DRAFT
ENVIRONMENTAL ASSESSMENT

HUSKY DROP ZONE EXPANSION PROJECT

YUKON TRAINING AREA, ALASKA

Photo Credit: 11th Airborne Division

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11TH AIRBORNE DIVISION

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ABBREVIATIONS AND ACRONYMS

11 ABN DIV	11th Airborne Division
AAC	Alaska Administrative Code
ACEC	Area of Critical Environmental Concern
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
AFB	Air Force Base
AFFI	Alaska Freshwater Fish Inventory
AKOSH	Alaska Occupational Safety and Health
ANCSA	Alaska Native Claims Settlement Act
APDES	Alaska Pollutant Discharge Elimination System
APE	Area of Potential Effect
AR	Army Regulation
ARTCC	Air Route Traffic Control Center
AS	Alaska Statute
ATC	Air Traffic Control
ATCAA	Air Traffic Control Assigned Airspace
AWC	Anadromous Waters Catalog
BBS	Breeding Bird Survey
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
BMP	Best Management Practice
BS	Bachelor of Science
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
CHPP	Central Heat and Power Plant
CO	Carbon Monoxide
CO2e	Carbon Dioxide Equivalent
CWA	Clean Water Act
dBA	A-weighted decibels
DoD	Department of Defense
DoW	Department of War
DPW	Department of Public Works
DZ	Drop Zone
E.O.	Executive Order
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map

FNSB	Fairbanks North Star Borough
FONPA	Finding of No Practicable Alternative
FONSI	Finding of No Significant Impact
GHG	Greenhouse Gas
GMU	Game Management Unit
HAP	Hazardous Air Pollutant
IBCT (A)	Airborne Infantry Brigade Combat Team
ICRMP	Integrated Cultural Resources Management Plan
IFR	Instrument Flight Rules
INRMP	Integrated Natural Resources Management Plan
IPaC	Information for Planning and Consultation
IR	Instrument Route
ISOWPP	Initial Scope of Work Project Planning
JPMRC	Joint Pacific Multinational Readiness Center
JPARC	Joint Pacific Alaska Range Complex
LEDPA	Least Environmentally Damaging Practicable Alternative
MBTA	Migratory Bird Treaty Act
MOA	Military Operations Area
MOU	Memorandum of Understanding
MS	Master of Science
MSGP	Multi-Sector General Permit
MT	Mass Tactical
mt	Metric Ton
MTR	Military Training Route
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOA	Notice of Availability
NOI	Notice of Intent
NOx	Nitrogen Oxides (Nitrogen Oxide and Nitrogen Dioxide)
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Administration
Pb	Lead
PCB	Polychlorinated Biphenyl
PM	Particulate Matter
PMP	Project Management Professional
POL	Petroleum, Oils, and Lubricants
PSD	Prevention of Significant Deterioration
RCRA	Resource Conservation and Recovery Act
RCTC	Regional Combat Training Center
ROD	Record of Decision
ROI	Region of Influence
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Officer
SPCC	Spill Prevention, Control, and Countermeasure

SS	Selection Standard
SUA	Special Use Airspace
SWPPP	Stormwater Pollution Prevention Plan
TCP	Traditional Cultural Property
TVOP	Title V Operating Permit
USACE	U.S. Army Corps of Engineers
USAG AK	United States Army Garrison Alaska
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
VFR	Visual Flight Rules
VOC	Volatile Organic Compound
VR	Visual Route
VSQG	Very Small Quantity Generator
WQS	Water Quality Standards
YTA	Yukon Training Area

1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

In accordance with the U.S. Army's Arctic Strategy ("Regaining Arctic Dominance," Headquarters, Department of the Army, 19 January 2021), the 11th Airborne Division (11 ABN DIV) was reactivated in Alaska in June 2022 to serve as a force specifically prepared for near-Arctic environments. A primary readiness requirement for this division is the successful execution of division-level Regional Combat Training Center (RCTC) exercises in a near-Arctic environment, which are facilitated by the Joint Pacific Multinational Readiness Center (JPMRC) and held every other year within the Yukon Training Area (YTA).

To meet the demands of this YTA RCTC event, as well as other ongoing Airborne Infantry Brigade Combat Team (IBCT (A)) training, a Mass Tactical (MT) capable drop zone (DZ) is essential. Therefore, the United States Army Garrison Alaska (USAG AK), 11th ABN DIV proposes the development of a DZ within the YTA at Fort Wainwright capable of supporting MT operations. This infrastructure is critical to facilitate the training realism required to ensure the 11 ABN DIV's combat readiness for real-world deployments. Furthermore, these realistic training scenarios would enhance future RCTC rotations and other Army, joint-service, and multinational exercises, directly improving partner capacity and interoperability within the Indo-Pacific Theater.

Husky DZ is the sole permanent infrastructure in YTA that supports personnel and heavy airdrop operational training requirements. Husky DZ is approximately 15 miles straight-line distance southeast of Fairbanks and less than a mile straight-line distance north of Eielson Air Force Base (AFB; Figure 1).

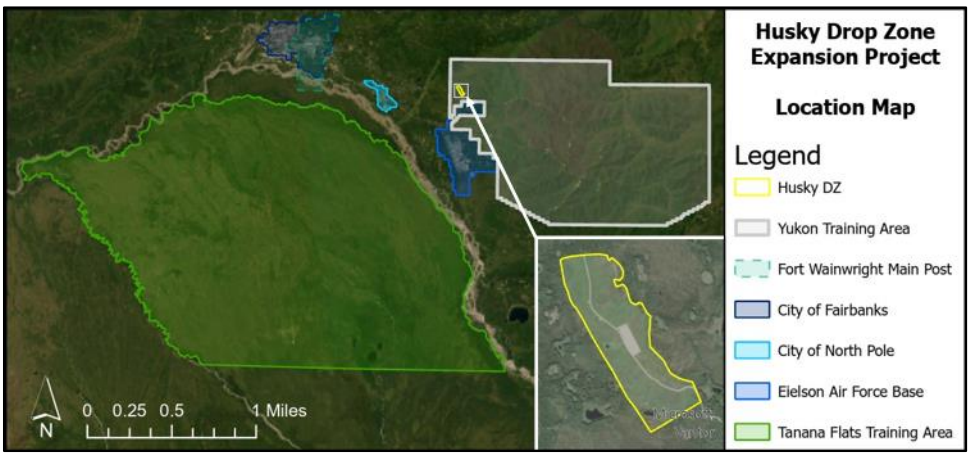

Figure 1. Proposed Action Location

Husky DZ in YTA spans 225 acres. Realistic training scenarios for MT airdrop operations are limited with a DZ of this size. As many as nine C-130 Hercules aircraft passes are required to deliver the same number of personnel or equipment as a singular MT airdrop at Husky DZ. Husky DZ also lacks power and communication

infrastructure to support MT airdrop operation follow-on mission assembly and ground tactical exercises that are necessary to ensure complex and effective training to meet mission requirements.

This Draft Environmental Assessment (EA) has been prepared for the Proposed Action in compliance with the requirements of the National Environmental Policy Act (NEPA) as amended (42 United States Code [U.S.C.] 4321 *et seq*.) and the Department of War (DoW) NEPA Implementing Procedures (April 30, 2026).

1.2 PURPOSE AND NEED

The Proposed Action would address the lack of DZ infrastructure within the YTA to support 11 ABN DIV training requirements for an IBCT (A) pursuant to the Army's Arctic Strategy. Husky DZ is the only permanent YTA infrastructure capable of supporting fixed wing airdrops of personnel, equipment, and supplies, but its training capacity is limited by its size and lack of critical infrastructure for maintenance, emergency life-support, and facilities management.

