personnel to deter, haze, and herd large mammals off the airport property.

- Reduce wildlife strike hazards to aviation safety. A June 2021 annual review of the Deadhorse Airport Wildlife Management Plan by the U.S. Department of Agriculture indicated that most wildlife strikes reported at Deadhorse Airport involve birds, with waterfowl comprising 91 percent of all recorded hazing efforts between 2017 and 2019. As management of habitat is one of the most effective long-term measures for reducing wildlife hazards on or near airports (USDA 2021), the proposed action would also eliminate infield drainage ponds between the runway and parallel taxiway and between the parallel taxiway and ramp area by filling and grading the infields to promote drainage.

- Improve existing drainage deficiencies that impact airport operations and damage airfield and Deadhorse Way embankments. Many drainage culverts on airport property at infield locations and along Deadhorse Way no longer function as designed. This was indicated by DOT&PF maintenance and operations personnel and confirmed by a topographic survey performed August 4–8, 2021. The proposed action would evaluate existing culverts, correct deficiencies, and present the maintenance and operations staff with a drainage plan to follow for future airport and lease lot development.

1.3 Scope of Environmental Analysis

This EA considers relevant environmental resources areas in the context of valued environmental components (VECs) which are the resources, ecosystems, and human communities of concern that could be affected by the proposed action. The VECs evaluated in this EA are identified in Chapter 3.0. The scope of this EA includes the geographic area potentially influenced by the proposed action as well as the area of potential environmental effect, which varies by resource. The main study area encompasses the Deadhorse Airport and maintenance service road; for some VECs, however, such as for biological resources and climate change, the potentially affected area expands to a more regional size. Geographic Regions of Influence (ROI) for resources brought forward for full analyses are identified in Chapter 3.0 within discussions for each resource.

1.4 Public/Agency Involvement

In accordance with FAA Order 1050.1F (FAA 2015a), the FAA provides opportunities for the public to participate in the NEPA process to promote open communication and to improve the decision-making process. All persons and organizations having potential interest in the proposed action are encouraged to

participate in the environmental analysis process. The formal opportunity to comment involves a 30-day period of public review of the Draft EA. A Notice of Availability of the Draft EA will be published in the Arctic Sounder, Fairbanks News Miner, and Anchorage Daily News newspapers, and both electronic and paper copies of the documents will be distributed to offices of the North Slope Borough Department of Planning and Community Services in Utqiagvik, Kaktovik Village, Native Village of Nuiqsut, City of Kaktovik; City of Nuiqsut, and Inupiat Community of the Arctic Slope (ICAS). Notice of the availability of an electronic copy will be emailed to the initially scoped entities as well as agencies and individuals who subsequently expressed interest in the project. The Draft EA electronic copy will be made available on the State of Alaska, DOT&PF Deadhorse Airport Improvements website at: https://dot.alaska.gov/nreg/deadhorse/. The FAA and DOT&PF will review and consider all comments received during the public comment period. At the conclusion of the public comment period, once comments have been considered and resolved, if necessary, the FAA will proceed with finalization of the EA and development of a Finding of No Significant Impact (FONSI).

Agency scoping letters were sent out on 25 January 2022. Consulting letters and comments received can be found in their respective topical appendices.

1.5 Regulatory Framework

The FAA is guided by relevant statutes and their implementing regulations, and executive orders (EOs) that establish standards and provide guidance on environmental compliance, including natural and cultural resources management and planning, in support of their mission to provide the safest, most efficient aerospace system in the world. The FAA Order 1050.1F, Environmental Impacts: Policies and Procedures (FAA 2015a), provides FAA's agency-wide policies and procedures to ensure agency compliance with the requirements set forth in the CEQ Regulations for implementing NEPA. In addition to FAA Order 1050.1F, there are other NEPA-implementing policies and procedures that may be applicable to your proposal, including FAA Order 5050.4B, NEPA Implementing Instructions for Airport Actions (FAA 2006). Other major federal and state statutes, EOs and other regulatory measures that apply to the proposed action are as follows:

- Alaska Statutes Title 16. Fish and Game
- Alaska Historic Preservation Act. (AHPA) AS 41.35
- Alaska Administrative Code 11 AAC 93.035
- Alaska Administrative Code 11 AAC 93.220
- Alaska Administrative Code 18 AAC 62.020
- Alaska Administrative Code 18 AAC 62.500 – 62.511
- Alaska Administrative Code 18 AAC 75.300
- Alaska Department of Environmental Conservation, 4 April 2019, Technical Memorandum – Establishing Arctic Zone Cleanup Levels

- Archaeological Resources Protection Act of 1979 (16 U.S.C. §§ 470aa–470mm)
- Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668–668c)
- CEQ (Council on Environmental Quality). 2023. National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change. 88 FR 1196. Interim Guidance. January 2023.
- Clean Air Act (CAA) (42 U.S.C. §§ 7401–7671q); 40 CFR parts 85, 86, and 600 for surface vehicles; and 40 CFR part 80 regarding the Alternative Low-Sulfur Diesel Fuel Transition Program for Alaska
- Clean Water Act (CWA) 33 U.S.C. §§ 1251-1387 and implementing regulations in 33 CFR parts 320-332 and 40 CFR parts 230-233
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 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
- Emergency Planning and Community Right to Know Act 42 U.S.C. §§ 11001-11050
- Endangered Species Act (16 U.S.C. §§ 1531–1544)
- EO 11514 as amended by EO 11991. Protection and Enhancement of Environmental Quality
- EO 11593. Protection and Enhancement of the Cultural Environment
- EO 11988. Floodplain Protection
- EO 11990. Protection of Wetlands
- EO 12088. Federal Compliance with Pollution Control Standards
- EO 12580. Superfund Implementation as amended by EO 13016, as further amended by EO 13308; 52 FR 2923; 61 FR 45871; 68 FR 37691
- EO 12898. Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
- EO 13045. Protection of Children from Environmental Health Risks and Safety Risks
- EO 13112. Invasive Species
- EO 13175. Consultation and Coordination with Indian Tribal Governments
- EO 13514. Federal Leadership in Environmental Energy and Economic Performance
- EO 13653. Preparing the United States for the Impacts of Climate Change

- EO 13693. Planning for Federal Sustainability 80 FR 15869
- EO 13751. Safeguarding the Nation from the Impacts of Invasive Species
- EO 13834. Efficient Federal Operations
- EO 13990. Protecting Public Health and the Environment and Restoring Science to Tackle the Climate
- EO 14008. Tackling the Climate Crisis
- EO 14096. Revitalizing our Nation's Commitment to Environmental Justice for All
- Fish and Wildlife Coordination Act 16 U.S.C. § 661-667d
- Hazardous Materials Transportation Act 49 U.S.C. §§ 5101-5128
- Marine Mammal Protection Act of 1972, 16 U.S.C. Ch. 31 §§ 1361–1362, 1371-1389, 1401-1407, 1411-1418, 1421-1421h, 1423-1423h
- Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712)
- National Flood Insurance Act 42 U.S.C. § 4001 et seq.
- National Historic Preservation Act of 1966 (54 U.S.C. § 300101)
- North Slope Borough Municipal Code. Titles 12 and 19
- Pollution Prevention Act of 1990 (42 U.S.C. §§ 13101–13109)
- Resource Conservation and Recovery Act 42 U.S.C. §§ 6901-6992k
- Toxic Substances Control Act (TSCA; 15 U.S.C. §§ 2601–2697)
- U.S. Department of Transportation Act – Section 4(f) 49 U.S.C. § 303
- Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU) – Section 6009 49 U.S.C. § 303

1.6 Decision to be Made

The Federal Action requested of the FAA by the DOT&PF is to approve the proposed improvements to Deadhorse Airport and fund it under FAA's Airport Improvement Program (AIP). There are no proposed modifications to FAA Design Standards (AC 150-5300-13B) included in this project.

2 Proposed Action

The proposed action would construct a full perimeter fence with gates at various locations, and a single, all-season, fence maintenance access road around the Deadhorse Airport perimeter. Infield ponds and areas between the runway and parallel taxiway, and between the taxiway and ramp area, would be filled and graded. Failing drainage culverts would be replaced, new culverts would be placed as necessary, and existing drainage ditches would be rehabilitated on airport property at infield locations and along Deadhorse Way. Pavement or surfacing would be replaced, and utilities would be moved as necessary for culvert and drainage work. A new material source access road would be constructed from a southern extent of the new airport perimeter fence embankment to the Dalton Highway at approximately milepost (MP) 411.5.

2.1 Proposed Action Details

2.1.1 AIRPORT DRAINAGE IMPROVEMENTS

Failed or insufficient drainage culverts at on airport property at infield locations and along Deadhorse Way would be replaced, and new culverts would be installed, as necessary, in existing placed embankments. Selected existing drainage ditches along existing placed airport and Deadhorse Way embankments would be rehabilitated. Existing airport and highway pavements, taxiway lighting, and utilities would be replaced or relocated as necessary for drainage improvement. Select infield locations would be regraded and/or filled to aid infield drainage and improve wildlife control. Construction of proposed drainage improvements would occur between the summer of 2025 and fall of 2026.

2.1.2 FENCING

DOT&PF would construct a full airport perimeter service road and perimeter fence with various gates to assist with wildlife response and safety. The fence maintenance service road would provide full perimeter access for operations, maintenance, and safety personnel to deter and haze wildlife from entering portions of the airport property, and to help prevent the conditioning of wildlife to attempt access at any specific location. The maintenance service road and fence gates will also offer the ability to herd large mammals off the airport property without forcing them into other areas within the facility. Construction of the perimeter fence and fence access road is anticipated to occur between the summer of 2025 and fall of 2026.

2.1.3 PERMANENT MATERIAL SOURCE HAUL ROAD

Fill material required to construct the fence access road would be contractor furnished and is anticipated to be sourced from Mine Site 3, a permitted, commercial material site located approximately 1 mile southeast of the existing airport with existing road access at approximately milepost MP 411.5 of the Dalton Highway. While the existing access road (the Dalton Highway) could feasibly support the projects' needs for delivery of construction material, the use of said road would necessitate nearly constant haul traffic from the proposed material site to the limits of construction over the span of approximately two years of construction. A permanent material source access road is proposed to be constructed as part of

the proposed action to minimize construction impacts on the Dalton Highway by reducing the wear and tear of use by haul vehicles, improve safety on the Dalton Highway by avoiding contribution to traffic congestion, and facilitate more efficient and less costly material hauling to the airport project area by reducing the haul distance by approximately 2.5 miles.

2.2 Screening Criteria

In compliance with the FAA and CEQ regulations implementing NEPA, the FAA must consider reasonable alternatives to the proposed action. Only those alternatives determined to be reasonable relative to their ability to fulfill the purpose and need for the proposed action warrant detailed analysis. To be considered reasonable, an alternative must fulfill the purpose and need for the action, as well as be technically and fiscally feasible. This section presents the criteria used to determine whether alternatives were considered to be reasonable and carried forward for further analysis.

The FAA and DOT&PF established three screening criteria to identify appropriate alternatives to meet the purpose and need of the proposed action:

- **Aviation Safety (Screening Criterion 1):** Deter and reduce wildlife access and habitat on airport property to increase safety of aviation operations and resolve Part 139 safety hazard.
- **Drainage Improvements (Screening Criterion 2): I**mprove existing drainage deficiencies that impact airport operations and damage airfield and Deadhorse Way embankments.
- **Public Safety of Dalton Highway (Screening Criterion 3):** Avoid causing hazardous conditions on the Dalton Highway by maintaining current snow drift patterns with a compatible wildlife fence design. Wildlife fence design would also minimize service and maintenance needs.

2.3 Results of Viability Analysis

Table 1 demonstrates the application of the screening criteria for each alternative. Within the table, viability analysis screening criteria are listed in the first column and each alternative is listed across the columns to the right. Each row provides a summary of information for the associated alternative listed in the first column. Text within each cell briefly describes how a criterion is, or is not, met by the associated alternative, with a “Yes” denoting if the alternative meets the criterion, and a “No” if it does not.

One action alternative, Alternative 1, met all criteria and was therefore considered preferred and carried forward for full analysis. The No Action Alternative is always carried forward for full analysis. Alternative 1 and the No Action Alternative are described in Section 2.4. One of the two reasonable action alternatives considered, Alternative 2, failed to meet one or more of the screening criteria, and therefore was not considered viable. Alternative 2 was eliminated from detailed analysis though is described in Section 2.5.

Table 1. Alternatives Screened for Further Consideration or Dismissal

Screening Criteria	Alternative 1: Proposed Action	Alternative 2:	No Action Alternative
Criterion 1: Aviation Safety	Yes. Construction of 20,000ft wildlife fence would resolve Part 139 safety issue. Grading of infield areas would eliminate waterfowl nesting habitat on airport property and decrease risk of bird strikes.	Yes. Construction of 23,500ft wildlife fence would resolve Part 139 safety issue. Grading of infield areas would eliminate waterfowl nesting habitat on airport property and decrease risk of bird strikes.	No. Not taking action would not resolve current aviation safety needs.
Criterion 2: Drainage Improvements	Yes. Implementing drainage improvements would resolve existing deficiencies.	Yes. Implementing drainage improvements would resolve existing deficiencies.	No. Not taking action would not resolve drainage needs and result in continued airfield and embankment damage.
Criterion 3: Public Safety of Dalton Highway	Yes. Perimeter fencing would not tie into existing Dalton Highway embankment and would not cause snow drifting across that section of the highway. Alternative 1 would require approximately 15% less fencing material and construction cost and, long term, would build 15% less fence and service road to maintain than Alternative 2.	No. Incorporating airport perimeter fencing into the existing Dalton Highway embankment would cause substantial snow drifting across that section of the highway, causing recurrent, hazardous road conditions for the public, and require more frequent and costly winter highway maintenance operations. Additionally, Alternative 2 would require approximately 15% more fencing material and construction cost and, long term, there would be 15% more fence to service and maintain than Alternative 1.	Yes. Not taking action would not cause a change in current snow drift patterns onto the Dalton Highway.

Text within each cell briefly describes how a criterion is, or is not, met by the associated alternative, with a “Yes” denoting if the alternative meets the criterion, and a “No” if it does not.

2.4 Alternatives Considered

This section identified the proposed alternatives that address the Deadhorse Airport deficiencies stated in Section 1.2, Purpose and Need of the proposed action. The analysis has been prepared in accordance with the CEQ’s regulations for implementing NEPA, as well as FAA’s NEPA guidelines.

2.4.1 ALTERNATIVES CARRIED FORWARD FOR ANALYSIS

2.4.1.1 Alternative 1 – Proposed Action

Alternative 1 would address and reduce wildlife access and safety concerns of incursions by caribou and other mammals accessing the runway, eliminate wildlife hazards posed by waterfowl using existing infield

ponds, improve infield drainage, and restore sufficient drainage on airport property at infield locations and along Deadhorse Way by implementing the following:

- Replace and/or install new culverts on airport property at infield locations and along Deadhorse Way, replace existing airport and highway pavements and taxiway lighting as necessary for completing drainage improvements, rehabilitate select existing drainage ditches along Deadhorse Way embankments, relocate known utilities affected by completion of drainage improvements, and regrade and/or place fill in select infield locations to aid in drainage and wildlife hazard control (Figure 3).
- Construct an approximately 20,000-foot-long airport perimeter wildlife fence and associated gates for access control, an associated fence maintenance service road, and fence security features to exclude large mammals from accessing operational surfaces. The proposed road and fence routing would exclude the existing Very High Frequency Omnidirectional Radio Range (VOR) building east of the runway (Figure 4).
- Construct a permanent material source access road between the southern portion of the new fence maintenance service road and a point on the Dalton Highway near the southeastern extent of airport property (Figure 4).

2.4.1.1.1 Permits and Authorizations

Permits required to construct Alternative 1 include:

- United States Army Corps of Engineers (USACE), Section 404 Clean Water Act (CWA) Individual Permit
- Alaska Department of Environmental Conservation (ADEC), Section 401 CWA Certificate of Reasonable Assurance; Alaska Pollutant Discharge Elimination System (APDES) General Permit for Discharges from Large and Small Construction Activities
- North Slope Borough Traditional Land Use Inventory Clearance (Form 600)
- North Slope Borough Land Management Resource (LMR) Permit
- Alaska Construction General Permit (CGP)
- ADF&G Title 16 Fish Habitat Permit (if applicable to contractor proposed water source)
- ADNR Temporary Water Withdrawal Permit

Approvals through consultation with:

- The Alaska State Historic Preservation Office (SHPO) and local Indian Tribes, and Alaskan Native Villages, under the National Historic Preservation Act
- United States Fish and Wildlife Service Section 7 Consultation

- Department of Transportation Act Section 4(f) Consultation

Alternative 1 meets the purpose and need of the proposed action by correcting Part 139 safety issues by constructing a 20,000 ft. wildlife fence to prevent caribou and other mammal incursions into airport operational surfaces; decreasing risk of bird strikes by grading and filling infield areas to eliminate waterfowl nesting habitats; and resolving drainage deficiencies by implementing drainage improvement work. (Section 2.3, Table 1). Construction impacts to air and water quality, solid wastes, noise, and airport operations would be localized and temporary. Best management practices (BMP) would be followed to minimize construction impacts. Proposed action impacts would result in the permanent loss of 78.6 acres of waters of the U.S. (WOUS), wetlands, and their associated habitats. Avoidance and minimization of wetland impacts are maximized by incorporating the use of existing buildings, other constructed infrastructure, embankments, and previously disturbed areas into the road and fence designs. The design of the proposed embankment side slopes is as steep as geotechnically allowable for slope stability and safety; and other components were designed with minimal dimensions that would fulfill their proposed function for the FAA required project lifespan of 20 years.