1.2.1 PURPOSE

The purpose of the Proposed Action is to construct infrastructure in the YTA that enables the 11 ABN DIV to meet training mission requirements for MT airdrops, follow-on mission assembly and ground tactical exercises as part of an airborne assault training scenario, and joint force training capability.

1.2.2 NEED

To meet the aforementioned training requirements and significantly increase joint-training benefits, 11 ABN DIV identified the need for a DZ in YTA with the capacity to support three C-17s dropping 300 Paratroopers simultaneously and enable multiple heavy drops in one pass across a DZ. This would enable RCTC exercise scenarios and more suitable staging areas for force build-up in the YTA pursuant to the Army's Arctic Strategy facilitated by the JPMRC training rotations. Thus, the Proposed Action is needed to develop YTA infrastructure that provides a realistic Arctic training environment that can support large-scale joint-training exercises (e.g., Red Flag Alaska, Northern Edge, and Arctic Edge) and JPMRC RCTC rotations in Alaska in support of the Army's Arctic Strategy.

1.3 SCOPE AND CONTENT

To determine the scope of this NEPA analysis, an Initial Scope of Work Project Planning (ISOWPP) exercise was held October 24–25, 2025, in alignment with DoW NEPA Implementing Procedures, Part 1.8(c), "Scoping." USAG AK Resource managers and 11 ABN DIV personnel reviewed potential environmental impacts, identifying resources requiring detailed analysis and eliminating those with no potential for impact.

NEPA documents developed for projects with similar actions and within the same region of this Proposed Action are summarized in the following list:

- 2026, Notice of Intent (NOI) for the development of an Environmental Impact Statement (EIS) for the Joint Pacific Range Complex Regional Special Activity Airspace Optimization Program
- 2013, Final EIS and Record of Decision (ROD) for the Modernization and Enhancement of Ranges, Airspace, and Training Area in the Joint Pacific Alaska Range Complex in Alaska
- 2013, Final Programmatic EA and Finding of No Significant Impact (FONSI) for the Army 2020 Force Structure Realignment
- 2007, Final Programmatic EA and FONSI for the USAG Alaska Range Complex and Training Land Upgrades
- 2008, Final Supplemental EIS and ROD for the Army Growth and Force Structure Realignment to Support Operations in the Pacific Theater
- 2009, Final EIS and ROD for the Stationing and Training of Increased Aviation Assets within US Army Alaska
- 2004, Final EIS and ROD for the Transformation of US Army Alaska

1.4 DECISION TO BE MADE

NEPA requires that decision-making proceeds with full awareness of the environmental consequences that follow from major federal actions. There are two decisions to be made under the Proposed Action. One decision is to determine whether there “is” or “is not” a practicable alternative to the Proposed Action that would avoid impacts to floodplains, wetlands, or other sensitive environmental areas. The Installation Management Command Commanding General will make this determination based on a review of the Proposed Action’s Finding of No Practicable Alternative (FONPA). The decision may influence the array of alternatives considered under the NEPA analysis. The other decision pertains to the selection of an alternative for the Proposed Action, which will be made by the Fort Wainwright Garrison Commander based on the environmental analysis provided in the Proposed Action’s EA. The decision of the Fort Wainwright Garrison Commander will be one of the following:

- To continue operations as is (No-Action Alternative);
- To sign a FONSI for the selected alternative if no significant impacts;
- To sign a mitigated FONSI for the selected alternative if significant impacts can be mitigated to a less-than-significant level; or,
- To issue a NOI and prepare an EIS for the selected alternative if there are unavoidable significant environmental impacts.

1.5 COOPERATING AGENCY AND INTERGOVERNMENTAL COORDINATION / CONSULTATIONS

It is important that there are opportunities for stakeholder input during the NEPA process. Stakeholder input is necessary to ensure potential consequences of

alternatives considered under the NEPA analysis are fully considered in the development of the EA. No cooperating agencies participated in the development of this Proposed Action's EA.

1.5.1 INTERAGENCY CONSULTATIONS

In accordance with the Intergovernmental Cooperation Act of 1968 (42 U.S.C. 4231(a)) and Executive Order (E.O.) 12372, federal, state, and local agencies with potential jurisdiction will be notified. A list of consulted agencies and all related correspondence is provided in Appendix A.

1.5.2 INTERGOVERNMENTAL / GOVERNMENT TO GOVERNMENT CONSULTATIONS

The Government-to-Government consultation process is distinct from the NEPA public participation and interagency/intergovernmental coordination for environmental planning processes. Government-to-Government requires separate notification to all the federally recognized Tribes that have potential tribal interests impacted by a federal action.

In accordance with USAG AK's responsibilities under NEPA; E.O. 13175, "Consultation and Coordination with Indian Tribal Governments;" "Department of Defense [DoD] American Indian and Alaska Native Policy;" "DoD American Indian and Alaska Native Policy Alaska Implementation Guidance;" DoD Instruction 4710.02, "Interactions with Federally Recognized Tribes;" and Army Regulation (AR) 200-1, "Environmental Protection and Enhancement;" Proposed Action Government-to-Government consultation has been initiated with federally recognized Tribes. Applicable Alaska Native Claims Settlement Act (ANCSA) Corporations will be coordinated with on the same basis as federally recognized Tribes pursuant to E.O. 13175 (see Section 161 of Public Law 108-199, as amended by Section 518 of Public Law 108-447). The federally recognized Tribes, ANCSA Corporations, and Tribal Consortia consulted with for the Proposed Action are listed in Appendix A along with pertinent correspondence.

The Proposed Action's point-of-contact for Government-to-Government and tribal consultation communications and coordination is Elizabeth Cook, the USAG AK Cultural Resource Manager and Alaska Native Liaison. Elizabeth Cook is working directly with tribal and tribal corporation representatives to ensure there is sufficient opportunity for their meaningful and effective participation. This includes facilitating the issuance of Government-to-Government and tribal consultation letters to the applicable federally recognized Tribes, ANCSA Corporations, and Tribal Consortium from the Fort Wainwright Garrison Commander, notifying them of the Proposed Action and its pending environmental analysis.

1.6 PUBLIC PARTICIPATION

The Draft EA Notice of Availability (NOA), Draft EA, Proposed FONSI, and Proposed FONPA were published in the Fairbanks Daily News-Miner and on USAG AK Fort

Wainwright's "NEPA – Environmental Assessments" webpage, initiating a 15-day public and agency comment period from June 26, 2026, through July 13, 2026. Direct agency contacts and subsequent public and agency comments will be provided in Appendix A.

Because potential construction falls within wetlands and floodplains, the Proposed Action must comply with E.O. 11990, "Protection of Wetlands," and E.O. 11988, "Floodplain Management," respectively. The NOA served as the early public notification required when construction in these areas cannot be practicably avoided.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The Proposed Action would develop a DZ within the YTA that is capable of supporting MT airdrop operations and training exercises pursuant to the Army's Arctic Strategy. Alternatives must be located within the YTA to support RCTC rotation requirements and to service the YTA. Should the mission evolve to require comparable needs in another training area (e.g., the Tanana Flats Training Area), it would be evaluated by a separate NEPA evaluation.

To identify reasonable alternatives that meet the purpose and need of the Proposed Action, five Selection Standards (SSs) were developed during the scoping process:

1. **Location:** Must be in the YTA and support follow-on tactical ground exercise immediately after an airborne assault for a division-level training exercise.
2. **Size:** Must support simultaneous personnel or equipment drops from three C-17s over a 54-second window.
3. **Terrain:** Must have minimal elevation and topographical changes (less than 15 percent slope in accordance with Training Circular 25-1, Appendix a-1) and at least a 10-mile approach/departure clearance at both ends of the DZ.
4. **Connectivity:** Must be within 3 miles from existing roads and utilities, without major obstacles (e.g., steep slopes) hindering maintenance and upgrades.
5. **Operational:** Must avoid significant personnel safety hazards (e.g., overhead power lines, standing waterbodies, unexploded ordnance).

Three alternatives were initially considered during the scoping process:

- Alternative 1: Expand Husky DZ
- Alternative 2: Construct a New DZ
- No-Action Alternative

To compare environmental impacts across different alignments, Alternative 1 (Expand Husky DZ) was divided into three sub-alternatives (1A, 1B, and 1C), creating five alternatives:

- Alternative 1A: Expand Husky DZ, 0° Bearing
- Alternative 1B: Expand Husky DZ, 21° Bearing
- Alternative 1C: Expand Husky DZ, 37° Bearing
- Alternative 2: Construct a New DZ
- No-Action Alternative

The five alternatives were screened against the SSs to determine which (1) met the Proposed Action's purpose and need and (2) would be carried forward through the full extent of analysis under this EA. Table 1 summarizes the results.

Table 1. Alternatives SSs Screening Summary

ALTERNATIVE	SELECTION STANDARDS				
	1: Location	2: Size	3: Terrain	4: Connectivity	5: Operational
Alternative 1A	Met	Met	Met	Met	Met
Alternative 1B	Met	Met	Met	Met	Met
Alternative 1C	Met	Met	Met	Met	Met
Alternative 2	Met	Met	Not Met[1]	Not Met[1]	Not Met[1]
No-Action Alternative	Met	Not Met	Met	Not Met	Met

Note:
[1] While multiple locations were evaluated under Alternative 2, no single location was identified that could meet the Terrain, Connectivity, and Operational SSs simultaneously.

Alternative 2 (Construct a New DZ) failed the SS screening and was eliminated from further consideration (Section 2.2). Although the No-Action Alternative also failed, NEPA requires its retention as a baseline. Therefore, the final alternatives analyzed in this Draft EA are the No-Action Alternative and the three Alternative 1 sub-alternatives (herein collectively referred to as "Sub-Alternatives"):

- Alternative 1A (Preferred Alternative): Expand Husky DZ, 0° Bearing
- Alternative 1B: Expand Husky DZ, 21° Bearing
- Alternative 1C: Expand Husky DZ, 37° Bearing
- No-Action Alternative

Alternative 1A (0° Bearing) was selected as the Preferred Alternative. It meets mission requirements while minimizing both engineering complexity and environmental impacts. Engineering-wise, its flat terrain reduces utility installation complexity, construction costs, and maintenance. Environmentally, it maximizes the previously disturbed DZ footprint, resulting in the least permanent wetland fill, floodplain disturbance, and overall ecological impact (see Section 3).

Detailed descriptions of these sub-alternatives are provided in Section 2.3.

2.2 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

Alternative 2 proposes construction of a new DZ in the YTA (Figure 2). It would be located in YTA but not overlap or be adjacent to the existing Husky DZ. Under Alternative 2, an approximately 1,650-acre (3,979 by 1,682 meters) DZ would be constructed. The dimensions were specifically designed to allow up to three C-17

aircraft to safely conduct a single-pass airdrop of 300 paratroopers (i.e., 54 seconds of air time across the DZ). The expanded DZ would be cleared of trees.

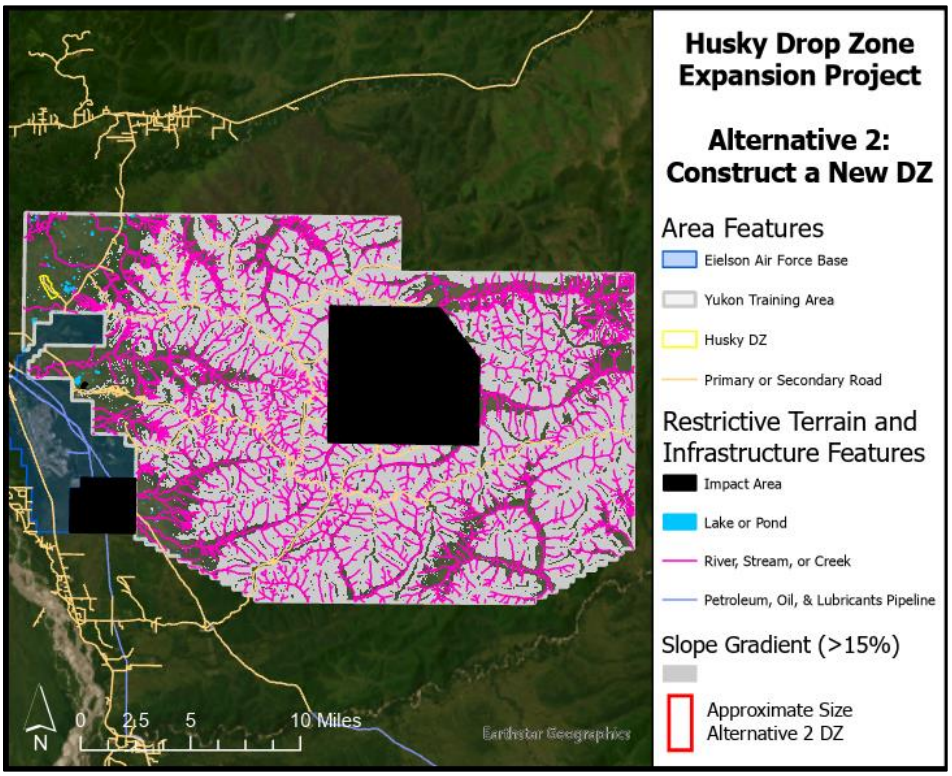

Figure 2. Construct a New DZ

New roads and underground utilities (power and communication) would extend from existing infrastructure. The 60-foot-wide (18.3-meter) road corridor would terminate at a 2.92-acre gravel parking pad and contain the buried utility lines to service a central location.

Alternative 2 was eliminated from further consideration. No location could be identified that met all SSs without overlapping or being adjacent to the existing Husky DZ. As depicted in Figure 2-1, there is no 3,979-meter by 1,682-meter (SS #2) area within YTA (SS #1) that concurrently meets SSs #3, #4, or #5 (Table 2).

Table 2. Alternative 2 Screening

SS	Determination	Rationale
1: Location	Met	Located within YTA and supports follow-on ground tactical exercises.
2: Size	Met	Provides 54 seconds of flight time across the DZ.
3: Terrain	Not Met[1]	Steep terrain (>15% slopes) and areas obstructing aircraft approach or departure were eliminated.
4: Connectivity	Not Met[1]	Footprints lacking reasonable access without significant obstacles to existing roads and utilities were eliminated.
5: Operational	Not Met[1]	Sites containing significant safety hazards (rivers, large waterbodies, or impact areas) were eliminated.

Note:
[1] While multiple locations were evaluated under Alternative 2, no single location was identified that could meet the Terrain, Connectivity, and Operational SSs simultaneously.

2.3 ALTERNATIVES CARRIED FORWARD FOR ANALYSIS

Although the No-Action Alternative did not meet three of the five screening standards, it will be carried forward to provide a comparative baseline for evaluating potential environmental impacts. Alternatives 1A (0° Bearing), 1B (21° Bearing), and 1C (37° Bearing) were found to meet all SSs necessary for the Proposed Action's purpose and need; therefore, they will be carried forward for full analysis in the Draft EA.