2.4.1.2 No Action Alternative

NEPA requires agencies to consider a “No Action Alternative” in their NEPA analyses and compare the effects of the No Action Alternative with the effects of the proposed action. With the No Action Alternative, there would be no improvements at Deadhorse Airport. The airport would not be compliant with current FAA design standards (AC 150-5300-13B) and criteria identified in the ASTP and AASP, FAA Order 7050.1B; nor would it meet TSA security standards per 49 CFR 1542. Existing drainage and wildlife hazard deficiencies would remain present at the airport as this alternative would not construct perimeter fencing or a fence service access road; would not improve drainage by replacing/installing culverts and replacing airport pavements or lighting, or relocating utilities as necessary for drainage improvements; would not grade or fill infield areas to improve infield drainage; and would not construct a permanent material site access road between a fence service access road and the Dalton Highway. Safety and efficiency of airport operations and security, wildlife control, airport drainage, and access to a potential material site would not be improved. The potential risks of wildlife access, and caribou and other mammal incursions onto operational surfaces, insufficient airport drainage causing damage to the airfield and Deadhorse Way embankments, aircraft damage from striking animals, and people being injured from accidents would not be reduced.

2 Proposed Action

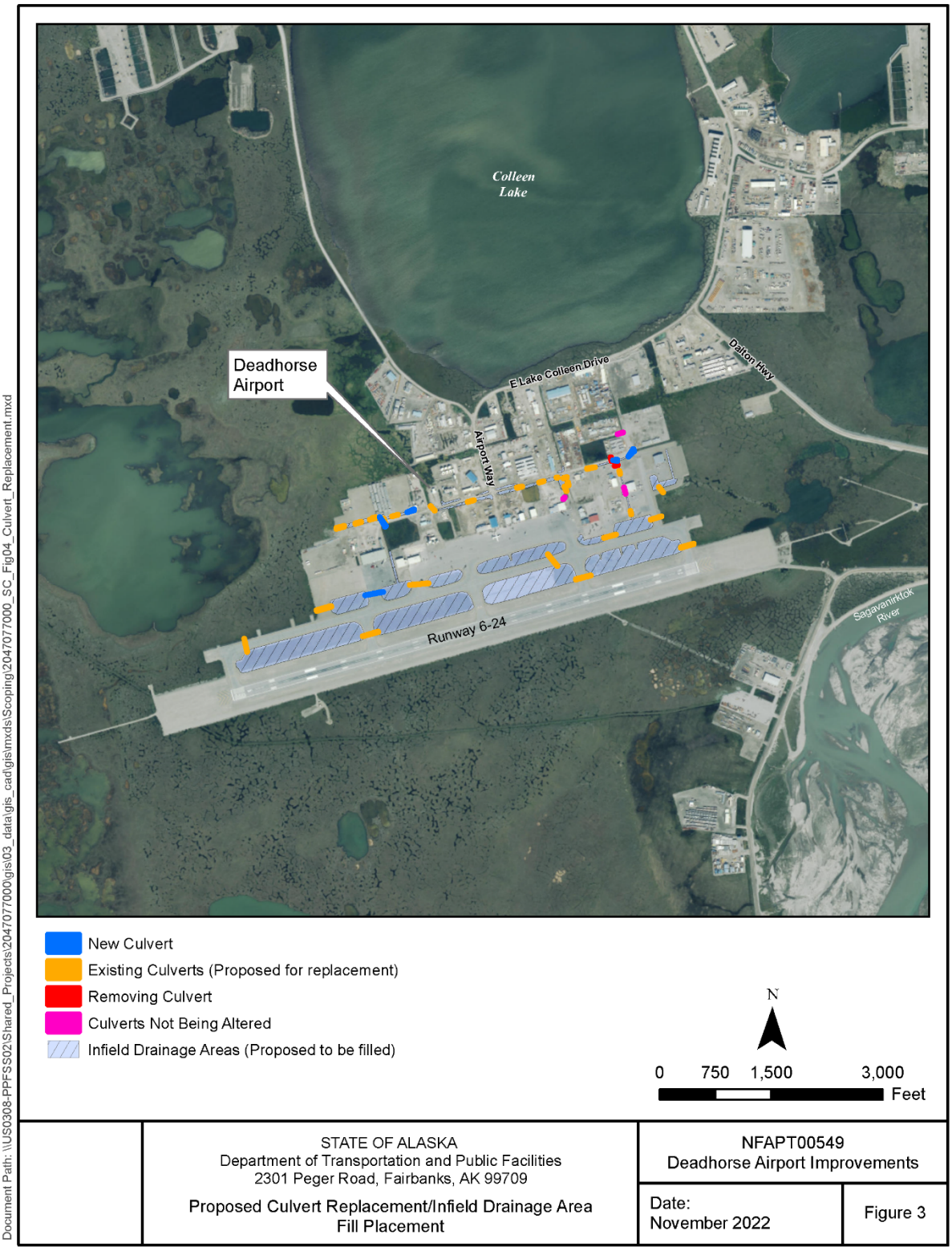

Figure 3. Proposed Culvert Replacement and Infield Drainage Area Fill Placement

2 Proposed Action

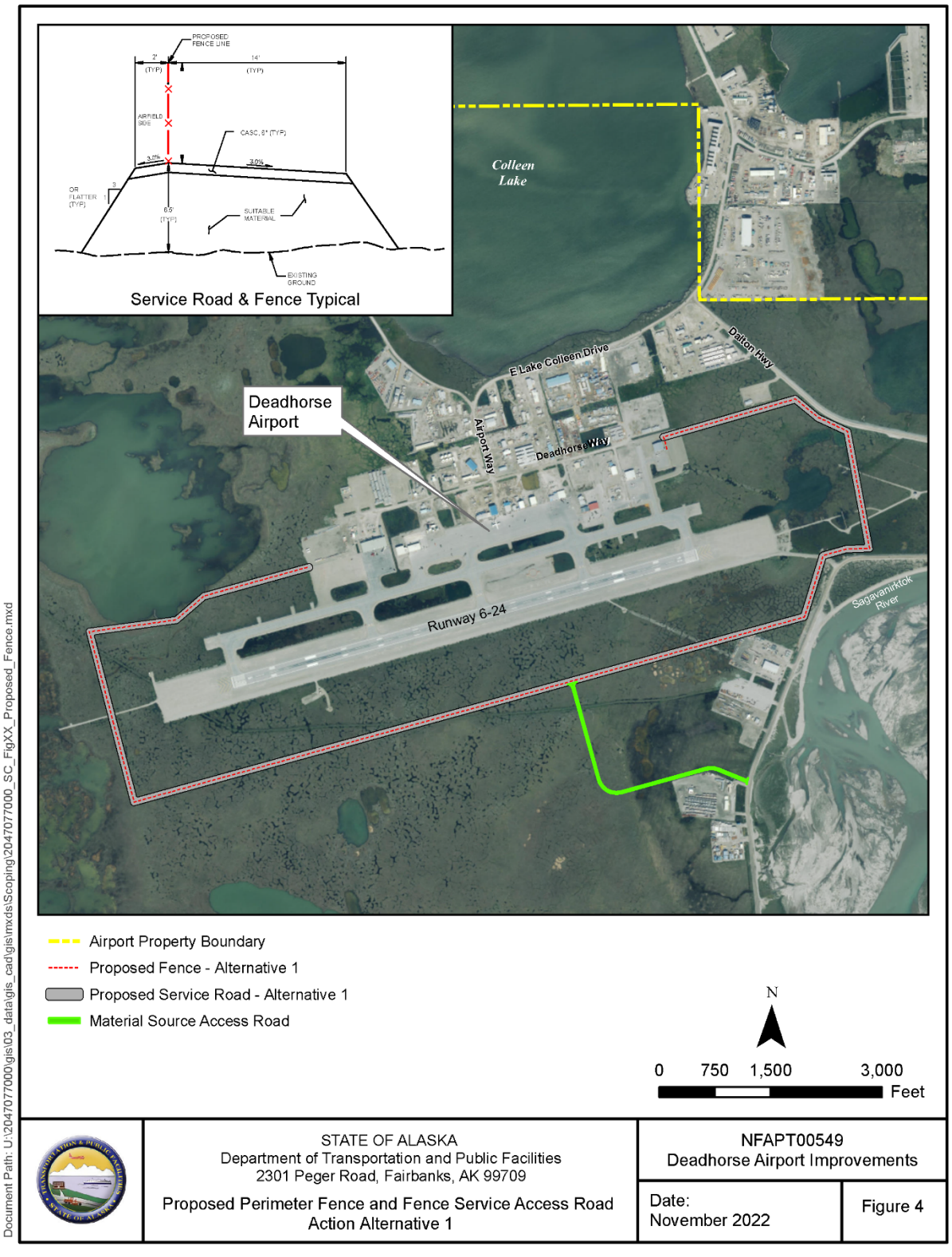

Figure 4. Proposed Perimeter Fence and Fence Service Access Road – Action Alternative 1

2.5 Action Alternative 2 Considered but Eliminated from Further Consideration

Action Alternative 2 would address and reduce wildlife access and safety concerns of incursions by caribou and other mammals accessing the runway, eliminate wildlife hazards posed by waterfowl utilizing existing infield ponds, improve infield drainage, and restore sufficient drainage on airport property at infield locations and along Deadhorse Way by implementing the following:

- Replace and/or install new culverts on airport property at infield locations and along Deadhorse Way, replace existing airport and highway pavements and taxiway lighting as necessary for completing drainage improvements, rehabilitate select existing drainage ditches along Deadhorse Way embankments; relocate known utilities affected by completion of drainage improvements; regrade and/or place fill in select infield locations to aid in drainage and wildlife hazard control (Figure 3).
- Construct an approximately 23,500-foot-long airport perimeter wildlife fence and associated gates for access control, an associated fence maintenance service road, and fence security features to exclude large mammals from accessing operational surfaces. To minimize construction on unstable soils, avoid potential operations to airport navigational aids, and reduce the amount of required new fence embankment construction, the proposed road and fence routing would include the existing VOR building east of the runway within its perimeter and incorporate portions of both the existing VOR/Runway access road embankment and existing Dalton Highway embankment for fence construction. This routing would additionally provide for another means of access to the Dalton Highway nearby the VOR (Figure 5).
- Construct a permanent material source access road between the southern portion of the new fence maintenance service road and a point on the Dalton Highway near the southeastern extent of the airport property (Figure 5).

2.5.1 PERMITS AND AUTHORIZATIONS

Permits required to construct the proposed action Include:

- United States Army Corps of Engineers (USACE), Section 404 Clean Water Act (CWA) Individual Permit
- Alaska Department of Environmental Conservation (ADEC), Section 401 CWA Certificate of Reasonable Assurance; Alaska Pollutant Discharge Elimination System (APDES) General Permit for Discharges from Large and Small Construction Activities
- North Slope Borough IHCL TLUI resource clearance certification
- North Slope Borough Traditional Land Use Inventory Clearance (Form 600)
- North Slope Borough Land Management Resource (LMR) Permit

- Alaska Construction General Permit (CGP)
- ADF&G Title 16 Fish Habitat Permit (if applicable to contractor proposed water source)
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Approvals through consultation with:

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- United States Fish and Wildlife Service Section 7 Consultation
- Department of Transportation Act Section 4(f) Consultation

Action Alternative 2 would meet the purpose and need of the proposed action by correcting Part 139 safety issues by constructing 23,500-foot fence to prevent caribou and other mammal incursions into airport operational surfaces; decrease risk of bird strikes by grading and filling infield areas to eliminate waterfowl nesting habitats; and resolve drainage deficiencies by implementing drainage improvement work. However, the incorporation of airport perimeter fencing into the existing Dalton Highway embankment would cause substantial snow drifting across that section of the highway, causing recurrent, hazardous road conditions for the public, and require more frequent and costly winter highway maintenance operations. Additionally, Alternative 2 would require approximately 15% more fencing material and construction cost and, long term, there would be 15% more fence to service and maintain than Alternative 1. For these reasons Alternative 2 was dismissed from consideration (Section 2.3, Table 1).

2.6 Preferred Alternative

Action Alternative 1 was chosen as the preferred alternative based on the following:

- The proposed action purpose and need would be met by Action Alternative 1.
- Alternative 2 would require less placement of fill in wetlands resulting in fewer wetland acre impacts and loss. However, during the scoping period, DOT&PF Dalton Highway maintenance staff indicated that incorporating airport perimeter fencing into the existing Dalton Highway embankment would cause substantial snow drifting across that section of the highway, and result in recurring, hazardous road conditions for the public and requiring more frequent and costly highway maintenance operations.
- Action Alternative 2 would require approximately 15 percent more fencing material, and funding to construct, service and maintain, in the long term, than Alternative 1.

For the reasons detailed above, action Alternative 2 is not a reasonably practicable alternative that meets the proposed action purpose and need as safely and efficiently as Alternative 1. Consequently, Alternative 2 was dismissed from further consideration.

2 Proposed Action

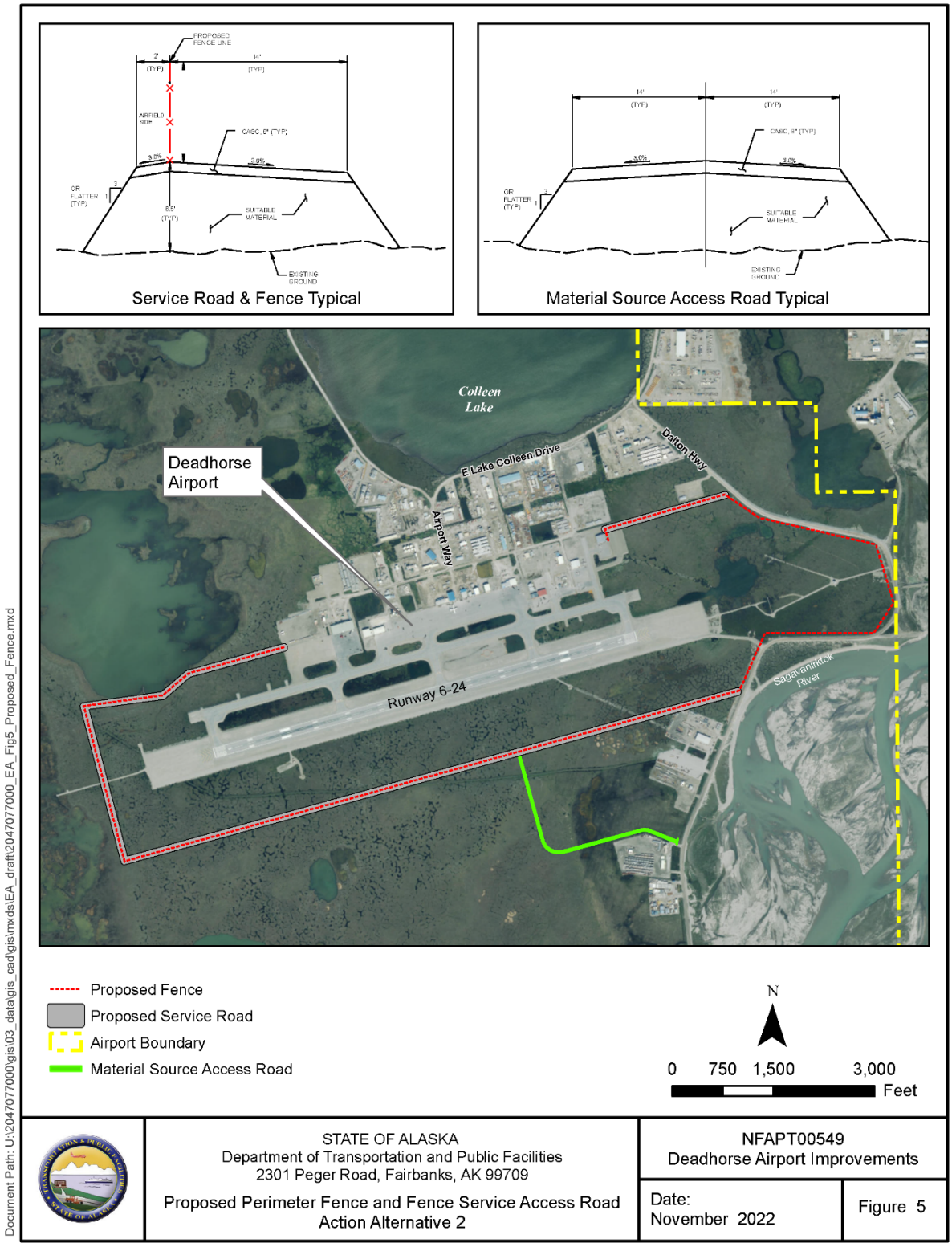

Figure 5. Proposed Perimeter Fence and Fence Service Access Road – Action Alternative 2

2.7 Summary of Environmental Consequences

Table 2 provides a summary of the environmental and human resource categories areas identified for further analysis and potential impacts to them from the proposed action and No Action alternatives.

Table 2. Summary of Environmental and Human Resource impact Categories and Potential Impacts Identified for Further Analysis

Environmental & Human Resource Impact Category	Proposed Action	No Action
Environmental Impacts[1]		
Biological resources	• Potential taking of federally listed terrestrial or marine Threatened or Endangered wildlife, fish or plant species or their critical habitats. • Adverse impacts to migratory birds and habitats as regulated by the Migratory Bird Treaty Act (MBTA) • Adverse impacts to Essential Fish Habitat (EFH) • Adverse impacts to state-regulated wildlife, fish, and plant species • Importation or spread of invasive exotic species to project area	• Wildlife (mammals & birds) would continue to access and/or be provided with potential suitable habitat on Deadhorse Airport operational surfaces. These species would remain a strike threat to aircraft and require ongoing hazing/removal by airport maintenance personnel. In addition to federally listed polar bears, various species of federally regulated migratory birds and other state-regulated species used for subsistence by regional Alaska Native and other user groups would remain adversely affected.
Hazardous materials, solid waste, and pollution prevention	• Generation of hazardous materials • Generation of solid wastes • Liberation or release of existing hazardous material at project site • Off-site migration of hazardous materials	• Existing hazardous materials and substances which would be potentially excavated, removed from the project site, and transported to appropriate remedial or disposal sites would remain intact at Deadhorse Airport.
Historical, architectural, archaeological, and cultural resources	• Potential adverse impacts to identified historical, architectural, archaeological, or cultural resources. • Inadvertent discovery of undocumented historical, architectural, archaeological, or cultural resources	None
US Department of Transportation Section 4(f) Resources	• Potential use of or adverse impacts to Section 4(f) resources for transportation purposes	None

2 Proposed Action

Environmental & Human Resource Impact Category	Proposed Action	No Action
Water Resources (partial) • Wetlands • Floodplains	• Construction of the proposed action would result in a loss of 78.6 acres of wetlands, waters of the U.S.; and their associated wildlife habitat values. • Project impacts to area surface water quality. • Project encroachment of the Sagavanirktok River floodplain could potentially cause increased flooding of area transportation and/or Prudhoe Bay oilfield support infrastructure as well as alter existing wildlife habitat suites.	• Existing drainage deficiencies at Deadhorse Airport would continue to affect hydrologic connectivity between wetlands within the airport and along Deadhorse Way to off-site receiving waters, affecting wetland hydrologic function and values. • Potential concentration of on-airport soil and water contaminants to exceedances of regulatory thresholds in airport wetlands within areas of failed drainage
Climate	• Potential construction and operational Green House Gas (GHG) emissions modeled as potentially contributing to global climate change.	• Occasional extended air and ground operations of arriving and departing aircraft when potential strike hazard animals are present on operational surfaces would add result in additional fuel burn and resulting increase emission of GHG.

Note: 1. Only includes resource categories with potential adverse impacts and does not include non-applicable/non-Issue environmental impact categories

3 Affected Environment, Environmental Consequences, and Mitigation

This chapter provides a description of the existing environmental, social, and economic setting for the area that would be affected by the proposed action. It provides information to serve as a baseline from which to identify and evaluate environmental changes associated with the implementation of the proposed action. The environmental components addressed include relevant natural or human environments likely to be affected by the proposed action alternatives.

The affected environment consists of baseline conditions used for analysis of environmental effects from alternatives described in Chapter 2. A region of influence (ROI) is described for each resource area. The ROI varies among resources and defines the geographic extent of potential effects from the alternatives on the important elements of that resource. Each section in this chapter delineates its ROI and identifies the topics and resources addressed by that section.

Following the affected environment discussion for each resource is the presentation of environmental consequences or effects of each alternative. Changes to the natural and human environments that may result from the proposed action and No-Action Alternative were evaluated relative to the existing environment. FAA Order 1050.1F (FAA 2015a) and FAA 1050.1F Environmental Desk Reference for Airport Actions (FAA 2020) provide guidance on FAA NEPA documentation and provide direction for the evaluation of potential impacts of a proposed federal airport project on specific environmental categories. Any mitigation measures identified to reduce or eliminate the impact of an alternative on a resource are identified within the analysis for that resource area. This organization is intended to allow the reader to focus their review on the existing condition and impacts to a particular resource area of concern.

Environmental effects are defined in the CEQ NEPA implementing regulations (40 CFR 1500-1508) as changes to the human environment from the proposed action or actions that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action. Direct effects are caused by the action and occur at the same time; indirect effects are caused by the action and occur later in time. Cumulative impacts are those impacts on the environment that result from the incremental impacts of the proposed action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or individual undertakes such other actions. In addition to the proposed action, the project would require acquisition and transport of materials for resurfacing, embankment construction, and other activities.

The qualitative terms used to assess the anticipated impacts associated with each of the alternatives are defined as:

- **None**-No measurable impacts are expected to occur.
- **Less than Significant**-Adverse impacts are expected to occur; impacts would be noticeable and would have a less than significant effect on the resource.
- **Significant**-Adverse impacts are expected to occur; impacts would be obvious and would have serious consequences on the resource.

3.1 Past, Present, and Potential Future Actions

Past projects at the airport used in the evaluation of cumulative impacts for the proposed action include the 2006 Deadhorse Aviation Center/Marsh Creek, LLC, hangar facility; the Alaska Frontier Constructors, Inc., maintenance shop; the 2011 Airport Rescue and Fire Fighting (ARFF) Bay Addition with Sand Storage Building; and the 2014 Deadhorse Airport Taxiway F Widening and Security Fencing Project.

There are no other past, present, or future projects at the airport considered in the cumulative analysis. Cumulative impacts are not evaluated for the No Action Alternative, as this alternative does not change the existing environment.

Background information presented in this EA is based on the Final Environmental Assessment, Deadhorse Safety Area Expansion (DOWL Engineers 2004); Environmental Assessment, Deadhorse Airport ARFF Bay Addition with Sand Storage Building (PDC Inc. 2011); and Final EA Deadhorse Airport Taxiway F Widening and Security Fencing Project, Deadhorse, Alaska (USKH Inc. 2013) with information updated to the latest information available and current conditions.

3.2 Presentation of Environmental and Human Health Resources

3.2.1 ENVIRONMENTAL AND HUMAN RESOURCE IMPACT CATEGORIES DISMISSED FROM FURTHER ANALYSES

After consideration of the anticipated impacts of the proposed action and other alternatives, the following resources summarized in Table 3 were identified as not having a potential for other than insignificant impacts and are dismissed from further consideration:

Table 3. Non-Issue Resource Categories

Environmental & Human Resource Impact Categories	Evaluation
Air Quality	• The Alaska Department of Environmental Conservation (ADEC) Air Non-Point Mobile Source website (ADEC 2022a) indicated the proposed action is not in an air quality maintenance or non-attainment area for National Ambient Air Quality Standards. • No air quality analysis is needed because forecasted operations are less than 1.3 million passengers and less than 180,000 operations annually (FAA 2015a). • There are no ADEC-reported PM2.5 or PM10 (i.e., particulate matter 2.5 or 10 microns, respectively) data or concerns with suspended particulate matter at Deadhorse (ADEC 2022b). • Temporary impacts from construction are described in Section 4.7.

Environmental & Human Resource Impact Categories	Evaluation
Coastal Resources	• A Coastal Zone Management Plan for the North Slope Borough was adopted in 1988 as part of the State of Alaska and National Coastal Management programs under the Coastal Zone Management Act (North Slope Borough 2019). The Alaska Coastal Management Program expired on July 1, 2011, and is no longer regulatory (Alaska Statue 44.66.030). However, NSB provisions in the Alaska Coastal Management Program are retained in North Slope Borough Municipal Code (NSBMC). To comply with NSBMC, the proposed action would require approval and permitting under code Titles 12 and 19. Given the scope and location of the proposed action, effects to coastal resources would be insignificant.
Farmlands	• There are no prime or unique farmlands in or near the Deadhorse Airport as defined by the Farmland Protection Policy Act of 1981.
Land and Water Conservation Fund Section 6(f) Lands	• No Section 6(f) Land and Water Conservation Fund lands lie within or proximate to Deadhorse Airport and consequently no impacts to Section 6(f) resources.
Land Use	• The proposed action area is owned by the State of Alaska and that land has been designated for airport purposes. • For Deadhorse Airport, the proposed action is consistent with the Alaska Department of Transportation and Public Facilities (DOT&PF) Deadhorse Airport Master Plan update (DOT&PF 2012), which provides in its Section 4.2.11, Airport Safety Fencing and Security Fencing, that “Critical portions of the airport are fenced, but the fence does not encircle the entire airport. Fencing causes snow drifting, which becomes a maintenance issue. The Transportation Safety Administration has requested additional fencing and gates; therefore, the existing fencing is not adequate.” • The proposed action is consistent with the 2019-2039 North Slope Borough Comprehensive Plan (North Slope Borough 2019) goals of providing essential public infrastructure and services and improving transportation between communities. • The proposed action is consistent with the Alaska Department of Natural Resources North Slope Area Plan (ADNR 2021) Deadhorse Airport Unit management intent to manage Deadhorse Airport under an interagency agreement with DOT&PF; to manage the Dalton Highway Corridor Unit as a utility and transportation corridor to facilitate transportation of oil and gas resources from the North Slope to facilities in other areas of the state; to support subsistence hunting, fishing and gathering, recreation, and sport hunting opportunities. • The Alaska Department of Natural Resources North Slope Area Plan (ADNR 2021) Guideline C-5 of Plan Objective C notes avoiding potential relocation costs due to climate change induced sea-level rise and diminished winter sea ice, placement of infrastructure in coastal areas susceptible to sea-level rise should be minimized to the extent practicable. The proposed action does not conflict with Objective C. • No land use conflicts exist.
Natural Resources and Energy Supply	• The proposed action would not change energy requirements for Deadhorse. • Geotechnical materials are a natural resource required for construction. An adequate volume is commercially available from local material sites. The proposed action would not result in demand exceeding available supplies.
Noise and Noise-Compatible Land Use	• The proposed action is not expected to increased existing airport noise impacts. • Temporary impacts from construction are addressed in Section 4.7.

Environmental & Human Resource Impact Categories	Evaluation
Socioeconomic, Environmental Justice, and Children's Environmental Health and Safety Risk	• The proposed action would benefit local or regional socioeconomics, children's health and safety, and environmental justice by improving airport operational safety and efficiency in a region with a high population of Alaska Native residents that routinely use the air passenger and freight services at Deadhorse Airport. • Government to government consultation was completed by FAA, and the recognized Tribes of the proposed action area include the Native Village of Nuiqsut, Kaktovik Village, and the Inupiat Community of the Arctic Slope. No concerns were raised about the potential for the Deadhorse Airport Improvements Project to uniquely or significantly affect these Tribes (Appendix B). • No changes or shifts in population movement or growth, public service demands, or business and economic activity are expected to result from the proposed action.
Visual Effects (including light emissions)	• The proposed action would not substantively change the existing visual character of the existing developed airport or measurably increase light emissions to the surrounding community. • In addition to existing airport infrastructure, existing visual and aesthetic resources of the proposed action area range from transportation and active oilfield industrial infrastructure to proximate compartments of undisturbed tundra interspersed with an interconnected grid of roadway embankments, communication lines and towers, navigation light and roadway light stanchions, various fences, and pipelines. Consequently, the proposed action would also not substantively alter the overall visual character of the local area.
Water Resources (partial) • Surface Waters • Groundwaters • Wild and Scenic Rivers	• The Sagavanirktok River is located approximately 500 feet east of the nearest proposed action construction area, and approximately 500 feet east of Mine Site 3, which would source the fill material, at Dalton Highway MP 411-412. • Colleen Lake is located approximately 1,400 feet north of the proposed action area's northern extent at Deadhorse Way. • Numerous other smaller, unnamed lakes and ponds are located throughout airport property and the Dalton Highway MP 411-412 material site area. • Neither the Sagavanirktok River nor Colleen Lake are listed as impaired waterbodies on the ADEC 303(d) List of Impaired Waterbodies (ADEC 2022c); and no known water quality impairments to other surface waters surrounding Deadhorse Airport. • The proposed action would not adversely affect the airport water supply and would not have long-term effects on water quality. • Water quality may be affected when wetlands cannot perform their ecological function. While the proposed action results in a loss of 78.6 acres of area wetlands, loss of this acreage in and directly adjacent to a primarily heavy industrial and transportation hub facility setting, and the regionally ubiquitous nature of undisturbed, similar wetland habitats, is anticipated to result in minimal effects to area water quality and aquatic wildlife habitats. Wetland impacts are discussed in Section 4.5. • No private drinking water wells are located within the proposed action limits. No sole source aquifers are located in Alaska. • A review of the ADEC Impaired Waters mapper (ADEC 2022c) indicated that no impaired water bodies are located in the proposed action area. • Construction impacts are identified in Section 4.7. • No designated state or federal Wild or Scenic rivers are near the proposed action.

3.2.2 SUMMARY OF ENVIRONMENTAL AND HUMAN HEALTH RESOURCES CARRIED FORWARD FOR ANALYSES

After consideration of the anticipated impacts with the proposed action and public and agency input provided during scoping, the following resources were identified as having potential significant impacts in

association with the implementation of the proposed action and carried forward for detailed analysis in this EA (see Section 4):

- Biological Resources – Migratory Birds, Invasive Species
- Hazardous Materials, Pollution Prevention, and Solid Waste
- Historic, Architectural, Archaeological, and Cultural Resources
- US Department of Transportation Section 4(f) Resources
- Water Resources
    - Wetlands
    - Floodplains
- Climate

Additionally, potential Temporary Construction Impacts are summarized, and which may include temporary, minor, or other insignificant effects to any resource during construction, including those in resource categories dismissed from further analyses of potentially significant impacts and which would be avoided or minimized by implementation of environmental commitments regarding best management practices and other practices.

4 Environmental and Human Health Resources Carried Forward for Analyses

The following subsections provide detailed analyses of potential impacts to resources considered vulnerable to proposed action effects.

4.1 Biological Resources

FAA guidance on NEPA implementation (FAA 2020) considers that biological resources are valued for their intrinsic, aesthetic, economic, and recreational qualities and include fish, wildlife, plants, and their respective habitats. Typical categories of biological resources include:

- terrestrial and aquatic plant and animal species;
- game and non-game species;
- special status species (state or federally-listed threatened or endangered species, marine mammals, or species of concern, such as species proposed for listing or migratory birds); and
- environmentally sensitive or critical habitats.

4.1.1 SIGNIFICANCE THRESHOLD

The FAA has not established a significance threshold for non-federally listed species, however factors considered 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.
- 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.

The significance threshold as defined by FAA (2020) for federally listed biological resources (e.g., fish, wildlife, vegetation) occurs when the U.S. Fish and Wildlife Service or the National Marine Fisheries Service 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. The US Fish and Wildlife Service or the National Marine Fisheries Service determine whether 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 habitats.

4.1.2 AFFECTED ENVIRONMENT

The biological resources described in this section include fish, wildlife including both threatened and endangered as well as other species, and plants specific to the general project area. As many species found in the project area are ubiquitous across the arctic coastal plain, and likewise are utilized by, and shared and bartered between, residents of villages across the North Slope Borough, the ROI for biological resources is the North Slope Borough.

4.1.2.1 Fish

There are two anadromous fish streams located near the proposed action area based on review of the Alaska Department of Fish and Game's (ADF&G) online Anadromous Waters Catalog (AWC) mapper on September 12, 2022 (ADFG 2022a). The nearest is the West Channel Sagavanirktok River (AWC# 330-00-10361), located approximately 1,000 feet southeast of the proposed action area, which provides habitat for chum salmon (*Oncorhynchus keta*), pink salmon (*O. gorbuscha*), broad whitefish (*Coregonus nasus*), and least cisco (*C. sardinella*) and provides rearing habitat for Dolly Varden (*Salvelinus malma*). A small tributary stream of the West Channel Sagavanirktok River (AWC# 330-00-10361-2090), located approximately 6,000 feet south of the proposed material site access road access point at the Dalton Highway, flows eastward beneath the Dalton Highway from within a private, permitted material site and provides habitat for broad whitefish and other whitefish species, least cisco, and Dolly Varden. While both streams are listed in the 2022 ADF&G *Catalog of Waters Important for Spawning, Rearing, or Migration of Anadromous Fishes – Arctic region* (Giefer and Graziano 2022), neither anadromous waters or essential fish habitat are within the proposed action area, nor are they connected to it by surface waters.

4.1.2.1.1 Applicable Regulations

- Alaska Statutes Title 16. *Fish and Game* regarding fish habitat permitting for protection of fish resources by the Alaska Department of Fish and Game.
- Alaska Administrative Codes 11 AAC 93.035 & 11 AAC 93.220 regarding temporary water use/withdrawal permitting by the Alaska Department of Natural Resources.

4.1.2.1.2 Applicable Environmental Commitments

Contractors would abide by all operational and reporting stipulations as provided in applicable required ADF&G and ADNR permits regarding water withdrawal locations, timing, screening to prevent fish losses, and other activities that would potentially impact fish resources.

4.1.2.1.3 Mitigation Requirements

No mitigation activities would be required.