2.3.1 NO-ACTION ALTERNATIVE

Under the No-Action Alternative, the 225-acre Husky DZ would remain the sole DZ in YTA. The duration of time across the DZ would be 23 seconds and allow one to two C-130 Hercules to drop personnel (33 per aircraft) in a single pass. A single MT airdrop on the existing Husky DZ would take up to nine passes. There would be no utility or road infrastructure improvements under the No-Action Alternative.

The No-Action Alternative did not meet SSs #2 and #4, which are necessary to meet the purpose or need of the project (Table 3), but it will be carried forward through the environmental analysis as a baseline for informing environmental impact determinations.

Table 3. No-Action Alternative Screening

SS	Determination	Rationale
1: Location	Met	Located within YTA and supports follow-on ground tactical exercises.
2: Size	Not Met	Does not provide 54 seconds of flight time across the DZ.
3: Terrain	Met	Flat terrain with sufficient aircraft approach and departure clearance.
4: Connectivity	Not Met	Lacks required utility improvements despite proximity to existing infrastructure.
5: Operational	Met	No significant safety hazards to personnel.

2.3.2 ALTERNATIVE 1 SUB-ALTERNATIVES

The Sub-Alternatives (Figure 3) were derived from Alternative 1 and share extensive similarities. All were designed to maximize the previously disturbed DZ footprint, minimizing new ground disturbance and environmental impacts. Each sub-alternative expands the existing 225-acre Husky DZ to an approximately 1,650-acre cleared area (3,979 by 1,682 meters) to support single-pass, three-ship C-17 drops of 300 paratroopers and/or equipment. The Sub-Alternatives require tree clearing and include the following new infrastructure

- Access Road and Parking: A new two-way gravel road extending from Husky DZ Trail to an approximately 2.94-acre (68 by 175 meters) gravel parking pad.
- Utility Improvements: New underground power and communication lines extending approximately 1,821 meters (1.13 miles) along Husky DZ Trail's right-of-way to a central location.

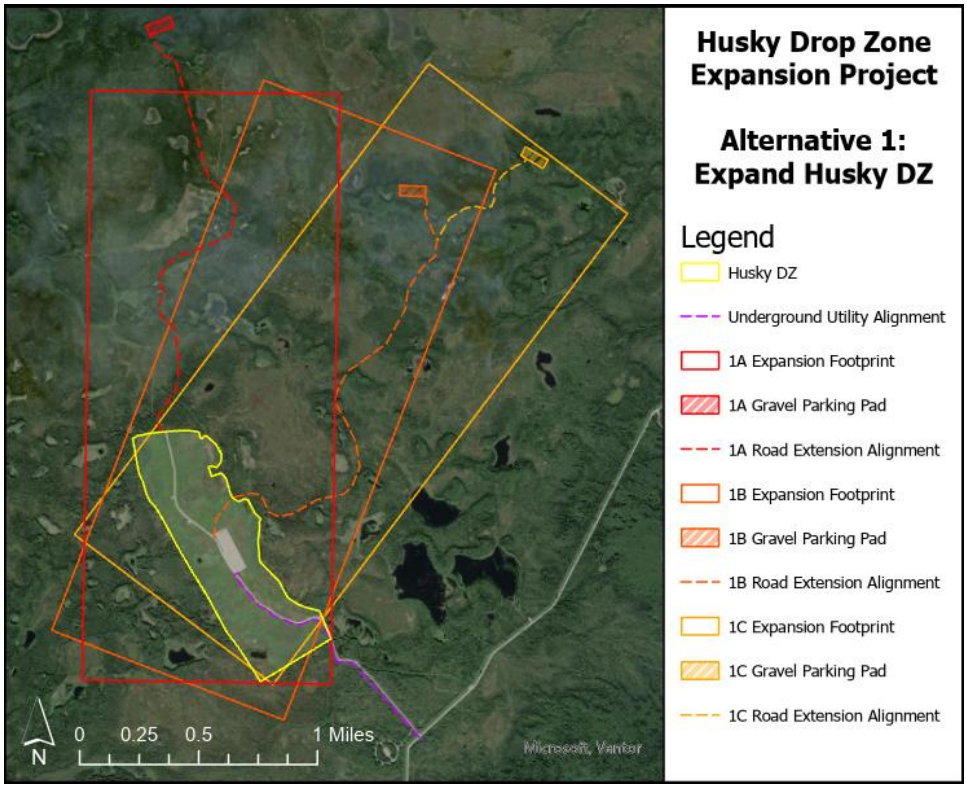

Figure 3. Alternative 1: Expand Husky DZ

Additionally, the following construction methods and design considerations would apply:

- Construction Season: Construction will span 3 years, with tree clearing requiring 2 to 3 years and road infrastructure and utilities taking 1 to 2 years.
- Tree Clearing and Grubbing Protocols: To minimize soil disturbance and protect wetland hydrology, specific clearing methods and timing restrictions would be implemented based on location.
  - Wetland Clearing: In all wetland areas, trees would be cut at the ground surface, and the underlying ground cover and vegetative mat would be left in place. All wetland clearing activities would be restricted to winter months when the ground is frozen solid (generally November through April).
  - Upland and Footprint Clearing: Within designated upland areas and the direct construction footprints of the road right-of-way and gravel parking pad, mechanized clearing and grubbing would be permitted.
  - Migratory Bird Season Restriction: All clearing activities are prohibited during the primary migratory bird nesting season.
- Timber Salvage: Timber salvaged during construction would be stored on-site and made available to the public through the Department of Public Works (DPW) Environmental Firewood Harvest Program.
- Road Specifications:
  - The road design would be 44 feet (13.4 meters) wide within a 60-foot (18.3-meter) wide corridor.
  - Gravel would be sourced from established, non-project-specific borrow pits.

  - Culverts would be installed to maintain hydrologic flow.
  - Drainage ditches up to 8 feet (2.5 meters) wide will be constructed within the road corridor only where necessary to direct runoff. Otherwise, stormwater will drain via sloping from the roadbed to the natural grade.
- Utility Specifications:
  - Underground utilities would be located within new and existing road corridors.
  - Communications would be a 12-strand fiber optic cable.
  - Power would be 200 Ampere, 3-phase, 4-wire, 208V alternating current shore power, tied to existing utilities.
- Impact Buffer:
  - When determined necessary, a 500-meter buffer around the DZ expansion footprint (an approximately 3,245.69-acre area) would be applied to assess impacts to account for potential variation in the final footprint.

Each sub-alternative features a unique DZ alignment bearing, which alters its infrastructure layout and potential environmental impacts. The following subsections detail these variations and evaluate each against the SSs.

Alternative 1A / Preferred Alternative: Expand Husky DZ, 0° Bearing

Alternative 1A, has been identified as the Preferred Alternative (Figure 4).