4.1.2.2 Terrestrial Wildlife

There are no state designated refuges, critical habitat areas, wildlife ranges, or sanctuaries in the proposed action vicinity (ADFG 2022b). State-managed mammals associated with the Deadhorse Airport area include caribou (*Rangifer tarandus*), brown bear (*Ursus arctos*), gray wolf (*Canis lupus*), wolverine (*Gulo gulo*), arctic fox (*Alopex lagopus*), red fox (*Vulpes vulpes*), arctic hare (*Lepus arcticus*) and muskoxen (*Ovibos moschatus*) (BASH 2021). The Central Arctic caribou herd passes through the Deadhorse area during the summer (PDC Inc. 2011); and caribou frequently access airport property, presenting a significant hazard to aircraft. The airport has a no-tolerance policy for wildlife on airport property, and on-site U.S. Department of Agriculture Wildlife Services and DOT&PF personnel frequently conduct hazing operations.

4.1.2.2.1 Applicable Regulations

- Alaska Statutes Title 16. Fish and Game

4.1.2.2.2 Applicable Environmental Commitments

DOT&PF contract documents for the proposed action will include stipulations that wildlife encountered by contractors will not be fed, hunted, chased, captured, or otherwise harassed by project contractors within the proposed action area. These stipulations would not restrict wildlife control actions conducted by authorized personnel on airport property.

4.1.2.2.3 Mitigation Requirements

No mitigation activities would be required.

4.1.2.3 Bald Eagles and Golden Eagles

While the Deadhorse Airport area does not provide habitat for eagles and no eagle nests have been identified in the proposed action vicinity, a February 12, 2022, review of U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) data (USFWS 2022) provided that bald eagles (*Haliaeetus leucocephalus*), while not a bird of conservation concern in the proposed action area, warrant attention per the Eagle Act and eagles' potential susceptibilities to development in offshore areas.

4.1.2.3.1 Applicable Regulations

- Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668–668c)

4.1.2.3.2 Applicable Environmental Commitments

Project contract documents will specify that should Deadhorse Airport personnel or the DOT&PF project engineer determine, or be advised that, there has been an eagle sighted in the project vicinity, to report such sightings to the DOT&PF project Environmental Analyst. The DOT&PF project Environmental

Analyst will convey that information to the USFWS office in Fairbanks to obtain guidance on potential measures to take at the project site.

4.1.2.3.3 Mitigation Requirements

No mitigation activities would be required.

4.1.2.4 Migratory Birds

Migratory birds listed by IPaC as present in the proposed action area include American golden-plover (*Pluvialis dominica*), bar-tailed godwit (*Limosa lapponica*), dunlin (*Calidris alpina*), and snowy owl (*Bubo scandiacus*). Wetlands surrounding the Deadhorse Airport are a breeding area for waterfowl, shorebirds, and passerines. Most migratory birds present within and near the proposed action are protected under the Migratory Bird Treaty Act (MBTA) and arrive to the area by the first week in June when snow-free tundra is available, to begin nesting (DOWL 2004).

4.1.2.4.1 Applicable Regulations

- The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712)

4.1.2.4.2 Applicable Environmental Commitments

To avoid construction impacts to eiders and other migratory birds, DOT&PF contract documents would not allow ground disturbing or fill activities to occur on original ground (OG) by contractors between June 1 and July 31 annually as recommended by USFWS (USFWS 2022).

Any unanticipated placement of fill and/or mechanized vegetation clearing on OG conducted between the dates of June 1 and July 31 will be completed only under a mitigative work plan approved by the USFWS under authority of the MBTA.

4.1.2.4.3 Mitigation Requirements

No mitigation activities would be required.

4.1.2.5 Threatened and Endangered Species

4.1.2.5.1 Eiders

Two eider species, Steller's eider (*Polysticta stelleri*) and spectacled eider (*Somateria fischeri*) are identified by IPaC as federally listed as threatened and potentially occurring in the proposed action area.

In response to FAA's May 4, 2022, Section 7 consultation finding on July 29, 2022 (Appendix C), the USFWS stated that both eider species nest within the proposed action area and across the North Slope of Alaska. However, densities are low, and Steller's eiders nest almost exclusively in the vicinity of Utqiagvik, approximately 200 miles northwest of the proposed action area. Both species can occur in coastal areas around Deadhorse as they migrate during summer and fall months. USFWS anticipates

negligible impacts to nesting spectacled eiders adjacent to the proposed action infrastructure, and appreciable impacts to nesting Steller's eiders are not expected because nesting Steller's eiders occur at a much lower density than do spectacled eiders. As existing disturbance associated with Deadhorse Airport likely discourages eiders from nesting within the proposed action area. Impacts of habitat loss to nesting listed eiders would be insignificant and disturbance to migrating listed eiders in habitats adjacent to the proposed action would be minor and temporary because eiders can respond to human presence or disturbance by moving away to a safe distance.

4.1.2.5.2 Polar Bears

Polar bears (*Ursus maritimus*) are a federally threatened species and are protected under both the Endangered Species Act and Marine Mammal Protection Act. Polar bears are known to use den sites near Deadhorse and may travel through the area. In response to FAA's May 4, 2022, Section 7 consultation finding on July 29, 2022 (Appendix C), the USFWS stated polar bears may occasionally pass through or den near the proposed action area, although their density is low, and encounters are expected to be infrequent. Transient (non-denning) bears entering the proposed action area could be disturbed by the presence of humans or equipment noise. However, that disturbance would be minor and temporary (i.e., limited to changes in behavior that would not be biologically significant) because transient bears would be able to respond to human presence or disturbance by departing the area.

Female polar bears may occasionally den near the Deadhorse Airport area. However, preferred denning habitat is characterized by steep, stable slopes that accumulate snow. Topographic relief in the proposed action area is minor and does not represent characteristic denning habitat. Additionally, given the proximity of the proposed action to existing infrastructure and human activity at the Deadhorse Airport, it is very unlikely that polar bears would den in the proposed action area.

4.1.2.5.3 Marine Mammals

National Marine Fisheries Service-managed Threatened and Endangered and other marine mammals are not present in the proposed action area; the proposed action location is not associated with the marine environment; and there will be no project-specific marine barging of equipment or material to the proposed action area.

4.1.2.5.3.1 Applicable Regulations

- Endangered Species Act (16 U.S.C. §§ 1531–1544)
- Marine Mammal Protection Act of 1972, 16 U.S.C. Ch. 31 §§ 1361–1362, 1371-1389, 1401-1407, 1411-1418, 1421-1421h, 1423-1423h

4.1.2.5.3.2 Applicable Environmental Commitments

To avoid and minimize potential impacts to listed polar bears during construction activities, a USFWS recommended Polar Bear Interaction Plan will be implemented for all project field and construction personnel to follow in the unlikely event a polar bear is encountered during proposed action activities.

4.1.2.5.3.3 Mitigation Requirements

No mitigation activities would be required.

4.1.2.6 Invasive Species

The area surrounding Deadhorse Airport is dominated by a wet tundra mosaic of grass and sedge in low areas, and dwarf shrub communities in drier areas. The dynamic river floodplains are vegetated by willow thickets and prostrate shrub communities, and also exhibit barren gravel bars (DOWL 2004). FAA (2020) provides only that for plant species, it might be appropriate to provide an overview of the type(s) of vegetative communities in and surrounding the study area (including invasive species). No other FAA significance threshold is provided; however, EO 13112 and EO 13751 are referenced as directing Federal agencies whose actions may affect the status of invasive species are 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.

4.1.2.6.1 Applicable Regulations

- EO 13112. Invasive Species
- EO 13751. Safeguarding the Nation from the Impacts of Invasive Species

4.1.2.6.2 Applicable Environmental Commitments

To reduce or obviate potential introduction or spread of invasive exotic plant species, the following would be contractually required of the proposed action contractor by DOT&PF during construction activities and other project operations:

- Project equipment will be power washed/decontaminated of soils and plant materials prior to importation to the project area or demobilization to other areas to prevent the introduction to and/or increase of invasive plant materials in the proposed action site from other locations.
- Project geotechnical materials will be either of locally sourced clean fill or excavated fill reused in place (subject to applicable ADEC contamination criteria) to prevent the introduction of invasive exotic plant materials.
- Exposed mineral soils will be stabilized (geotextile, pavement, coarse gravel/rock) as soon as reasonably practicable to reduce the area of suitable ground available for uncontrolled invasive plant establishment.
- All seed or plant materials used for erosion or other stabilization and landscaping will be certified native and/or locally produced and as recommended for the region by Alaska Department of Natural Resources (ADNR) publication *A Revegetation Manual for Alaska* (Wright 2023).

4.1.2.6.3 Mitigation Requirements

No mitigation activities would be required.

4.1.3 ENVIRONMENTAL CONSEQUENCES

4.1.3.1 Proposed Action Alternative

4.1.3.1.1 Direct and Indirect Impacts

ANTICIPATED IMPACTS: *Less Than Significant*

The proposed action would result in a loss of 78.6 acres of wetland habitat for flora and fauna. No essential fish habitat or fish species would be affected. New perimeter fencing would, by design, exclude and require caribou and other mammals to travel around the entire fenced airport operations area. However, fencing would not prevent area-wide access by caribou to various caribou habitats or affect either local caribou movements or regional caribou migration, as it would not at all restrict movement of wildlife peripheral to airport property. Waterfowl and other waterbird habitat within existing airport taxiway infield ponds would, by design, be removed. However, the area and region provide nearly ubiquitous, similar habitat that displaced birds could use both during migration, breeding, and nesting periods. To avoid construction impacts to eiders and other migratory birds, DOT&PF would not allow ground disturbing or fill activities by contractors in non-developed areas to occur between June 1 and July 31 annually as recommended by USFWS (USFWS 2022). In response to FAA's May 4, 2022, Section 7 consultation finding, in their July 29, 2022, concurrence, USFWS indicated that existing disturbance associated with current activities at the Deadhorse Airport likely discourages eiders from nesting within the proposed action area, and that disturbance to migrating listed eiders in habitat adjacent to the proposed action would be minor and temporary because eiders can respond to human presence or disturbance by moving away to a safe distance. Therefore, USFWS expects collective effects of the proposed action to nesting and migrating listed eiders would be insignificant.

To avoid and minimize potential impacts to listed polar bears during construction activities, a USFWS recommended Polar Bear Interaction Plan will be implemented for all project field and construction personnel to follow in the unlikely event a polar bear is encountered during proposed action activities. In response to FAA's May 4, 2022, Section 7 consultation finding, USFWS stated in their July 29, 2022, concurrence that effects of the proposed action on polar bears would be insignificant because 1) the density of polar bears in the proposed action area is low; 2) encounters with polar bears are expected to be rare; 3) behavioral effects to transient bears would not be biologically significant; 4) the proposed action area does not include characteristic denning habitat; and 5) the USFWS's Polar Bear Interaction Plan would further serve to avoid and minimize potential impacts in the unlikely event transient polar bears are encountered. Therefore, USFWS concurred with the FAA that the proposed action is not likely to adversely affect listed polar bears.

Collectively, based on informal consultation with USFWS as required by Section 7 of the Endangered Species Act (ESA), FAA concluded on May 04, 2022, and the USFWS concurred on July 29, 2022, that

the proposed action is not likely to have adverse effects on ESA-listed species. Section 7 informal consultation communications and the July 29, 2022, USFWS concurrence are provided in Appendix C.

The Alaska Exotic Plants Information Clearinghouse (AKEPIC 2021) was reviewed, and the database mapper indicated that no data on invasive plant species are available for the proposed action area. As some level of vegetation loss would be associated with the proposed action, DOT&PF would comply with EO 13112 *Invasive Species* and EO 13751 *Safeguarding the Nation from the Impacts of Invasive Species* by: 1) minimizing ground disturbing activities and revegetating disturbed areas with seed recommended for the region by Alaska Department of Natural Resources (ADNR) publication *A Revegetation Manual for Alaska*; 2) requiring that construction contractors' equipment be inspected and cleaned prior to mobilization to and demobilization from the construction site to minimize the potential for spread of vegetative materials; and 3) requiring erosion and sediment control materials used be as locally produced as feasible to minimize potential importation of new propagules from outside Alaska.

4.1.3.1.2 Cumulative Impacts

The cumulative impacts of the proposed action and present, past, and/or reasonably foreseeable projects are not anticipated to have a significant impact to biological resources.

4.1.3.2 No Action Alternative

The No Action Alternative would have no additional effect on fish and wildlife resources. However, caribou and other mammals would continue to have access to airport operational surfaces and infield ponds and continue to face a potential threat of aircraft or airport service vehicle collisions that could result in their injury or death as well as posing a serious threat to public safety and airport operations.

4.2 Hazardous Materials, Solid Waste, and Pollution Prevention

4.2.1 SIGNIFICANCE THRESHOLD

FAA Order 1050.1F (FAA 2015a) provides that the FAA has not established a significance threshold for hazardous materials, solid waste, and pollution prevention, though notes factors to consider when assessing their potential for adverse impacts. These include consideration of project actions that may:

- Violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management.
- Involve a contaminated site.
- 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 (2020) guidance elaborates on these factors by noting they are not intended to be thresholds. If these factors exist, there is not necessarily a significant impact; rather, FAA must evaluate these factors in light of context and intensity to determine if there are significant impacts.

4.2.2 AFFECTED ENVIRONMENT

As locations are known for existing contaminated sites that may be encountered or affected during proposed action activities within the proposed project area; and as impacts related to the storage and project use of hazardous materials would be within the proposed action area; and as contaminated materials or solid wastes would be disposed of appropriately by the contractor at permitted, off-site locations, the ROI for potential impacts of hazardous materials and solid waste is the proposed project area of Deadhorse Airport, including locations proposed for drainage improvement on Deadhorse Way.

Solid wastes from Deadhorse Airport operations are deposited in the local landfill, which is approximately 6 miles northwest of the airport property. Based on a database search of the federal National Priorities List current to September 09, 2022, (USEPA 2022) there are no existing or proposed federal Superfund hazardous wastes sites at or near the Deadhorse Airport. A search of ADEC's Contaminated Sites Program database (ADEC 2021) identified 12 contaminated sites within the proposed action airport construction area, and an additional 12 within approximately 1500 feet of that area within other on-airport operation areas and lease properties (Tables 4 and 5). An additional 12 contaminated sites of varying status are located from 1500 feet to 1 mile away from the proposed airport construction area.

Fieldwork was conducted to collect near-surface soil samples from the inlet and outlet locations for proposed excavation sites for nine culverts within the airport secure area and seven culverts along Deadhorse Way. Of these, 24 of 32 samples were near existing, ADEC-listed contaminated sites or along drainages from such contaminated sites. Samples were analyzed for PFAS, gasoline range organics (GRO), diesel range organics (DRO), benzene/toluene/ethylbenzene/xylene compounds (BTEX), and polycyclic aromatic hydrocarbons (PAH). One or more PFAS analytes were detected in 30 of the 32 primary samples, with detections exceeding the ADEC migration to groundwater cleanup level of 3.0 micrograms per kilogram (µg/kg) in six samples and ranging from to 3.7 µg/kg to 31 µg/kg. Although several fuel analytes were detected in the 24 primary samples near or associated within the drainage of existing contaminated sites, only benzene was detected above the ADEC migration to groundwater cleanup level of 0.022 milligrams per kilogram (mg/kg) in one sample of 0.0247 mg/kg. The remaining detections were below the ADEC cleanup levels, where such limits exist (Shannon & Wilson 2022) (Appendix D).

Table 4. Alaska Department of Environmental Conservation Contaminated Sites Within Proposed Deadhorse Airport Improvements Construction Limits

Status	ADEC Site Name	ADEC Hazard ID	Type Contaminant	Address	Longitude	Latitude
Active	Nana Oilfield Services Tank Farm	25664	DRO, GRO, xylene	Block 303 Lot 1	-148.467217	70.199026
	Alaska DOT&PF	25471	DRO	Block 304 Lot 1B	-148.459126	70.199971
	Alaska DOT&PF	26413	DRO	Block 304 Lot 2A	-148.458199	70.198949
	ERA Aviation Deadhorse Spill	2954	DRO, GRO, BTEX	ERA Avenue Terminal	-148.451942	70.198887
Cleanup Complete with Institutional Controls	Alaska DOT&PF	1963	xylene, PCE, DRPH	Block 700 Lots 7A-8	-148.469622	70.198689
	Arctic Util. Inc., NANA, TDX	4027	DRO, BTEX	Block 301 Lot 2A	-148.459167	70.197222
	Sea Air Motive Pad (former)	1447	TPH	Deadhorse Drive	-148.452907	70.199758
Cleanup Complete	FAA Deadhorse Facility	4350	DRO, RRO	Block 700 Lot 7A	-148.469000	70.198750
	MarkAir Deadhorse	1170	TPH	Block 303 Lot 5	-148.457944	70.199444
	MarkAir Deadhorse	2967	DRO, xylene	Block 304 Lots 1A-B	-148.460000	70.199500
	Audi Air	1746	TPH	Block 900 Lots 9 and 10	-148.451583	70.198556
	Prudhoe Bay Commerce Co. Pad	1976	DRO, GRO	Block 80 Lot 2	-148.451611	70.200722

Key: **DOT&PF**= Department of Transportation and Public Facilities,
BTEX: benzene/toluene/ethylbenzene/xylene compounds, **DRO**=diesel range organics,
DRPH=diesel range petroleum hydrocarbons **GRO**=gasoline range organics,
PAH=polycyclic aromatic hydrocarbons, **TPH**=total petroleum hydrocarbons

Table 5. Alaska Department of Environmental Conservation Contaminated Sites Less than or Equal to 1500 Feet from Proposed Deadhorse Airport Improvements Construction Limits

Status	ADEC Site Name	ADEC Hazard ID	Type Contaminant	Address	Longitude	Latitude
Active	Nana Oilfield Services Fuel Station	25765	DRO, GRO, BTEX	1001 Airport Way	-148.464768	70.199729
Cleanup Complete Institutional Controls	TX Iron Works/Prudhoe Bay Storage	2520	DRO	Block 50 Lot 8	-148.470000	70.201000
	Caribou Construction	3850	DRO	Block 2000 Lot 2	-148.433800	70.190100
Cleanup Complete	Airport Lease Property	2365	DRO, benzene	Block 60 Lot 2B	-148.462600	70.202300
	Conam Construction Pad	2372	TPH	Block 70 Lots 1-2	-148.454866	70.203281
	Arctic Coiled Tubing	1172	DRO, xylene	Block 70 Lot 5B	-148.446747	70.204134
	Deadhorse Hotel Pad	885	DRO	Block 70 Lot 6	-148.445522	70.204285
	Cold Weather Contractors	1171	TPH, CFC, VOC	Block 70 Lot 5A	-148.442971	70.204274
	Global East Laydown Yard	26746	DRO, GRO	Block 500 Lot 1	-148.432573	70.202945
	FAA Deadhorse UST #7-9-1 [VOR]	22892	DRPH	Deadhorse Airport	-148.416500	70.199127
	Haliburton Geophysical – Deadhorse	399	TPH, pesticides	Block 2300 Lot 2	-148.436500	70.188200
	Haliburton Energy Services–Dalton	3259	DRO, RRO	Block 2300 Lot 2	-148.438100	70.188400

Key: **BTEX**: benzene/toluene/ethylbenzene/xylene compounds, **DRO**=diesel range organics, **DRPH**=diesel range petroleum hydrocarbons, **GRO**=gasoline range organics, **PAH**=polycyclic aromatic hydrocarbons, **RRO**=residual range organics, **TPH**=total petroleum hydrocarbons, **VOC**=volatile organic compounds

4.2.2.1 Applicable Regulations

- 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
- Emergency Planning and Community Right to Know Act 42 U.S.C. §§ 11001-11050

- Hazardous Materials Transportation Act 49 U.S.C. §§ 5101-5128
- Pollution Prevention Act 42 U.S.C. §§ 13101-13109
- Resource Conservation and Recovery Act 42 U.S.C. §§ 6901-6992k
- Toxic Substances Control Act 15 U.S.C. §§ 2601-2697
- Executive Order 12580, Superfund Implementation as amended by Executive Order 13016, as further amended by Executive Order 13308 52 Federal Register 2923, (January 23, 1987); 61 Federal Register 45871, (August 30, 1996); 68 Federal Register 37691, (June 20, 2003)
- Alaska Department of Environmental Conservation, 4 April 2019, Technical Memorandum – Establishing Arctic Zone Cleanup Levels (ADEC 2019)
- 18 AAC 62.020. Identification of hazardous waste.
- 18 AAC 62.500 – 62.511 Standards Applicable to Specific Hazardous Wastes and Facilities
- 18 AAC 75.300. Discharge or release notification; reporting requirements.

4.2.2.2 Applicable Environmental Commitments

In coordination with ADEC, DOT&PF has developed and will implement a Contaminated Soils Management Plan (CSMP) to address identification, testing, handling, and disposal of potentially PFAS-contaminated material discovered or excavated during construction activities (Appendix D). The ADEC approved the final CSMP on February 2, 2023. The construction contractor would implement the CSMP to avoid and minimize the release or spread of PFAS or other contamination.

A Hazardous Materials Response Plan and Spill Prevention, Control, and Countermeasures Plan would be developed and implemented by the construction contractor to identify appropriate storage, use, and disposal protocols for hazardous materials, including fuels and lubricants, present during construction and also outlining spill response protocols.

Construction contracts will include a provision that if contaminated soil or groundwater is suspected or encountered during construction activities, the construction contractor will contact the DOT&PF project engineer and stop the work so that DOT&PF can coordinate with ADEC in accordance with 18 Alaska Administrative Code 75.300. All contamination will be handled and disposed of in accordance with an ADEC-approved corrective action plan.

All solid wastes generated during construction will be disposed of at a permitted landfill or alternatively as per the CSMP for PFAS- or petroleum contaminated materials.

4.2.2.3 Mitigation Requirements

No mitigation activities would be required.

4.2.3 ENVIRONMENTAL CONSEQUENCES

4.2.3.1 Proposed Action Alternative

4.2.3.1.1 Direct and Indirect Impacts

ANTICIPATED IMPACTS: ***Less Than Significant***

The proposed action alternative would require multiple excavations of existing placed fill and soils to remove and replace drainage features (i.e., culverts), improve drainage ditches, and relocate utilities as necessary. Ground disturbing activities would be limited to locations of existing culverts, drainage ditches, and utility service poles and conduit that would be replaced, improved, or moved to benefit overall proposed action area drainage. Construction activities would not disturb other areas of existing placed fill or original ground. Infield pond areas within the airport apron and taxiway area would not be excavated prior to placement of new material in preparation for final grading for appropriate drainage geometry.

PFAS- and petroleum contaminated materials would be excavated at several proposed action locations, and analyses of potential PFAS impacts associated with these excavations was developed in part based on required implementation of the ADEC-approved CSMP during construction activities (Appendix D). The construction contractor would implement the CSMP to avoid and minimize release or spread of contaminants to either uncontaminated sites within the proposed project area or to other uncontrolled locations off-site.

Should unanticipated contaminated soils or water be encountered during excavation associated with culvert replacement or drainage improvements, all work in the contaminated location would be stopped and the ADEC would be consulted to coordinate appropriate cleanup actions. In addition to contractor implementation of the CSMP, the proposed action would be conducted in accordance with all other state and federal laws regarding handling, disposal, and spill response for hazardous materials, wastes, and other pollutant substances.

No other direct or indirect adverse impacts to known contaminated sites are anticipated. No hazardous materials would be used for, or during, construction. No hazardous waste would be generated, with the potential exception of PFAS-contaminated material from excavations that would be handled in strict accordance with the CSMP.

4.2.3.1.2 Cumulative Impacts

Cumulative hazardous material or solid waste impacts of the proposed action and present, past, and/or reasonably foreseeable projects are not anticipated to be significant. Notably, no cumulative impacts of PFAS-contaminated material excavation or handling are anticipated, as materials determined to not contain levels of PFAS or petroleum constituents exceeding ADEC contamination limits would be reused as fill at their respective excavation sites, stockpiled for use in other areas containing equal to or greater than their levels of contamination or, if exceeding ADEC contamination limits, separated and stockpiled for removal to appropriate off-site disposal or remediation facilities. Combined effects of these proposed practices in conjunction with other past or potential future projects contributing to PFAS or other

contamination would be to cumulatively reduce contaminant loading from the Deadhorse Airport through the proposed action.

4.2.3.2 No Action Alternative

The No Action Alternative would not excavate, handle, store or generate any PFAS or other hazardous materials or solid wastes, and existing project area levels of contaminants would not be reduced by their discovery and removal during construction.

4.3 Historical, Architectural, Archaeological, and Cultural Resources

4.3.1 SIGNIFICANCE THRESHOLD

FAA Order 1050.1F (FAA 2015a) provides that FAA has not established a significance threshold for impacts to historical, architectural, archeological, and cultural resources, though notes that a factor to consider is whether a proposed action would result in a finding of adverse effect to such resources through the Section 106 process. FAA (2020) guidance elaborates on the effects of such a factor, detailing that a proposed finding of adverse effect to historic properties is appropriate when a proposed project would:

- physically destroy or damage the property.
- alter the property in a way that is inconsistent with the Secretary of the Interior's Standards for Treatment of Historic Properties.
- remove the property from its historic location.
- change the character of the property's use, or of physical features within the property's setting that contribute to its historic significance.
- introduce an atmospheric, audible, or visual feature to the area that would diminish the integrity of the property's significant historic features (including its setting, provided the setting has been identified as a contributing factor to the property's historical significance).
- result in neglect of a property which would cause its deterioration; or
- result in the transfer, sale, or lease of a property out of federal ownership or control without adequate protection to ensure the long-term preservation of the property's historic significance.

FAA (2020) guidance also notes that this factor is not intended to be an impact threshold, and that National Historic Preservation Act (NHPA) regulations state that an adverse effect finding under Section 106 is not necessarily significant under NEPA, or necessarily requires an Environmental Impact Statement (EIS). The FAA makes the determination on the level of effect under NEPA and may use assistance from the Advisory Council on Historic Preservation (ACHP) and relevant State Historic Preservation Officers/Tribal Historic Preservation Officers (SHPO/THPO) to make that determination.

4.3.2 AFFECTED ENVIRONMENT

Effects to Section 106 resources are generally predicated on their being within or nearby a proposed action location, and thus affected by proposed action impacts or activities at or near that location. Accordingly, the ROI for impacts to Section 106 resources is the Deadhorse Airport property and associated industrial complex, as well as portions of the Dalton Highway adjacent to those developed areas. This ROI approximates the proposed project Area of Potential Affect (APE) detailed below.

The proposed action APE was defined to include areas that could potentially experience either direct effects (i.e., placement of fill for fence embankment or roadway construction, grading of placed fill for infield pond drainage, excavation of existing embankment fill, removal of sediments from existing constructed ditches, or replacement of existing culverts) as well as areas of indirect effects where temporary increases in noise or vibration during construction may occur. The APE consisted of developed areas of the airport operational areas, the developed lease lots along the potential material site haul routes of Dalton Highway, Deadhorse Way and existing on-airport road spurs, the proposed fence maintenance perimeter road, and the proposed material site access road. A 50-foot-wide area extending into undeveloped ground from either existing or proposed toes of slope of proposed new fill embankments was also included as an additional buffer.

Identification efforts included a search of the Alaska Heritage Resources Survey (AHRS) database on March 3, 2022, which indicated there are four AHRS sites within the boundaries of the Deadhorse Airport property. Three of these sites were buildings related to airport operations: the flight service station, the air traffic control tower, and a generator building. These three sites (XBP-00088, XBP-00089, and XBP-00090) were determined not eligible for the National Register of Historic Places (NRHP) by the SHPO in 2002 and were demolished in 2005. The Dalton Highway (XBP-00114) from the Deadhorse Airport property at MP 415, eastward along the south shoreline of Colleen Lake, and south from Deadhorse to MP 398 was determined eligible for the NRHP in 2010 and received SHPO concurrence in 2019.

A search of the ADNR Division of Mining, Lands and Water Revised Statute (RS) 2477 database of public rights-of-way indicated that no RS 2477 trails intersect the proposed action APE. Review of the DOT&PF Northern Region Cultural Resources Library did not indicate that Deadhorse Airport had been previously surveyed for cultural resources. However, several previous EAs have been completed for Deadhorse Airport improvement projects in 1992, 2004, and 2012 and included correspondence from the SHPO approving the proposed actions and indicating there was low probability of undocumented cultural resources in the area. The DOT&PF Professionally Qualified Individual (PQI) archaeologist believed that level of identification was sufficient.

No new determinations of eligibility were made in relation to the proposed action. The three Deadhorse Airport sites previously determined not eligible for the NRHP, with concurrence by the SHPO, have been demolished; therefore, their eligibility cannot be revisited as they no longer exist. The Dalton Highway is eligible for the NRHP, with concurrence from SHPO in 2019, and does not require a new determination of eligibility as its status was recently confirmed.

The private, commercial material site anticipated for contractor-determined (i.e., not mandatory) use for the proposed action was independently permitted for Section 404 wetland impacts by its owner and, in

consultation with the Alaska State Historic Preservation Officer (SHPO), a Section 106 finding of "No Historic Properties Affected" was determined by USACE for approval of material site Section 404 permit POA-2017-00427.

4.3.2.1 Applicable Regulations

- National Historic Preservation Act of 1966 (NHPA), as Amended (54 U.S.C. § 300101) et seq.
- Alaska Historic Preservation Act. (AHPA) AS 41.35

4.3.2.2 Applicable Environmental Commitments

Should unidentified archaeological resources be discovered in the course of the project, work would be interrupted until the resources have been evaluated in terms of the National Register of Historic Places eligibility criteria (36 CFR 60.4), in consultation with the Alaska SHPO.

4.3.2.3 Mitigation Requirements

No mitigation activities would be required.

4.3.3 ENVIRONMENTAL CONSEQUENCES

4.3.3.1 Proposed Action Alternative

4.3.3.1.1 Direct and Indirect Impacts

ANTICIPATED IMPACTS: ***Less Than Significant***

All ground disturbing culvert replacement and installation work, and infield pond area grading, would occur in existing or newly placed gravel embankments or fill; and the fence maintenance perimeter road and material site access road would be constructed solely by new fill placement on original ground. All material sourcing and primary project staging would occur at the private, contractor-permitted material site; and minor on-airport day to day operational staging (e.g., intermittent fueling, equipment loading/unloading) would be restricted to existing on-airport constructed embankments.

On February 2, 2022, the FAA sent Government to Government Consultation Initiation letters to the federally recognized Tribes, including the Inupiat Community of the Arctic Slope (ICAS), the Native Village of Nuiqsut, and Kaktovik Village describing the proposed action and requesting comments and input on future coordination. (See Section 3.2.1 Table 3 and Section 5.1 Table 9). To date, no Tribes have provided a response.

Because of the limited nature of the proposed action activities, DOT&PF, on behalf of FAA, proceeded directly to Section 106 findings for the proposed action. On August 19, 2022, DOT&PF provided to FAA, which then transmitted to the Alaska SHPO, a finding that there would be No Historic Properties Adversely Affected by the proposed action pursuant to 36 CFR 800.4(d)(1), implementing regulations of Section 106 of the NHPA. Copies of that findings letter were also transmitted to the Native Village of

Nuiqsut, Kaktovik Village, the ICAS, ASRC Regional Corporation, Kuukpik Corporation, Kaktovik Inupiat Corporation, and the North Slope Borough. To date, no comments have been received from consulted Tribes or other consulted or interested parties.

On September 07, 2022, the SHPO issued their concurrence with that finding by email to FAA. Section 106 identification, consultation and findings documentation are provided in Appendix E.

4.3.3.1.2 Cumulative Impacts

The cumulative impacts of the proposed action and present, past, and/or reasonably foreseeable projects are not anticipated to have a significant impact on or adversely affect Section 106 historic, architectural, archaeological, or cultural resources.

4.3.3.2 No Action Alternative

The No Action Alternative would not result in effects to historic, architectural, archaeological, or cultural resources under Section 106 of the NHPA.

4.4 Department of Transportation Act Section 4(f) Resources

4.4.1 SIGNIFICANCE THRESHOLD

FAA Order 1050.1F (FAA 2015a) provides the FAA's significance threshold for Section 4(f) properties. A significant impact would occur when an action involves more than a minimal physical use of a Section 4(f) resource or constitutes a "constructive use" based on an FAA determination that the aviation project would substantially impair the Section 4(f) resource. A significant impact under NEPA would not occur if mitigation measures eliminate or reduce the effects of the use below the threshold of significance. If a project would physically use Section 4(f) property, the FAA is responsible for complying with Section 4(f) even if the impacts are less than significant for NEPA purposes.

For Section 4(f) properties and their use for transportation purposes, FAA may make a de minimis impact determination with respect to physical use of a historic Section 4(f) property if, after considering measures to minimize harm, a Section 106 finding of either "No Adverse Effect" or "No Historic Properties Affected" is provided for the proposed action (FAA 2020). Section 4(f) impact analysis is considered satisfied with respect to historic sites if the Secretary of Transportation makes a de minimis impact finding.

4.4.2 AFFECTED ENVIRONMENT

As the use of Section 4(f) properties for transportation purposes is generally predicated on their being affected by activities in and near a proposed action location, the ROI for these resources is the Deadhorse Airport and associated industrial complex, as well the Dalton Highway MP 398-MP 415 adjacent to these developed areas.

Relevant websites for the National Park Service (NPS) (NPS 2023); United States Forest Service (USFS) (USFS 2023); USFWS (USFWS 2023); Bureau of Land Management (BLM) (BLM 2023); ADNR Alaska

Heritage Resource Survey (AHRS) (ADNR 2022), and ADNR Division of Parks and Outdoor Recreation (ADNR 2023) were reviewed for the presence of any of publicly owned lands including public parks, recreation areas, wildlife or waterfowl refuges of national, state, or local significance, or historic sites of national, state, or local significance, within the project area. The only Section 4(f) properties identified near the proposed project area include:

- **Arctic National Wildlife Refuge:** a boundary of this Section 4(f) property lies approximately 50 miles east of Deadhorse, and thus it was not considered impacted by the proposed action.
- **Dalton Highway:** A portion of the Dalton Highway within the Beechey Point Quadrangle from MP 398 to MP 415 (AHRS XBP-00114) lies within the proposed action APE and was determined to be eligible for inclusion in the NRHP under Criterion A (Criterion Consideration G) for its association with transportation and industry for its roles in the development of the North Slope oil fields and petroleum industry infrastructure between 1971 and 1978. Consequently, Section 4(f) of the U.S. Department of Transportation Act would apply under criteria in 23 CFR 774.11(e), and that portion of the Dalton Highway qualifies as a Section 4(f) property.