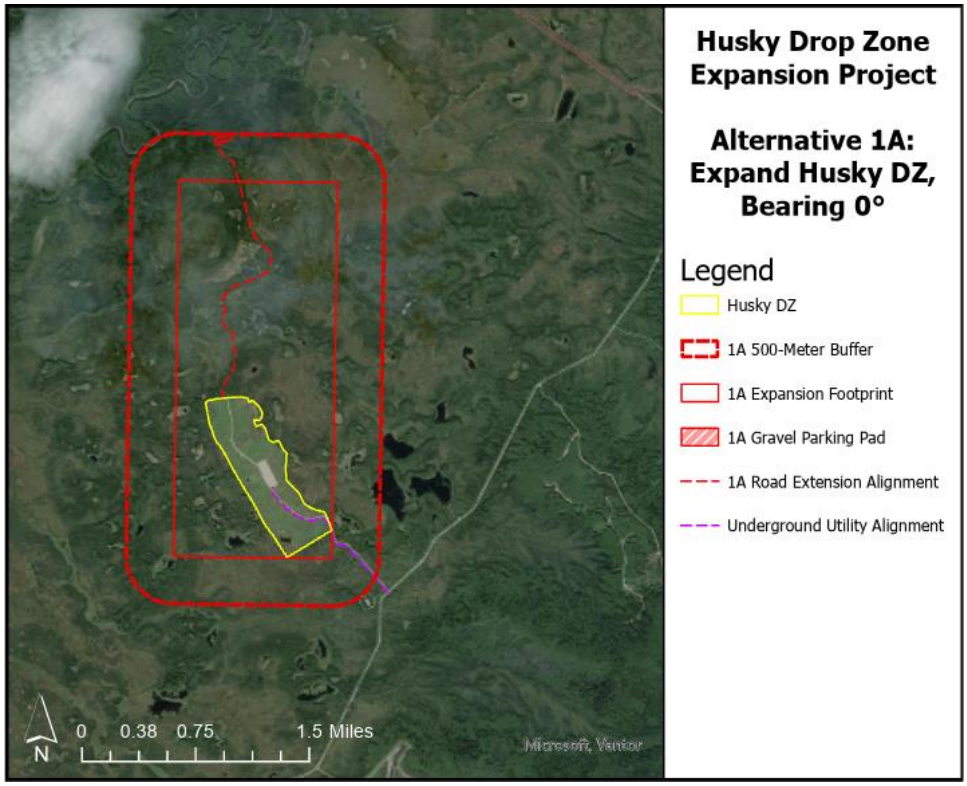

Figure 4. Alternative 1A Features

Under Alternative 1A, the existing Husky DZ would be expanded by approximately 1,430 acres to meet the required new dimensions of a roughly 3,979- by 1,682-meter cleared DZ. The expanded DZ would be oriented from south to north on a 0° bearing. The new road infrastructure would extend approximately 3,287 meters (2.04 miles) from the end of the existing access road and terminate at the installed gravel parking pad just north of the expanded zone. Alternative 1A met all five SSs necessary to meet the Proposed Action's purpose and need (Table 4).

Table 4. Alternative 1A Screening

SS	Determination	Rationale
1: Location	Met	Located within YTA and supports follow-on ground tactical exercises.
2: Size	Met	Provides 54 seconds of flight time across the DZ.
3: Terrain	Met	Relatively level terrain with clear aircraft approach and departure paths.
4: Connectivity	Met	Located within reasonable range of existing road and utility infrastructure with no significant obstacles.
5: Operational	Met	Tree removal within the footprint eliminates the personnel safety hazard.

Alternative 1B: Expand Husky DZ, 21° Bearing

Alternative 1B is depicted in Figure 5.

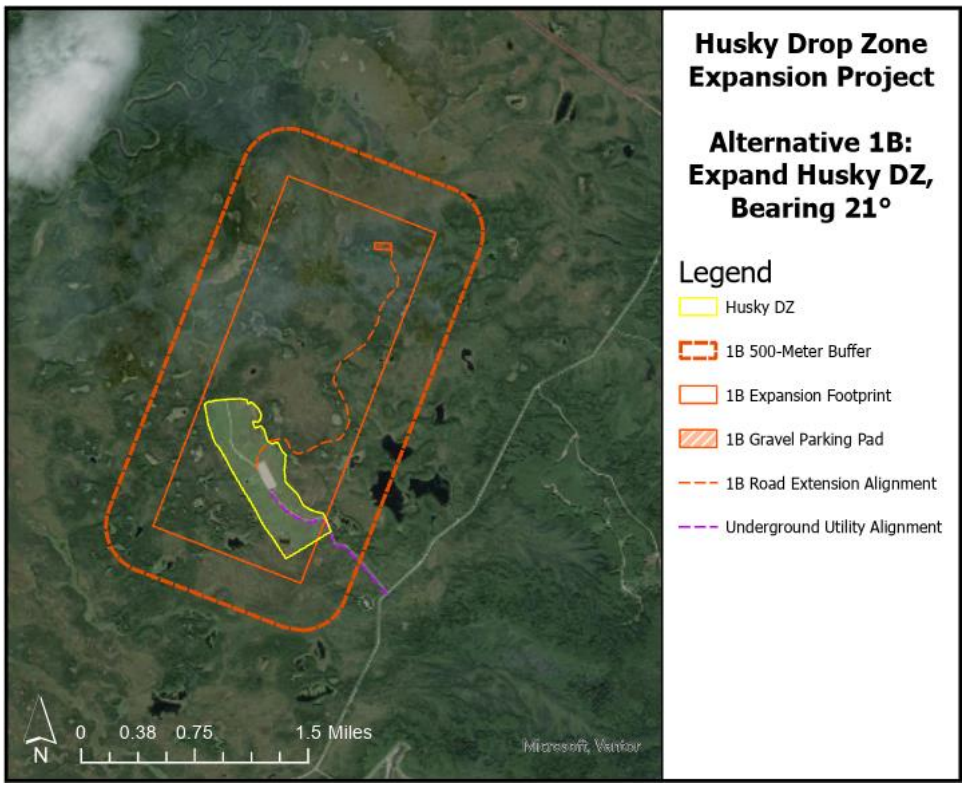

Figure 5. Alternative 1B Features

Under Alternative 1B, the existing Husky DZ would be expanded by approximately 1,433 acres (3-acres of the existing DZ is outside the expansion footprint) to meet the required new dimensions of a roughly 3,979- by 1,682-meter cleared DZ. The expanded

DZ would be oriented southeast to northwest on a 21° bearing. The new road infrastructure would extend approximately 3,536 meters (2.20 miles) from the end of the existing access road and terminate at the installed gravel parking pad at the north end of the expanded zone. Alternative 1B met all five SSs necessary to meet the Proposed Action's purpose and need (Table 5).

Table 5. Alternative 1B Screening

SS	Determination	Rationale
1: Location	Met	Located within YTA and supports follow-on ground tactical exercises.
2: Size	Met	Provides 54 seconds of flight time across the DZ.
3: Terrain	Met	Relatively level terrain with clear aircraft approach and departure paths.
4: Connectivity	Met	Located within reasonable range of existing road and utility infrastructure with no significant obstacles.
5: Operational	Met	Tree removal within the footprint eliminates the personnel safety hazard.

Alternative 1C: Expand Husky DZ, 37° Bearing

Alternative 1C is depicted in Figure 6.

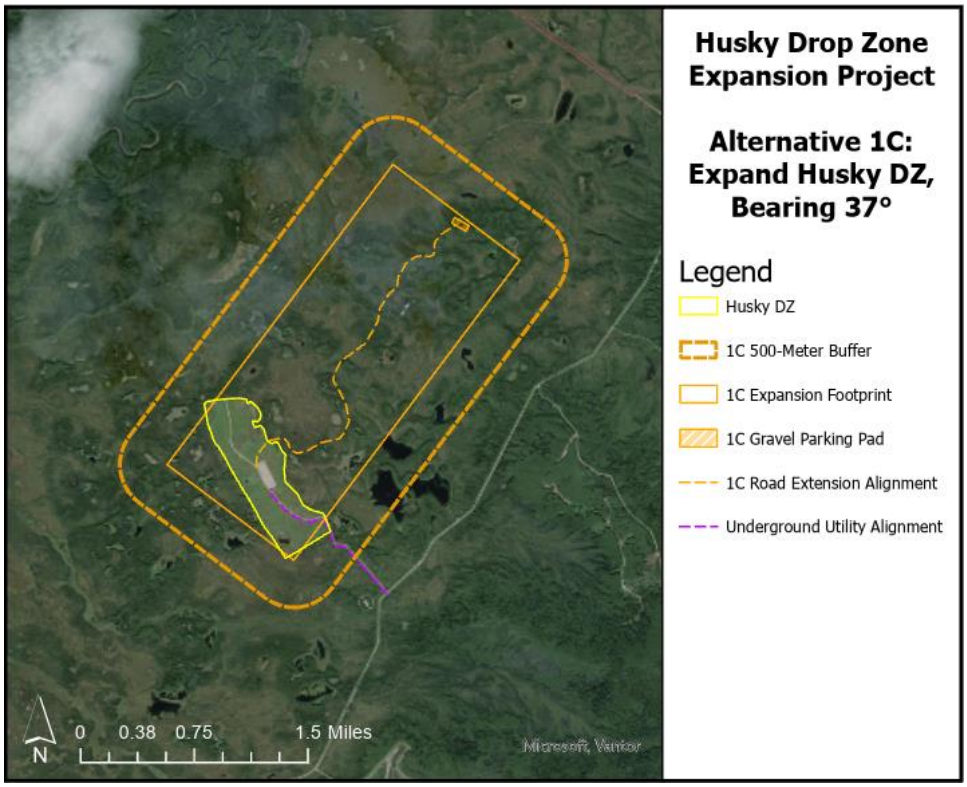

Figure 6. Alternative 1C Features

Under Alternative 1C, the existing Husky DZ would be expanded by approximately 1,439 acres (8.5-acres of the existing DZ is outside the expansion footprint) to meet the required new dimensions of a roughly 3,979- by 1,682-meter cleared DZ. The expanded DZ would be oriented southeast to northwest on a 37° bearing. The new road infrastructure would extend approximately 4,133 meters (2.57 miles) from the end of the

existing access road and terminate at the installed gravel parking pad at the north end of the expanded zone. Alternative 1C met all five SSs necessary to meet the Proposed Action's purpose and need (Table 6).

Table 6. Alternative 1C Screening

SS	Determination	Rationale
1: Location	Met	Located within YTA and supports follow-on ground tactical exercises.
2: Size	Met	Provides 54 seconds of flight time across the DZ.
3: Terrain	Met	Relatively level terrain with clear aircraft approach and departure paths.
4: Connectivity	Met	Located within reasonable range of existing road and utility infrastructure with no significant obstacles.
5: Operational	Met	Tree removal within the footprint eliminates the personnel safety hazard.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS

This section evaluates the potential direct, indirect, and cumulative effects of the Sub-Alternatives against the baseline conditions of the No-Action Alternative. The Region of Influence (ROI) encompasses the geographic area where the Proposed Action may result in environmental effects. The overarching ROI is defined as the entire YTA, though resource-specific ROIs are expanded or refined as necessary to address specific assessment parameters.

Consistent with DoW NEPA Implementing Procedures (Part 1.5), this Draft EA analyzes reasonably foreseeable effects, including those from third-party or spatially/temporally separate projects, to determine whether to prepare a FONSI or an EIS. As determined during the ISOWPP exercise, only resources with the potential for minor or greater impacts are analyzed herein. Socioeconomics is not evaluated as a standalone category but is integrated within other resource analyses as applicable.

The magnitude of effects is evaluated collectively across the Sub-Alternatives, unless distinct impact differences require separate discussion to inform the decision (Section 1.4). The magnitude of effects is categorized as follows: no effect (no potential for impact); minor (not detectable or not noticeably altering a resource); moderate (noticeably alters but does not destabilize a resource); or major (destabilizes important attributes of a resource).

3.1 LAND USE

3.1.1 AFFECTED ENVIRONMENT

The YTA is managed under a Memorandum of Understanding (MOU) between the USAG AK and the Bureau of Land Management (BLM). Required by Section 3014 of Public Law 106-65, as amended by Public Law 119-60, this governs withdrawn military lands through 2051. Two key laws guide the management of the YTA: (1) the Military Lands Withdrawal Act of 1999, mandating Resource Management Plans for withdrawn lands, and (2) the Sikes Act, requiring the DoW to implement Integrated Natural Resources Management Plans (INRMPs) for military lands that have a significant

amount of natural land. The MOU delineates USAG AK and BLM management roles, while Army Regulation (AR) 200-1 mandates an Integrated Cultural Resources Management Plan (ICRMP) for historical assets.

Managed under the Fort Wainwright INRMP (USAG AK 2020a), the 260,000-acre YTA lies within the Fairbanks North Star Borough (FNSB) between the Chena and Salcha Rivers, 16 miles east-southeast of Fairbanks. The adjacent Eielson AFB is the nearest census-designated place with a population of 2,610 (USCB 2021).

The USAG AK holds primarily stewardship authority, the BLM retains concurrent stewardship capability with USAG AK approval. Pursuant to the Sikes Act, USAG AK maximizes public recreation (e.g., hiking, hunting, fishing, and woodcutting) subject to public safety, military training, and ecological sustainability. Public recreation is controlled through access restrictions and permitting requirements. Recreational users must obtain a Sikes Act Permit, check in via the iSportsman system, and comply with state and USAG AK Regulation 190-13 rules. YTA lies within Alaska Department of Fish and Game (ADF&G) Game Management Unit (GMU) 20B; local hunting opportunities are summarized in Table 3-1.

Table 7. GMU 20B Hunting Applicable to YTA

Species		Hunt Type	Harvest Ticket
Common Name	**Scientific Name**		
Black Bear	*Ursus americanus*	No Closed Season	Required
Brown/Grizzly Bear	*Ursus arctos*	General Season (Sep 1 to Jun 30)	Not Required
Caribou	*Rangifer tarandus*	Permit	Specific to Permit
Moose	*Alces alces*	Permit	Specific to Permit
Wolf	*Canis lupus*	General Season (Aug 1 – Apr 30)	Not Required
Wolverine	*Gulo gulo*	General Season (Sep 1 to Mar 31)	Not Required

Source: (ADF&G 2026b)

3.1.2 ENVIRONMENTAL EFFECTS

3.1.2.1 No-Action Alternative

Under the No-Action Alternative, there would be **no effect** on current land use. This determination is based on the assumption that the YTA land would continue to be withdrawn for military use for the foreseeable future. Under this condition, existing land use designations would not change, and current military training and recreational activities would be consistent with existing conditions.

3.1.2.2 Sub-Alternatives

Because the effects on land use are consistent across all Sub-Alternatives, this section presents a single, consolidated analysis.

The construction and post-construction associated with the Sub-Alternatives would adhere to the objectives of the Fort Wainwright INRMP and align with the military use land designation of YTA.

Construction activities would result in **minor localized, short-term adverse impacts** to land use as military and recreational access would be restricted within the project footprint for the duration of construction. The permanent removal of trees constitutes a loss of habitat currently utilized for public recreation, such as hunting and harvesting Christmas trees, representing a direct adverse effect on those specific uses within the expansion area. However, the cleared acreage is relatively small, and the surrounding YTA contains extensive, contiguous habitat that supports identical recreational functions. Moreover, the new road infrastructure could, when the area is open to the public, provide more reliable access for permitted recreational users to the areas surrounding Husky DZ.

Post-construction, the Sub-Alternatives would result in **moderate localized, long-term beneficial impacts** on land use. This determination is based on the (1) alignment with primary mission requirements and mitigation via resource abundance. The YTA is designated primarily for military activities. While the project entails minor localized adverse impacts to public recreation through habitat conversion, these effects are outweighed and offset by the substantial mission benefits. By directly expanding the operational capacity and versatility of Husky DZ, the Sub-Alternatives fundamentally enhance the primary land-use function of the installation. Furthermore, the habitat slated for conversion to military use is not ecologically unique. The area to be cleared is minuscule when compared to the vast, identical landscape that remains open for public recreation throughout the broader YTA. This abundance ensures that regional recreational opportunities are not noticeably diminished, keeping adverse land-use impacts at a minor threshold.