4.4.2.1 Applicable Regulations

- U.S. Department of Transportation Act – Section 4(f) 49 U.S.C. § 303
- Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU) – Section 6009 49 U.S.C. § 303

4.4.2.2 Applicable Environmental Commitments

On a regular basis, the Dalton Highway is maintained by DOT&PF for replacement of surfacing, surface and embankment grading, snow removal, replacement of signage, and other ongoing repairs. For the proposed action alternative, DOT&PF would include in construction contract language a standard stipulation that any project-related damage or degradation state-owned transportation infrastructure, and in this instance including the NRHP-eligible Dalton Highway MP 398 to MP 415 Section 4(f) property, would be the responsibility of the project contractor to repair to its condition existing prior to commencement of project construction.

4.4.2.3 Mitigation Requirements

No mitigation activities would be required.

4.4.3 ENVIRONMENTAL CONSEQUENCES

4.4.3.1 Proposed Action Alternative

4.4.3.1.1 Direct and Indirect Impacts

ANTICIPATED IMPACTS: ***Less Than Significant***

The Dalton Highway, including the subject NRHP-eligible Section 4(f) portion (MP 398 to MP 411), was privately constructed as a transportation facility providing the sole overland haul route to the Deadhorse Airport from all points south, and remains a State of Alaska owned and operated highway. All public and private, non-project commercial ground and other heavy truck traffic utilizes the Dalton Highway on a daily basis for the transportation of freight, fuel, and materials to and from Deadhorse and the Prudhoe Bay oilfields. Proposed action activities will similarly use the Section 4(f)-eligible portion of the Dalton Highway for project hauling of freight and materials both during mobilization/demobilization as well as for potentially hauling project materials from Mine Site 3 to the proposed project construction area. An existing DOT&PF industrial lease-lot driveway near the Dalton Highway terminus of the proposed new material site road may in part be improved to facilitate project truck traffic. No other proposed action activity or construction will occur within the existing DOT&PF Right of Way of the Dalton Highway Section 4(f) property.

For the proposed action alternative, the FAA has conducted necessary agency coordination and consultation pursuant to 36 CFR 800.5(d)(2), implementing regulations of Section 106 of the NHPA. On August 19, 2022, the FAA determined that no adverse effect to historic properties would result from the proposed action; and the SHPO concurred on September 6, 2022, that no historic properties would be adversely affected by the proposed action pursuant to 36 CFR 800.4(d)(1), implementing regulations of Section 106 of the NHPA.

As compliance with 36 CFR 800 satisfies the public involvement and agency coordination requirements for de minimis findings for historic sites (FAA 2020), on October 27, 2022, FAA found that use of the Dalton Highway for the hauling of materials for the proposed action meets criteria for de minimis Section 4(f) uses (23 CFR 774.17), and that no substantial proximity impairment of that portion of the Dalton Highway would occur. Details and documentation of Section 4(f) resource identification, and determination documentation for Dalton Highway MP 398 – MP 411, are provided in Appendix F.

4.4.3.1.2 Cumulative Impacts

The cumulative impacts of the proposed action and present, past, and/or reasonably foreseeable projects are not anticipated to have a significant impact to Section 4(f) resources.

4.4.3.2 No Action Alternative

The No Action Alternative would not utilize the Dalton Highway MP 398 – MP 411 Section 4(f) property for transportation use, and no potential Section 4(f) property impacts would occur.

4.5 Water Resources (Partial: Wetlands and Floodplains)

4.5.1 WETLANDS

FAA provides guidance on its accepted definition of wetlands for regulatory purposes under the Clean Water Act (CWA). The term wetlands mean areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally

include swamps, marshes, bogs, and similar areas. Areas covered with water for such a short time that there is no effect on moist-soil vegetation are not considered wetlands, nor are the waters of streams, reservoirs, and deep lakes. Wetlands provide many benefits to the human, biological, and hydrological environment, including habitat for fish and wildlife, water quality improvement, flood storage, and opportunities for recreation (FAA 2020).

4.5.1.1 Significance Threshold

FAA Order 1050.1F (FAA 2015a) provides FAA significance thresholds for wetlands. A significant impact would occur when a proposed 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 (the term welfare includes cultural, recreational, and scientific resources or property important to the public).
- 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; or
- Be inconsistent with applicable state wetland strategies.

FAA (2020) also indicates that other agencies having expertise in wetland impacts may provide information and expertise for the FAA to use when it determines whether unavoidable wetland impacts are significant. As a result, appropriate agencies such as the USACE, EPA, USFWS, NMFS, National Resource Conservation Service (NRCS) (if wetlands are on agricultural lands), and state and local natural resource or wildlife agencies should be coordinated with in the early stages of project planning.

4.5.1.2 Affected Environment

The Deadhorse Airport is located on primarily flat ground underlain by permafrost, and within the 100-year floodplain of the Sagavanirktok River (DOWL 2004). Impoundments and ponds with emergent vegetation in this region are important invertebrate sources for water birds (Kertell 1993). Wetland mapping performed by ABR, Inc. in 1995 showed that all undeveloped areas around the airport were wetlands (Shannon & Wilson 2004). Review of the National Wetlands Inventory (NWI) wetland mapper on September 15, 2022, confirmed undeveloped areas around the airport remain almost entirely wetlands. To assess contemporary airport wetlands and Waters of the United States (WOUS), desktop mapping was performed by Stantec Consulting Services Inc. (Stantec 2022). Acreages of their respective hydrogeomorphic (HGM) (Brinson 1993) and Cowardin (Cowardin et al. 1979) classifications are provided

in Tables 6 and 7 below. Wetlands and WOUS in the proposed action area include Palustrine Emergent (PEM1), Palustrine Emergent Scrub-Shrub (PEM1/SS1), Palustrine Unconsolidated Bottom ponds (PUB), Palustrine Unconsolidated Shorelines (PUS) with some areas of Persistent Emergent (EM1), Lacustrine Limnetic Unconsolidated Bottom waters (L1UB), and uplands. Wetlands surrounding the airport's immediate facilities are primarily sedge/willow tundra and were determined to be low value (Stantec 2022, Shannon & Wilson 2004). All wetlands are under jurisdiction of the USACE due to their hydrologic connectivity with either the Sagavanirktok River or Colleen Lake/Prudhoe Bay (See Appendix G).

Table 6. Hydrogeomorphic Classifications of Proposed Action Area Wetlands and WOUS.

Hydrogeomorphic Type	Hydrogeomorphic Classifications	Acres	Percent Wetlands and Waters of the U.S.	Percent Study Area
Wetlands	Depressional	14.5	2	1
	Flat	633.5	84	56
	Total Wetlands	647.9	86	57
Waters	Depressional Ponds	72.2	10	6
	Lacustrine [1]	29.8	4	3
	Total Waters	102.0	14	9
Totals	Total Wetlands and Waters	749.9	100	66
	Total Uplands	380.0	-	34
	Study Area Total	1,129.9	-	100

Notes:
1) Non-HGM classification.
Apparent inconsistencies in sums are the results of rounding.

Table 7. Cowardin Classifications of the Proposed Action Area Wetlands and Waters of the U.S.

Cowardin Type	Cowardin Classification	Acres	Percent Study Area
Emergent Wetlands	Palustrine Emergent (PEM1)	85.7	8
Shrub Wetlands	Palustrine Emergent Scrub-Shrub (PEM1/SS1)	562.3	50
Ponds	Palustrine Unconsolidated Bottom ponds (PUB)	60.8	5
	Palustrine Unconsolidated Shorelines (PUS)	2.7	<0.5
	Palustrine Unconsolidated Shorelines (PUS) with some areas of Persistent Emergent (EM1)	8.7	1
Lakes	Limnetic Unconsolidated Bottom waters (L1UB)	29.8	3
Total Wetlands and Waters	—	749.9	66

Cowardin Type	Cowardin Classification	Acres	Percent Study Area
Uplands	—	380.0	34
Study Area Total	—	1,129.9	100

Note: Apparent inconsistencies in sums are the results of rounding.

Half of the study area was classified as shrub-dominated wetlands and vegetation types, while 8 percent was classified as emergent, herbaceous plant-dominated wetlands. Ponds and lakes totaled approximately 9 percent of the study area. Uplands within the study area were all placed fill pads.

4.5.1.2.1 Applicable Regulations

- Clean Water Act 33 U.S.C. §§ 1251-1387 and implementing regulations in 33 CFR parts 320-332 and 40 CFR parts 230-233
- Fish and Wildlife Coordination Act 16 U.S.C. § 661-667d
- Executive Order 11990, Protection of Wetlands
- DOT Order 5660.1A, Preservation of the Nation's Wetlands. Implementing guidelines in EO 11990.

4.5.1.2.2 Applicable Environmental Commitments

The proposed action has unavoidable wetland impacts that would permanently impact jurisdictional wetlands and WOUS. Proposed wetland avoidance and minimization measures for the proposed action which have or would be implemented by DOT&PF are listed below:

- The proposed action elements have been designed with minimal dimensions while remaining sufficient to serve proposed action purpose and need.
- Side slopes have been designed as steep as geotechnical and engineering considerations will allow for project utility, slope stability and safety.
- Proposed action components have been sited to avoid wetland impacts by incorporating previously disturbed areas, existing placed fill embankments, and constructed infrastructure where practicable.
- Culvert improvements and grading proposed for existing wetland areas (i.e., infield ponds and drainage ditches) along Deadhorse Way and in taxiway infields will, by design, partially mitigate existing wetland deficiencies and proposed action effects to wetland function on Deadhorse Airport by restoring or improving hydraulic connectivity to unaffected peripheral wetlands and the Sagavanirktok River, Colleen Lake, and Prudhoe Bay drainages.

- Several on-airport winter snow storage basins initially considered for filling will remain unfilled and serve as sedimentation basins to improve water quality of snowmelt runoff passing through the remainder of the drainage system to peripheral wetlands.
- Areas of proposed construction will be staked prior to ground disturbing activities and maintained for the duration of the construction to avoid inadvertent impacts to wetlands.
- Areas of proposed construction will maintain natural drainage patterns to the furthest extent practicable, including the installation of drainage features to allow equalization of surface water across linear project components that may affect ecological connectivity. The resolution of surface topography data collected at the site is not sufficient for identifying precise locations of needed drainage features, therefore locations will be determined on site.
- Materials will be stockpiled within the proposed action fill footprint or other permitted areas off-site (e.g., permitted commercial material sites) to avoid impacting additional ground.
- One-hundred-foot setback buffers from surface waters, drainage ditches and isolated standing water will be maintained for equipment refueling and maintenance to avoid impacts from an accidental spill.
- Disturbed ground will be planted with certified native seed mixtures or plants, or otherwise stabilized with geotextile, pavement, or coarse gravel/rock to prevent erosion.

4.5.1.2.3 Mitigation Requirements

The need for Section 404 permit-related mitigation will be determined by USACE during the permitting process. Due to the ubiquitous, landscape-scale nature of wetlands within and around the proposed action location, and the fact that there are no wetland Mitigation Banks in the area nor in-lieu-fee programs available, DOT&PF is not proposing compensatory mitigation at the time of application.

4.5.1.3 Environmental Consequences

4.5.1.3.1 Proposed Action Alternative

4.5.1.3.1.1 Direct and Indirect Impacts

ANTICIPATED IMPACTS: *Less Than Significant*

The proposed action alternative would unavoidably impact approximately 78.6 acres of wetlands and WOUS through excavation or fill, as summarized in Table 8. EO 11990 *Protection of Wetlands* requires there must be no practicable alternative to a proposed action if it affects wetlands, and a proposed action must consider all practicable measures to avoid and minimize harm to wetlands. DOT&PF and FAA determined there is no reasonably practicable alternatives that meets the proposed action purpose and need and results in fewer impacts to wetlands without other adverse environmental or human impacts.

Table 8. Proposed Action Impacts to Wetlands and Waters of the U.S.

Proposed Action Component Description	Wetlands and Waters of the U.S. Types[1]	Fill (Thousands of Cubic Yards)	Wetland Impact Area (Acres)
Airport Perimeter Fence Embankment	PEM1/SS1B; PEM1F; PEM1Fh; PUBHh	232.8	26.1
Deadhorse Drive Drainage Improvements[2]	PUS/EM1Ch; PUSCh	13.9	4.5
Airside Infield Pond Fills and Grading[1]	PUBHh; PUSCh; PEM1Ch; PEM1Fh; PEM1/SS1B	427.5	42.9
South Material Site Access Road Embankment	PEM1/SS1B; PEM1F	48.5	5.1
TOTAL	**—**	**722.7**	**78.6**

Note: 1) *Key*: **EM1**=Persistent Emergent, **L1UB**=Limnetic Unconsolidated Bottom Waters, **PEM1**=Palustrine Emergent, **PEM1/SS1**=Palustrine Emergent Scrub-Shrub, **PUB**=Palustrine Unconsolidated Bottom ponds, **PUS**=Palustrine Unconsolidated Shorelines
Refinements: The letters following the acronyms refer to the water regime of the polygon and are defined as follows: **B**=Saturated, **C**=Seasonally Flooded, **F**=Semi-permanently Flooded, **H**=Permanently Flooded, **h**=Diked/Impounded
2) Does not include culvert installations/improvements in existing fill where excavated material will be reused.

Concerns have also been raised about the potential for disruption of ecological connectivity with the proposed installation of a perimeter fence embankment. The construction of a perimeter fence embankment will disrupt the continuity of wetlands inside and outside of the embankment, potentially leading to flooding and pooling at the embankment toes, Due to the ubiquitous nature of wetlands in the region, disruption of ecological connectivity across the fence embankment is unavoidable and the impacts of the embankment can only be minimized through design. During the USACE permit process, design features that are needed to minimize impacts to wetlands and ecological connectivity will be determined with more specificity. At the time of writing this document it is an objective of the proposed action design to allow for the movement of surface water across the fence embankment through the installation of drainage culverts. The resolution of surface topography data collected at the site is not sufficient for identifying precise locations of needed drainage features, therefore locations will be determined on site during construction.

An approved USACE Section 404 permit and an ADEC Section 401 Water Quality Certificate of Reasonable Assurance would be obtained by DOT&PF for the proposed action to allow the placement of fill or grading in 78.6 acres of wetlands or WOUS. DOT&PF has determined that there are no reasonably practicable alternatives that both meet the proposed action purpose and need and that would result in fewer impacts to wetlands. Avoidance and minimization of wetland impacts are the only measures available to reduce total wetland impacts of the proposed action, as there are no viable avoidance alternatives available since wetlands encompass the entire airport. Unavoidable wetland impacts have been minimized as fully as reasonably possible during project design while still meeting the proposed action purpose and need. The proposed action will result in substantial improvements to commercial and public air operations, travel safety, and airport security at Deadhorse Airport; and DOT&PF and FAA do not propose compensatory wetland impact mitigation for proposed action Alternative 1. However, culvert improvements and grading proposed for existing wetland areas (i.e., infield ponds and drainage ditches)

along Deadhorse Way and in taxiway infields would, by design, partially mitigate existing deficiencies and proposed action effects to wetland function on Deadhorse Airport by restoring or improving their connectivity to unaffected peripheral wetlands and the Sagavanirktok River, Colleen Lake, and Prudhoe Bay drainages. Additionally, several on-airport winter snow storage basins initially considered for filling would remain unfilled and serve as sedimentation basins to improve water quality of snowmelt runoff passing through the remainder of the drainage system to peripheral wetlands. Avoidance and minimization measures are listed in subsection 4.5.1.2.2 and Section 4.7. No mitigation is proposed.

Wetlands on airport property and the surrounding area may be inadvertently and temporarily influenced by additional surface runoff from embankments during the construction process, and which may contain suspended sediments, hydrocarbons, and other pollutants during construction activities; however, required Best Management Practices (BMPs) implemented by construction contractors would result in these potential effects being minimal, and their long-term impacts to water quality negligible.

4.5.1.3.1.2 Cumulative Impacts

Past actions completed at Deadhorse Airport have been developed in accordance with either the 2003 MOA Memorandum of Agreement (MOA) concerning wetlands among FAA, USACE, DOT&PF, USFWS, and ADF&G or the federal rule on Compensatory Mitigation for Losses of Aquatic Resources; Final Rule (33 CFR 325, 332) that would reduce, minimize, or compensate the extent of these impacts. Present and reasonably foreseeable actions impacting wetlands would follow the latter federal rule. The cumulative impacts of the proposed action and present, past, and/or reasonably foreseeable projects are not anticipated to have a significant impact to Section 404 wetland and WOUS resources.

4.5.1.3.1.3 No Action Alternative

The No Action Alternative would not result in impacts to wetlands.

4.5.2 FLOODPLAINS

4.5.2.1 Significance Threshold

FAA Order 1050.1F (FAA 2015a) provides the FAA significance threshold for floodplains, stating that floodplain encroachment impacts would be significant if an action would cause notable adverse impacts on natural and beneficial floodplain values, and citing United States Department of Transportation (USDOT) Order 5650.2 *Floodplain Management and Protection* (USDOT 1979) as defining those natural and beneficial floodplain values as including, but not limited to, the natural moderation of floods, water quality maintenance, groundwater recharge, fish, wildlife, plants, open space, natural beauty, scientific study, out-door recreation, agriculture, aquaculture, and forestry. Additional FAA guidance notes that significant floodplain encroachment may also be defined as an encroachment resulting in one or more of the following construction or flood related impacts: (1) a considerable probability of loss of human life; (2) likely future damage associated with the encroachment that could be substantial in cost or extent, including interruption of service on or loss of a vital transportation facility; and (3) a notable adverse impact on “natural and beneficial floodplain values.” However, FAA does not consider significant

floodplain encroachment as necessarily a significant environmental impact under NEPA (FAA 2020, USDOT 1979).

4.5.2.2 Affected Environment

A review of the Federal Emergency Management Agency (FEMA) Flood Map Service Center online database (FEMA 2022) indicated that the Deadhorse Airport property has not yet been mapped for regulatory floodplains by FEMA and does not participate in the National Flood Insurance Program. The Deadhorse Airport is located on primarily flat ground underlain by permafrost, and within the 100-year floodplain of the Sagavanirktok River (Kertell 1993, DOWL 2004). Existing airport facilities are built on gravel pads elevated enough above surrounding terrain to warrant a low flood hazard designation by USACE (DOWL 2004).

Although information provided on the USACE Floodplain Mapping website (USACE 2022) reports that there is no record of flooding in Deadhorse, in late March and April 2015, the Dalton Highway near Deadhorse was affected by ice and winter overflow water from the Sagavanirktok River, which twice caused a road closure for a total of 11 days between March 30–April 2 and April 5–12. In mid-May, the Sagavanirktok River again flooded the Dalton Highway at several reaches from approximately MP 394 to MP 414, causing the highway's closure for nearly three weeks (Toniolo et al. 2015). MP 414 is adjacent to Deadhorse Airport property north of the proposed material site access road intersection with the Dalton Highway, and directly east of the proposed fence maintenance road embankment. Neither airport operational surfaces nor the Deadhorse industrial area were directly affected by the 2015 Sagavanirktok River flooding. Subsequent to 2015 Dalton Highway flooding, DOT&PF rebuilt segments of the Dalton Highway that flooded to an increased, final roadway embankment elevation of 10 vertical feet above original ground. Communications with the DOT&PF engineer responsible for the constructed design of that improvement indicated it would result in the Dalton Highway embankment between MP 362 and MP 414 also acting as a dike to prevent future Sagavanirktok River flooding from expanding westward toward Deadhorse Airport (Hutchinson, pers. comm. 2022b) (Appendix H, including partial Dalton Highway MP 397-414 Reconstruction As-Built Plans).

4.5.2.2.1 Applicable Regulations

- National Flood Insurance Act 42 U.S.C. § 4001 et seq.
- Executive Order 11988, Floodplain Management
- USDOT Order 5650.2, Floodplain Management and Protection

4.5.2.2.2 Applicable Environmental Commitments

No environmental commitments would be required for floodplain impacts.

4.5.2.2.3 Mitigation Requirements

No mitigation activities would be required.

4.5.2.3 Environmental Consequences

4.5.2.3.1 Proposed Action Alternative

4.5.2.3.1.1 Direct and Indirect Impacts

ANTICIPATED IMPACTS: *Less Than Significant*

The proposed action alternative would not result in significant floodplain encroachment as defined by FAA or USDOT (USDOT 1979, FAA 2020), as the none of the following impacts would occur: 1) considerable probability of loss of human life; 2) likely future damage associated with the encroachment that could be substantial in cost or extent, including interruption of service on or loss of a vital transportation facility; and 3) a notable adverse impact on "natural and beneficial floodplain values." Likewise, no impacts to floodplain values as defined by FAA (FAA 2015a) would be generated by the proposed action, and project related spatial floodplain encroachment by addition of its constructed elements (78.6 acres of placed fill) would be insignificant relative to the extensive comparative area of the Sagavanirktok River basin (Toniolo et al. 2015) in the vicinity of Deadhorse.

4.5.2.3.1.2 Cumulative Impacts

The proposed action is not expected to cause a cumulatively significant floodplain encroachment or impacts in conjunction with other past, present, and foreseeable future activities in the Sagavanirktok River floodplain. The 2017 DOT&PF embankment improvements to the Dalton Highway (Hutchinson, pers. comm. 2022b) have provided for additional flood protection of the Deadhorse Airport, and the proposed action would affect neither the condition nor the function of those improvements.

4.5.2.3.1.3 No Action Alternative

The No Action Alternative would construct no encroachment in the Sagavanirktok River floodplain and cause no floodplain encroachment impacts.

4.6 Climate Impacts

Climate impacts due to a proposed action could result in significant changes to long-term weather on a regional and global scale, and research has shown there is a direct correlation between fuel combustion and greenhouse gas (GHG) emissions. Scientific measurements show that Earth's climate is warming, with concurrent impacts including warmer air temperatures, increased sea level rise, increased storm activity, and an increased intensity in precipitation events consequent to increased concentrations of anthropogenic GHGs within the Earth's atmosphere (FAA 2020).

4.6.1 SIGNIFICANCE THRESHOLD

FAA provides criteria for evaluating GHG impacts for proposed actions under the NEPA, however FAA has neither established 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 (FAA 2015a, FAA 2020). Agencies should be guided by the rule of reason, as well as their expertise and experience, in conducting analysis commensurate with the quantity of projected GHG emissions and using GHG quantification tools suitable for the proposed action. The rule of reason and the concept of proportionality caution against providing an in-depth analysis of emissions regardless of the insignificance of the quantity of GHG emissions that the proposed action would cause. For example, some proposed actions may involve net GHG emission reductions or no net GHG increase, such as certain infrastructure or renewable energy projects. For such actions, agencies should generally quantify projected GHG emission reductions, but may apply the rule of reason when determining the appropriate depth of analysis such that precision regarding emission reduction benefits does not come at the expense of efficient and accessible analysis (CEQ 2023).

CEQ (2023) recommends that for NEPA documents agencies prepare, those agencies should quantify reasonably foreseeable gross GHG emissions increases and gross GHG emission reductions for the proposed action, no action alternative, and any reasonable alternatives over their projected lifetime, using reasonably available information and data. Moreover, the guidance points out there are currently no federal requirements for reporting GHG emissions from aviation sources as well as no significance thresholds. FAA (2015b) recommends the following with respect to assessing and reporting GHGs in NEPA documents:

- When there is reason to quantify emissions, GHG emission inventories should be reported in metric tons of carbon dioxide equivalents (MT CO_2e).
- GHG emissions should be based on fuel burn, energy usage and/or activity levels developed from FAA-approved tools.
- CO_2e should be computed for time periods that are reasonably foreseeable using the same analytical timeframes used for the NEPA analyses.
- CO_2e results should be documented in a separate section of the NEPA document distinct from air quality, under a heading labeled “Climate”.
- CO_2e emissions should be reported in a table or similar format that compares the project/action and/or alternatives to the no-action alternative (i.e., the incremental change) within the same timeframe.

In cases where a proposed action would not increase GHG emissions, that finding should be stated and no further explanation is required (FAA 2015b).

Alternatively, FAA Alaska Regional Airports Division has indicated (FAA 2023) that while current CEQ guidance does not provide for a readily definable significance threshold beyond the ‘rule of reason’, for a proposed action, significance threshold criteria that would in fact trigger further analysis of GHG emissions are:

a) if the project occurs within a regulated air shed identified for a criteria pollutant within the project area; and,

b) if the proposed action would result in establishment of any permanent new source of emissions such as additional facilities or structures emitting pollutants as a result of their operation.

The Deadhorse Airport does not lie within a regulated airshed, and the proposed action would establish no new source of GHG emissions. Therefore, by current CEQ significance standards as recommended by FAA, there would be no exceedance of the current FAA GHG significance threshold.

CEQ (2023) does, however, provide direction that for such actions, agencies should generally quantify projected GHG emission reductions, but may apply the rule of reason when determining the appropriate depth of analysis such that precision regarding emission reduction benefits does not come at the expense of efficient and accessible analysis, and that actions with only small GHG emissions may be able to rely on less detailed emissions estimates.

CEQ (2023) additionally notes that agencies can use monetized estimates of the social cost of greenhouse gas emissions (SC-GHG) to help decisionmakers and the public understand and contextualize emissions and potential climate damages. For monetized damages associated with CO_2 emissions, a federal Interagency Working Group on Social Cost of Greenhouse Gases (IWG) produced a table of estimated, monetized social costs in dollars per metric-ton of GHGs emitted, individually applied over a span of modeled years (IWG-SCGHG 2021). The IWG notes that what they previously used as a social rate of return on capital to discount future benefits of reducing GHG emissions inappropriately underestimated impacts of climate change for the purposes of estimating that social cost. Consequently, and to address disagreements on an appropriate single discount rate to use in this context as well as uncertainty on how rates may change, the IWG published tables containing three certainty-equivalent, constant discount rates spanning the plausible range of social costs: 2.5, 3, and 5 percent average per year, reported as future, year-specific dollar costs (in 2020 dollars) per metric ton GHG emitted. IWG SC-GHG tables also provide a fourth year-specific discount rate which can be used to determine a “3% discount in the 95th percentile”, statistically qualified SC-GHG. This fourth value was included to provide information on potentially higher-than-expected economic impacts from climate change, conditional on the 3% estimate of the discount rate (IWG-SCGHG 2021).

IWG tables individually report monetized social costs for CO_2 emissions as well as for other less prevalent GHGs. Due to a lack of data on individual, component GHGs emissions for the proposed action, for this EA a proxy range of monetized social costs solely for CO_2 emissions (SC-CO_2) was estimated, with recognition that costs based solely on CO_2 emissions slightly underestimate total SC-GHG.

For the purposes of capturing uncertainties involved in social cost analyses, the IWG emphasizes the importance and value of including all four listed discount values (2.5%, 3%, 5%, and 3% at the 95th percentile) provided in social cost monetization tables (IWG-SCGHG 2021). For analysis of the proposed action construction impacts, a range of total, potential monetized CO_2 emission costs was estimated by applying the IWG SC-CO_2 table-year 2025 per-metric ton emission costs of:

- $83 for the 2.5% discount rate.

- $56 for the 3.0% discount rate.

- $14 for the 5.0% discount rate; and,

- $169 for the 3.0% at the 95th percentile discount rate.

To inform these project construction SC-CO_2 monetization estimates, DOT&PF made quantifiable estimates of proposed action construction process CO_2 and CO_2e emissions to reasonable, appropriate levels utilizing recent, efficient and accessible models (Appendix I).

For this estimate, GHG emissions for the proposed action construction project were modeled using proxy values and information for a) the composition of a typical arctic construction fleet for a project of the proposed action size, b) the typical elements of such construction, and c) the anticipated construction schedule for such an undertaking. Using these proxy inputs, an estimate of GHG emissions for the project in total and on an annual basis during construction were derived. Once completed, the proposed action would not increase existing GHG operational emissions at Deadhorse Airport. That is, there would be no anticipated change to future Deadhorse Airport operational GHG emissions due to proposed action construction. Consequently, no modeling of long-term GHG emissions by the constructed proposed action was conducted.

4.6.2 AFFECTED ENVIRONMENT

The FAA 1050.1F Desk Reference, Version 2 (FAA 2020) provides limited guidance for qualitatively or quantitatively evaluating GHGs under the NEPA. However, FAA (FAA 2015b) does provide more thorough guidance regarding establishment of appropriate GHG impact assessment area boundaries. FAA (2020) does note that for project-level actions, the affected environment for climate is defined as the entire geographic area that could be directly or indirectly affected by the proposed project. For the purposes of this EA, that geographic area will be considered as a proxy for the affected environment ROI. While the FAA Air Quality Handbook (FAA 2015b) outlines ROI in part based on factors including topography, landscape roughness and vegetation, albedo and values associated with either rural or urban settings, these recommendations are generally applied in assessing pollutants resulting from ongoing airport operations versus construction activities. One model recommended by FAA (2015b) for construction project assessment is a former EPA pollutant model, “NONROAD”, now obsolete and replaced by a broader-based model named MOVES3 (USEPA 2023a). One variant of MOVES3 (MOVES-Nonroad) is noted as capable of forecasting emissions inventories for off-road equipment-generated pollutants as well as modeling their dispersion, with its smallest (and default) modeled ROI based on ‘county’ units. For an equivalent of counties, the State of Alaska substitutes political subdivisions referred to as ‘boroughs,’ with Deadhorse Airport located within the North Slope Borough. MOVES-Nonroad is designed to estimate potential emissions from multiple off-road equipment use sectors (construction, agriculture, etc.), with outputs based on detailed inventories of known-populations of county-level nonroad equipment fleets and activities (EPA 2023b). This information is not obtainable for the North Slope Borough, nor even for the proposed action prior to the construction contractor being selected. Additionally, there is no guarantee that equipment sources for the proposed action would be resident in the North Slope Borough and thus captured by a MOVES-Nonroad assessment, instead likely being imported to the project site from other parts of Alaska in yet unknown quantities and types. However, to remain consistent with the conceptual MOVES-Nonroad model ROI, and potentially allow for indirect incorporation/comparison of proposed action GHG emission data into potential future MOVES-Nonroad

modeling efforts in the North Slope Borough, the proposed action ROI for GHG emission assessment for the purposes of this EA will be considered as the North Slope Borough.

4.6.2.1 Applicable Regulations

- CEQ National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change. 88 FR 1196. Interim Guidance. January 2023.
- Clean Air Act 42 U.S.C. §§ 7408, 7521, 7571, 7661 et seq.; 40 CFR parts 85, 86, and 600 for surface vehicles; and 40 CFR part 80 regarding the Alternative Low-Sulfur Diesel Fuel Transition Program for Alaska
- EO 13514 Federal Leadership in Environmental Energy and Economic Performance 74 Federal Register 52117 (October 8, 2009) Federal Greenhouse Gas Accounting and Reporting Guidance: Technical Support Document (October 26, 2010)
- EO 13653, Preparing the United States for the Impacts of Climate Change 78 Federal Register 66817, (November 6, 2013)
- EO 13693, Planning for Federal Sustainability 80 Federal Register 15869
- EO 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis (January 20, 2021)
- EO 14008, Tackling the Climate Crisis (January 27, 2021)

4.6.2.2 Applicable Environmental Commitments

No additional to existing regulatory controls on use of Ultra Low Sulfur Diesel for on- and off-road diesel vehicles as provided in 40 CFR 80.

4.6.2.3 Mitigation Requirements

No mitigation activities would be required.

4.6.3 ENVIRONMENTAL CONSEQUENCES

4.6.3.1 Proposed Action Alternative

4.6.3.1.1 Direct and Indirect Impacts

ANTICIPATED IMPACTS: *Less Than Significant*

Emissions of carbon dioxide (CO_2) and carbon dioxide equivalents (CO_2e) were modeled for construction of the proposed action alternative using several relevant models freely and readily available to the public (Mathers et al. 2023, USEPA 2023c, Feng Ma et al. 2016, Klanfar et al. 2016) (Appendix I). CO_2 is the most prevalent GHG, on average representing more than 95 percent of emissions impacts on climate that

come from burning transportation fuels. Available models used and referenced in this EA variously provided outputs for either CO_2 or CO_2e emissions and are identified accordingly. Methane (CH_4) and nitrous oxide (N_2O) are other GHGs associated with fuel combustion, and models that report only CO_2 emissions slightly underestimate overall GHG emission totals. Model outputs for which emissions calculations included all GHGs associated with fuel combustion are noted as CO_2e – where "e" stands as a CO_2 equivalent including other GHGs that have been factored in (Mathers et al. 2023).

An estimated proxy construction fleet was developed using project engineers' expertise. Its components' estimated power, weight, operation level and schedule, and their fuel use inputs, were approximated using readily internet-available manufacturers data sheets and third-party fuel consumption tables (J.S. Cole 2023). Due to the complex blend of processes for some construction tasks (notably asphalt construction), several models' input criteria were at times co-employed to yield the most reasonably accurate level of combined CO_2 and CO_2e emissions. This information was used to develop GHG modeling inputs for the proposed action alternative.

USEPA (2023d) emissions equation calculators impartially allow "CO_2 or CO_2e" as input values to derive associated values for fuel volume burned, etc., and thus for the purposes of this EA, CO_2 and CO_2e outputs were generally accorded equal weighting and reported as "CO_2 and CO_2e" in the combined models' output totals summary. While these summary totals may slightly underestimate total GHG-suite emissions, as do the two individual models (Mathers et al 2023 and USEPA 2023d) reporting only CO_2 outputs, the minor unaccounted for CH_4 and N_2O components are insignificant, generally representing only a combined <5% of total climate impact potential (Mathers et al. 2023).

Based on predicted emissions modeling outputs for its anticipated construction process, the proposed action would produce total estimated emissions of approximately 4,281.4 metric tons of combined CO_2 and CO_2e over the project construction duration. Across the proposed two-year construction schedule, this total would average an emission loading of approximately 2,140.7 metric tons of combined CO_2 and CO_2e per year. It should be noted that there was a lack of information on conversion factors and other inputs that could be applied to the models to estimate output variance due to proposed action construction in an arctic location, particularly with some processes scheduled to be conducted during winter months. Consequently, various 'arctic engineering' modeling assumptions were made and used during modeling. These are provided with the modeling calculations in Appendix I.