Land-use impacts are consistent across the Sub-Alternatives. Under the Preferred Alternative (Alternative 1A), construction would cause minor, short-term, direct adverse impacts through temporary access restrictions and localized clearing. Post-construction, the project would yield moderate, long-term, direct beneficial impacts. Although recreational availability is slightly reduced within the direct footprint, this localized loss is offset by the abundance of adjacent recreational lands and enhanced regional access via the new road. Ultimately, the expanded footprint aligns with and enhances the military training designation of the YTA, ensuring that adverse impacts to land use remain less than significant.

3.2 AIR QUALITY

3.2.1 AFFECTED ENVIRONMENT

YTA is located in a transitional zone of the Interior Highlands and Interior Bottomlands Ecoregions (Figure 7; USGS 1995) that expresses a continental climate characterized by extreme seasonal variation that is typical within Interior Alaska: short, warm summers and long, very cold winters. This results in a short growing season and long-lasting snow. The areas topography creates an orographic effect, leading to more precipitation at higher elevations. Lightning is also known to occur during the summer.

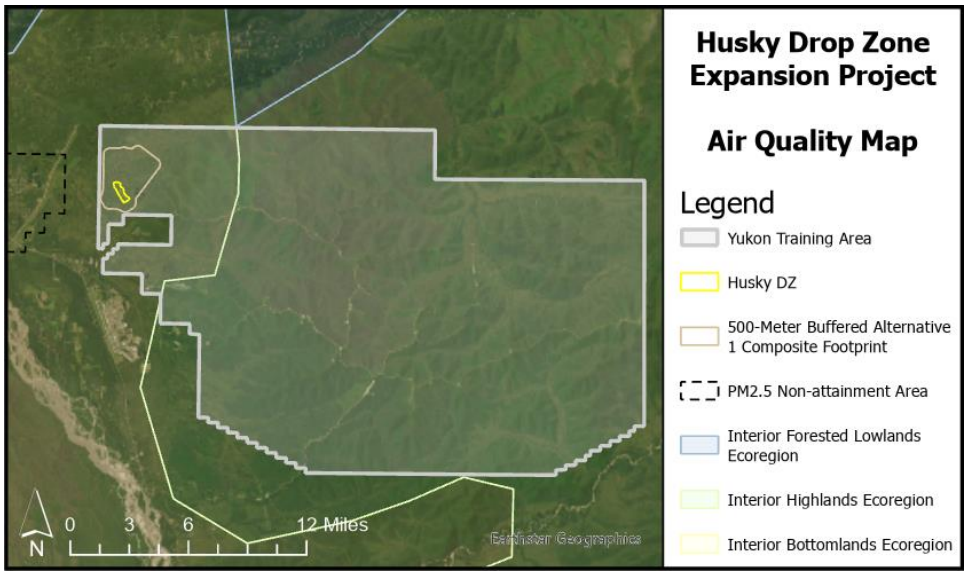

Figure 7. Air Quality Map

The regional climate heavily influences the area's emission sources, particularly through seasonal wildfires and the management of fugitive dust. The Clean Air Act (CAA) requires the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS). Alaska Department of Environmental Conservation (ADEC) established state Ambient Air Quality Standards are periodically updated to align with federal regulations.

The YTA is in the Northern Alaska Intrastate Air Quality Control Region, designated attainment/unclassifiable for all criteria pollutants (18 Alaska Administrative Code [AAC] 50.015). YTA is also a Prevention of Significant Deterioration (PSD) Class II area, which allows for moderate deterioration of air quality. The nearest non-attainment and maintenance areas are in the FNSB, approximately 1.75 miles from the YTA boundary. These include the PM (Particulate Matter) 2.5 Nonattainment Area (Figure 3-1) and the Carbon Monoxide (CO) Maintenance Area (which remains subject to its maintenance plan).

Emissions from YTA activities contribute to the total emissions of Fort Wainwright, a stationary emission source requiring two Title V Operating Permits (TVOPs; Table 8). YTA is also located in the FNSB. FNSB major emission sources include vehicles, prescribed fires, and residential wood burning, with natural sources like wildfires also contributing. Fugitive dust from unpaved roads is a notable concern in rural Alaska (Sierra 2006). Table 9 summarizes the 2020 emissions estimates for the FNSB.

Table 8. Fort Wainwright TVOPs

TVOP	Permit Owner	Stationary Source	Status[1]
AQ1121TVP02P	Doyon Utilities, LLC	Fort Wainwright (Privatized Emission Units)	Permit Shield
AQ0236TVP04P	US Army (Fort Wainwright)	Fort Wainwright	Permit Shield

Note:
[1] A "Permit Shield" (Alaska Statute [AS] 46.14.275) allows the facility to legally operate while a timely and complete permit renewal application is under review by the regulatory agency.

Table 9. FNSB 2020 Emissions

Source Category	Criteria Air Pollutant (Tons)								GHG (mt)	HAP[1] (Tons)
	CO	NH_3	NO_X	PM10	PM2.5	Pb[1]	SO_2	VOCs	CO2e	---
Non-Mobile	1,284,861	19,861	11,911	131,031	110,292	0.3	6,902	321,225	11,041,375	56,168
Mobile	11,910	29	966	107	63	--	3	1,105	563,346	333
Total	1,296,771	19,890	12,877	131,138	110,355	0.3	6,905	322,330	11,604,721	56,501

Source: (EPA 2020)
Notes:
Quantity values were rounded to the nearest whole number except for values less than 1. Values less than 1 were rounded to the nearest 10th.
[1] Includes Lead Compounds.
Key: CO_2e = Carbon Dioxide Equivalent; GHG = Greenhouse Gas; HAP = Hazardous Air Pollutant; mt = Metric Ton; NH_3 = Ammonia; NO_x = Nitrogen Oxide and Nitrogen Dioxide; Pb = Lead; SO_2 = Sulfur Dioxide; VOC = Volatile Organic Compound.

3.2.2 ENVIRONMENTAL EFFECTS

3.2.2.1 No-Action Alternative

Under the No-Action Alternative, no new significant or permanent sources of emissions are expected to be introduced to the YTA. Air quality would continue to be primarily affected by existing, intermittent sources associated with military training exercises with emission being highest during large training exercises (e.g., Red Flag Alaska, Northern Edge, and Arctic Edge). The emissions from these activities cause **minor localized, short-term, adverse impacts** on air quality. However, as this represents the continuation of the existing baseline condition, overall air quality and CAA designation are presumed to remain unchanged.

3.2.2.2 Sub-Alternatives

Because the effects on air quality are consistent across all Sub-Alternatives, this section presents a single, consolidated analysis.

Under the CAA, federal actions must not cause or contribute to a new violation of the NAAQS or increase the frequency or severity of any existing violation. The effect of an action on air quality depends on the emission type, emission rate, and proximity to other sources, as well as local weather conditions. For the Sub-Alternatives, potential impacts are evaluated for both the construction phase and the post-construction military training activities associated with the expanded Husky DZ.

The construction activities associated with any of the Sub-Alternatives would result in **minor localized, short-term, adverse impacts** on air quality. These impacts would be predominantly caused by fugitive dust from ground disturbance and the movement of materials like gravel, as well as exhaust from heavy equipment, vehicles, and generators. These emissions would be temporary and would generally dissipate and return to ambient conditions shortly after construction activities are completed each day.