As per CEQ (2023) and IWG-SCGHG (2021) recommendations, an estimated range of total monetized value of SC-CO_2 for the 2-year (2024-2026) proposed action construction schedule was determined to potentially range between $72,784 and $723,557 as illustrated below:

- Total proposed action construction CO_2 and CO_2e emissions: 4,281.4 mt (see Appendix I)
- SC-CO_2 at 3% 95th percentile discount rate: 4,281.4 mt x $169 = $723,557
  SC-CO2 at 2.5% average discount rate: 4,281.4 mt x $83 = $355,356
  SC-CO2 at 3% average discount rate: 4,281.4 mt x $56 = $239,758
  SC-CO2 at 5% average discount rate: 4,281.4 mt x $17 = $72,784

As noted previously in Section 4.6.1, FAA Alaska Regional Airports Division indicated (FAA 2023) that for a proposed action, significance threshold criteria triggering further analysis of GHG emissions are:

a) if the project occurs within a regulated air shed identified for a criteria pollutant within the project area; and,

b) if the proposed action would result in establishment of any permanent new source of emissions such as additional facilities or structures emitting pollutants as a result of their operation.

Deadhorse Airport does not lie within a regulated airshed, the proposed action would establish no new source of GHG emissions, and the completed project would establish any new source of GHG emissions. Accordingly, the proposed action does not exceed the established significance threshold and its construction alternative would result in no significant GHG impacts to climate. Further, there would be no increase to existing Deadhorse Airport operational GHG emissions as a result of the proposed action.

4.6.3.1.2 Cumulative Impacts

The proposed action would neither increase the current facility energy requirements for future airport operations nor change the nature of the aircraft fleet or operations schedule for landings or takeoffs. Resultantly, there would be no net increase in GHG emissions due to future operations of the constructed proposed action. Additionally, there are no cumulative impacts of the proposed action and other present, past, and/or reasonably foreseeable projects anticipated. Consequently, the proposed action will generate no significant cumulative impacts on climate.

4.6.3.2 No Action Alternative

The No Action Alternative would result in no additional impacts to climate over current conditions. However, caribou and other mammals would continue to have free access to airport operational surfaces and infield ponds, resulting in the occasional need for aircraft to abort takeoff or landing operations to avoid collisions. These operations would require additional fuel to be burned, contributing some unknown levels of jet-fuel combustion GHG emissions to the environment. Additionally, there would remain a continued potential threat of aircraft or airport service vehicle collisions with wildlife that could result in their injury or death as well as posing a serious threat to public safety and airport operations.

4.7 Other Temporary Construction Impacts

Construction impacts are not a unique environmental category under NEPA, though FAA guidance (FAA 2020) notes they should be addressed within each relevant environmental impact category chapter. While these impacts have been discussed in previous chapters for environmental categories brought forward for full analyses, other temporary, minor, and insignificant construction impacts are provided below to inform the public on their effects to environmental categories dismissed from further review in Table 3 of Section 3.2. This section is also a basis for development of a robust environmental commitment suite (See Section 4.8) to more fully avoid and minimize temporary and minor impacts.

4.7.1 PROPOSED ACTION ALTERNATIVE

4.7.1.1 Direct and Indirect Temporary Construction Impacts

ANTICIPATED IMPACTS: ***Less Than Significant***

4.7.1.1.1 Air Quality

The operation of heavy equipment and hauling and placement of fill material can create dust during dry conditions, which may cause temporary air quality impacts due to the suspension of airborne particulates. These impacts are anticipated to be temporary and insignificant.

4.7.1.1.2 Noise

Construction machinery and vehicle activity would temporarily increase noise at the airport; however, there are no noise-sensitive land uses within the project vicinity. Noise impacts due to construction are anticipated to be temporary and insignificant.

4.7.1.1.3 Coastal Resources

A Coastal Zone Management Plan for the North Slope Borough was adopted in 1988 as part of the State of Alaska and National Coastal Management programs under the Coastal Zone Management Act (North Slope Borough 2019). The Alaska Coastal Management Program expired on July 1, 2011, and is no longer regulatory (Alaska Statue 44.66.030). However, NSB provisions in the Alaska Coastal Management Program are retained in North Slope Borough Municipal Code (NSBMC). To comply with NSBMC, the proposed action would require approval and permitting under code Titles 12 and 19. Given the scope and location of the proposed action, effects to coastal resources would be temporary and insignificant.

4.7.1.1.4 Water Resources—Surface Waters

The proposed action may result in some unanticipated construction or weather-related sedimentation and runoff during excavation and fill activities near wetlands. Water quality may be temporarily affected, and wetlands may not be able to perform their ecological function. These impacts are anticipated to be temporary and insignificant.

4.7.1.1.5 Airport Operations

Temporary delays to airport operations, as well as delays or detours to highway vehicles, aircraft ground and air traffic, and pedestrian may occur during construction activities. These are expected to be temporary, of minimal duration, and insignificant.

4.7.1.2 Cumulative Temporary Construction Impacts

Proposed action alternative temporary construction impacts would not result in cumulative construction impact effects in conjunction with past, present, or future construction activities at Deadhorse Airport. No other AIP projects are scheduled or would be ongoing during construction of the proposed action alternative (Hutchinson, pers. comm. 2022a), and only a single project to install an antenna and support structure (Schatz, pers. comm. 2022) would likewise occur at one airport lease lot. Potential impacts from routine maintenance and operations work by airport personnel are anticipated to be only minor and temporary and would not result in cumulative impacts in association with the proposed action.

4.7.2 NO ACTION ALTERNATIVE

The No Action Alternative would result in no temporary construction impacts to the proposed action area.

4.8 Summary of Environmental Commitments

The following environmental commitments would be included as part of the proposed action to reduce environmental impacts:

- DOT&PF contract documents for the proposed action will include stipulations that wildlife encountered by contractors will not be fed, hunted, chased, captured, or otherwise harassed by project contractors within the proposed action area. These stipulations would not restrict wildlife control actions conducted by authorized personnel on airport property.
- Contractors would abide by all operational and reporting stipulations in applicable required ADF&G and ADNR permits regarding water withdrawal locations, timing, screening to prevent fish losses, and other activities that would potentially impact fish resources.
- To avoid construction impacts to migratory birds, DOT&PF contract documents would not allow ground disturbing or fill activities to occur on original ground (OG) by contractors between June 1 and July 31 annually as recommended by USFWS (USFWS 2022).
- Any unanticipated placement of fill and/or mechanized vegetation clearing on OG conducted between the dates of June 1 and July 31 will be completed only under a mitigative work plan approved by the USFWS under authority of the MBTA.
- To avoid and minimize potential impacts to listed polar bears during construction activities, a USFWS recommended Polar Bear Interaction Plan will be implemented for all project field and construction personnel to follow in the unlikely event a polar bear is encountered during proposed action activities.
- Project equipment will be power washed/decontaminated of soils and plant materials prior to importation to the project area or demobilization to other areas to prevent the introduction to and/or increase of invasive plant materials in the proposed action site from other locations.

- Project geotechnical materials will be either of locally sourced clean fill or excavated fill reused in place (subject to applicable ADEC contamination criteria) to prevent the introduction of invasive exotic plant materials.
- Exposed mineral soils will be stabilized (geotextile, pavement, coarse gravel/rock) as soon as reasonably practicable to reduce the area of suitable ground available for uncontrolled invasive plant establishment.
- All seed or plant materials used for erosion or other stabilization and landscaping will be certified native and/or locally produced and as recommended for the region by Alaska Department of Natural Resources (ADNR) publication *A Revegetation Manual for Alaska* (Wright 2023).
- The DOT&PF construction contract will contain the provision: “Should cultural or paleontological resources be discovered as a result of this activity, all work that could impact these resources will halt and the DOT&PF project engineer and SHPO will be notified immediately.” Work will not resume at these sites until consultations under Section 106 and evaluation under National Register of Historic Places eligibility criteria (36 CFR 60.4) are conducted with FAA and SHPO.
- DOT&PF would include in construction contract language a standard stipulation that any project-related damage or degradation to the NRHP-eligible Dalton Highway MP 398 to MP 415 Section 4(f) property would be the responsibility of the project contractor to repair to its conditions existing prior to commencement of project construction.
- DOT&PF has developed and will implement a Contaminated Soils Management Plan (CSMP) to address identification, testing, handling, and disposal of potentially PFAS-contaminated material discovered or excavated during construction activities (Appendix D). The CSMP was reviewed and approved by ADEC. The construction contractor would implement the CSMP to avoid and minimize the release or spread of PFAS or other contamination.
- Construction contracts will include a provision that if contaminated soil or groundwater is suspected or encountered during construction activities, the construction contractor will contact the DOT&PF project engineer and stop the work so that DOT&PF can coordinate with ADEC in accordance with 18 Alaska Administrative Code 75.300. All contamination will be handled and disposed of in accordance with an ADEC-approved corrective action plan.
- A Hazardous Materials Response Plan and Spill Prevention, Control, and Countermeasures Plan would be developed and implemented by the construction contractor to identify appropriate storage, use, and disposal protocols for hazardous materials, including fuels and lubricants, present during construction and also outlining spill response protocols.
- All solid wastes generated during construction will be disposed of at a permitted landfill or alternatively as per the CSMP for PFAS- or petroleum contaminated materials.
- As a road accessible project location, the use of 15 parts per million sulfur standard ultra-low sulfur diesel fuel would be required for all diesel-powered highway/on-road vehicles (e.g.,

automobiles and trucks), non-road/off-road equipment (e.g., graders, bulldozers, backhoes), and locomotive and marine engines (ADEC 2021).

- Proposed action components would been sited to avoid wetland impacts by incorporating previously disturbed areas, existing placed fill embankments, and constructed infrastructure where practicable.
- Areas of proposed construction will be staked prior to ground disturbing activities and maintained for the duration of the construction to avoid inadvertent impacts to wetlands.
- Areas of proposed construction will maintain natural drainage patterns to the furthest extent practicable, including the installation of drainage features to allow equalization of surface water across linear project components that may affect ecological connectivity. The resolution of surface topography data collected at the site is not sufficient for identifying precise locations of needed drainage features, therefore locations will be determined on site.
- Materials will be stockpiled within the proposed action fill footprint or other permitted areas off-site (e.g., permitted commercial material sites) to avoid impacting additional ground.
- Measures to control fugitive dust such as pre-watering unpaved roads, applying a dust palliative, controlling construction traffic patterns and haul routes, and covering or otherwise stabilizing fill material stockpiles will be implemented during construction.
- One-hundred-foot setback buffers from surface waters, drainage ditches and isolated standing water will be maintained for equipment refueling and maintenance to avoid impacts from an accidental spill.
- Disturbed ground will be planted with certified native seed mixtures or plants, or otherwise stabilized with geotextile, pavement, or coarse gravel/rock to prevent erosion.
- The contractor will comply with an Alaska Pollutant Discharge Elimination System Construction General Permit and prepare and implement a Storm Water Pollution Prevention Plan (approved by DOT&PF and based on DOT&PF's Erosion and Sediment Control Plan). BMPs will be followed, including use clean or CSMP-approved fill for construction of project components, temporary use of silt fence while fill activities occur, and stabilization of disturbed areas.
- Advance notice of construction and detours will be provided to airport users.
- Haul routes will be planned to avoid and minimize impacts to airport users.
- An aircraft traffic control plan and a construction safety and phasing plan will be developed and implemented during construction.
- Notices will be published to inform users in advance to avoid or minimize potential conflicts. During culvert work adjacent to Taxiway A, aircraft and ground vehicles will be rerouted to maintain runway and apron access. The gravel apron and taxiway west of the Alaska Airlines terminal would be paved, marked, and lighted to maintain unimpeded operations for Alaska

Airlines aircraft. The new pavement may remain to provide secondary Alaska Airlines terminal access during activities requiring rerouting of Alaska Airlines jet aircraft.

- The construction contractor will notify the DOT&PF project engineer of any activities that would change taxiway lighting, and this information can be broadcast to airport users. The project engineer will inform the DOT&PF airport manager who will coordinate and issue any required FAA Notice to Airmen (NOTAM).
- Construction activities will be staged to minimize delays to aircraft or passengers.
- During construction periods that do not require partial taxiway or apron closures, the construction contract will require the contractor to conform to FAA safety guidelines and avoid delays to aircraft or passengers.

5 Public Involvement and Agency Coordination

5.1 Introduction

Public involvement and agency coordination requirements for the proposed action were fulfilled. Tables 9 and 10 detail outreach efforts and scoping activities conducted to inform and involve the public in design development, alternative decision-making, and analyses of impacts. Records of correspondence, public scoping notice, meeting notes, and DEA review copy transmittal notices are included in Appendix J.

Table 9. Public Involvement Activity Summary

Date	Activity	Description
January 25, 2022	Project Scoping	Alaska Department of Transportation and Public Facilities (DOT&PF) contacted an extensive list of federal, state, borough, municipal and Tribal agencies and entities by scoping emails and letters to describe the proposed action. All agencies either stated they had no objections, or they had no comments. The Alaska Department of Environmental Conservation provided comments on locations and distribution of hazardous sites within and near the proposed action area. No public meeting was held as per recommendation by FAA that there would likely be no public controversy over the proposed action.
May 19, 2023	DEA review and comment	To provide for online public access by stakeholders for review and commenting on the proposed action DEA, DOT&PF established a State of Alaska Online Public Notice website at: http://notice.alaska.gov/211186 Project information was also made available at the DOT&PF project website at: https://dot.alaska.gov/nreg/deadhorse/
June 9, 2023	DEA review and comment	To accommodate stakeholders unable to reliably access the DEA electronically, DOT&PF mailed DEA hard copies and comment forms, with a instructional cover letter, to the following locations by U.S. mail: • North Slope Borough, Office of the Mayor, 1274 Agvik St., Utqiagvik, AK 99723 • City of Kaktovik, 2051 Barter Ave., Kaktovik, AK 99747 • City of Nuiqsut, 2230 2nd Ave., Nuiqsut, AK 99789 • Kaktovik Village, 834 8th St, Kaktovik, AK 99747 • Native Village of Nuiqsut, 2205 2nd Ave., Nuiqsut, AK 99789 • Inupiat Community of the Arctic Slope (ICAS); 6986 Ahmaogak St., Utqiagvik, AK 99723
July 6 & 20, 2023	DEA review and comment	The DEA was made available for public comment commencing July 6, 2023, with newspaper notices of availability published in the Anchorage Daily News, the Fairbanks News Miner, and the Arctic Sounder. Notices were again published on July 20, 2023. Notices directed readers or project documents could be accessed and comments provided electronically via the State of Alaska Online Public Notice (OPN) website or at the DOT&PF project web page; and that hard copies of the DEA and comment forms were available at the locations listed above.
August 11, 2023	DEA comment	Comments were received by the end of the comment period from the Alaska Office of History and Archeology (OHA) and the Environmental Protection Agengy (EPA). Comment summaries and responses can be found in Table FNSI-3 and comment letters and emails can be found in Appendix J.

Table 10. Consultation and Coordination Activities

Date	Activity	Description
February 2, 2022	Government to Government Tribal Consultation	Federal Aviation Administration (FAA) transmitted Government to Government Consultation Initiation Letters to the Native Village of Nuiqsut, Kaktovik Village, and Inupiat Community of the Arctic Slope (ICAS). Letters included a Project Consultation Options Form. To date, no responses have been received and the Government-to-Government consultation process has not concluded.
August 19, 2022	Section 106 Findings Letter	The Alaska Department of Transportation and Public Facilities (DOT&PF) sent a Section 106 finding letter of "No Historic Properties Affected" letter to FAA, which transmitted it to the Alaska SHPO, the Native Village of Nuiqsut, Kaktovik Village, ICAS, the North Slope Borough, ASRC Regional Corporation, Kuukpik Corporation and Kaktovik Inupiat Corporation. To date, no comments have been received from the interested parties.
September 7, 2022	SHPO Concurrence	The State Historic Preservation Officer concurred with the DOT&PF and FAA Section 106 finding of no historic properties affected.
May 4, 2022	Informal Agency Consultations	DOT&PF, on behalf of FAA, transmitted an informal consultation on Section 7 Threatened and Endangered species in the proposed action area. The U.S. Fish and Wildlife Service issued a letter concurring with an FAA finding of no adverse effect to listed threatened and endangered species under Section 7 of the Endangered Species Act on July 29, 2022.
October 27, 2022	Section 4(f)	The FAA determined Section 4(f) use of the portion of the Dalton Highway eligible for listing on the National Register of Historic Places was de minimis.

6 List of Preparers

Preparer	Company/Agency	Title and/or Role
Jonathan Hutchinson	Department of Transportation and Public Facilities	Project Manager
William Sexton	Department of Transportation and Public Facilities	Environmental Impact Analyst
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Paul Karczmarczyk	Stantec Consulting Services Inc.	Environmental Scientist, Primary Author, and Environmental Analysis
Kacy Hillman	Stantec Consulting Services Inc.	Environmental Scientist, Coauthor and Environmental Analysis, Reviewer and Editor
Sylvia Langford	Stantec Consulting Services Inc.	Editor and American with Disabilities Act Section 508 Compliance

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