The emissions generated during training would result in **minor localized, short-term, adverse impacts** on air quality. Post-construction, the military activities supported by an expanded DZ would remain consistent with the type and scope anticipated under existing conditions and covered under Fort Wainwright's TVOPs. For example, accomplishing a large-scale airdrop by utilizing three C-17s on an expanded DZ is a different method, but not a different type of operation, than using nine C-130s on the existing DZ. Post-construction activities are not anticipated to contribute to an exceedance of one or more NAAQS. However, the additional constructed gravel road and parking pad would likely increase fugitive dust (i.e., predominantly PM10 emissions) beyond those of current operations, albeit the anticipated increase would be negligible.

Neither sub-alternative temporary construction emissions nor ongoing operational emissions are expected to introduce a new major stationary source or have a significant impact on air quality. However, to minimize impacts from fugitive dust generated during and post-construction, Best Management Practices (BMPs) would be implemented, such as: (1) applying water to exposed soils and unpaved surfaces as necessary, (2) limiting vehicle speeds to 15 miles per hour or less on unpaved roads, and (3) conducting daily cleaning of paved public roads to remove tracked-out mud or dirt.

Impacts on air quality would be consistent across the Sub-Alternatives. Thus, the Preferred Alternative (Alternative 1A) would result in minor, short-term, direct adverse impacts due to fugitive dust and heavy equipment exhaust during construction. Long-term impacts would be negligible and insignificant, as post-construction operational training emissions would remain consistent with the existing baseline and well below regulatory thresholds.

3.3 NOISE

3.3.1 AFFECTED ENVIRONMENT

For the purpose of this analysis, noise is defined as any sound that has the potential to disturb humans or wildlife. To protect against hearing loss, the EPA has recommended environmental noise exposure limit thresholds designed to protect 96% of the general population. Thresholds are an average of 70 A-weighted decibels (dBA) over a 24-hour period or 75 dBA over an 8-hour period (EPA 1974).

The noise environment in the YTA is a composite of sounds from natural and anthropogenic (human-caused) sources. The baseline acoustic environment is typical of a remote military training area: generally quiet and dominated by natural sounds like wind, rain, and wildlife. This natural quiet is periodically interrupted by anthropogenic (human-caused) noise, primarily aircraft overflights, range operations, and vehicle traffic associated with military training, alongside limited recreational and commercial activities. Because the anthropogenic noises are highly variable, intermittent, localized, and temporary, the baseline noise levels are best characterized by the specific duration and location of activities rather than a constant ambient background level.

YTA contains no permanent noise-sensitive receptors; e.g., residences, schools, or hospitals. The nearest permanent sensitive receptors are located at Eielson AFB. Occasional recreational users, such as hunters or hikers, may be present in YTA; however, their access is highly controlled and generally keeps them far removed from active military activities.

3.3.2 ENVIRONMENTAL EFFECTS

3.3.2.1 No-Action Alternative

Under the No-Action Alternative, no new significant or permanent sources of noise are anticipated to be introduced to the YTA. The ambient acoustic environment would continue to be characterized by natural soundscapes, punctuated by intermittent noise from active military training activities. Noise levels would remain highest during large-scale exercises (e.g., Red Flag Alaska) and live-fire events. The noise produced from these activities is temporary and localized, with ambient sound levels returning to baseline conditions immediately after the activities are completed. During these periods of heightened noise, sound levels may disturb humans or wildlife in the area resulting in **minor localized, short-term, adverse impacts**. Humans may utilize hearing protection to combat disturbance, but wildlife may be startled or temporarily displaced from the area. As this represents the continuation of the existing baseline, the overall noise environment in the YTA would remain unchanged.

3.3.2.2 Sub-Alternatives

Because the effects on the acoustic environment are consistent across all Sub-Alternatives, this section presents a single, consolidated analysis.

The noise generated during construction would result in **minor localized, short-term, adverse impacts**. Activities (e.g., tree clearing, gravel road construction, trenching and grading for utility installation) would temporarily elevate noise levels above the quiet ambient background levels typical of the remote Husky DZ. This noise would temporarily displace wildlife in the immediate vicinity, though permanent habitat abandonment is unlikely due to the short-term nature of the construction phase. Construction personnel, the primary human receptors, would utilize appropriate hearing protection in accordance with safety regulations, while non-essential personnel would be restricted from active work zones to prevent hazardous noise exposure. Because the increase in noise would be temporary, confined to the construction period, and managed for human safety, the overall impact was considered minor.

During the post-construction phase of each sub-alternative, the military training activities conducted at the expanded Husky DZ would be consistent in type and scope with those occurring under existing conditions. While the methods of accomplishing a mission may change (e.g., using fewer large aircraft versus more small aircraft), the nature of the noise generated by the training itself is not expected to differ significantly from the baseline. Therefore, the military training activities associated with the Sub-Alternatives

would have **no effect** on the noise environment compared to the No-Action Alternative, and the analysis of noise impacts for the Sub-Alternatives would focus solely on the short-term effects generated during the construction phase.

The effects on the acoustic environment are consistent across the Sub-Alternatives. Thus, the Preferred Alternative (Alternative 1A) would result in minor, short-term, direct adverse impacts strictly localized to the construction phase. Long-term impacts would be negligible; future operational noise at Husky DZ would not meaningfully deviate from the active training area's existing acoustic baseline. Overall, noise impacts would be less than significant.

3.4 SOIL AND GEOLOGICAL RESOURCES

3.4.1 AFFECTED ENVIRONMENT

A description of the soil, geology, and topography characteristics for these ecoregions described in Table 10.

Table 10. Ecoregion Soil, Geology, and Topography

Ecoregion	Soils	Geology	Topography
Interior Bottomlands	Histic Pergelic Cryaquepts; Typic Cryochrepts; Pergelic Cryumbrepts; Lithic Cryorthents; and Typic Cryorthods.	Fluvial and aeolian deposits of mixed origin. Outwash gravel and morainal deposits in some areas.	Flat to nearly flat bottomlands, with some local hills. Elevations from 120 to 600 meters with slope gradients generally less than 1 degree.
Interior Highlands	Histic Pergelic Cryaquepts; Pergelic Cryaquepts; Aquic Cryochrepts; Typic Cryorthods; and Typic Cryofluvents.	Paleozoic and Precambrian metamorphic rocks, felsic volcanic and intrusive rocks. The Kuskokwim Mountains and Nulato Hills have Cretaceous and Lower Paleozoic sedimentary rocks. Bedrock is often exposed.	Steep, rounded ridges are frequently topped by rugged peaks. Elevations range from 500 meters to less than 1,500 meters. Slope gradients are generally 5 to 15 degrees or more.

Sources: (USGS 1995 and USGS 2026)
Key: ASL = Above Sea Level.

The landscape of Interior Alaska, including the YTA, has been significantly shaped by Pleistocene glaciation, resulting in widespread deposits of glacial silt, sand, and gravel, including an extensive layer of wind-blown silt (loess) hundreds of feet thick (NPG 1987, USAG FWA 2013). The YTA is situated in the Yukon-Tanana terrane, a complex geological region of deformed metamorphic rocks where moderate seismic activity occurs (USAG AK 2020a; see Section 3.11.1 for further details on earthquakes). This location places the YTA in a transitional zone between the flat, low-lying Interior Bottomlands and the bedrock-dominated Interior Highlands, giving it a mixed topography of both flat valleys and rugged, glacially-shaped peaks (Eielson AFB 2017). The soils within the YTA, which have been comprehensively surveyed, directly influence the distribution of permafrost. Figure 8 depicts the permafrost mapping of YTA in 1998.

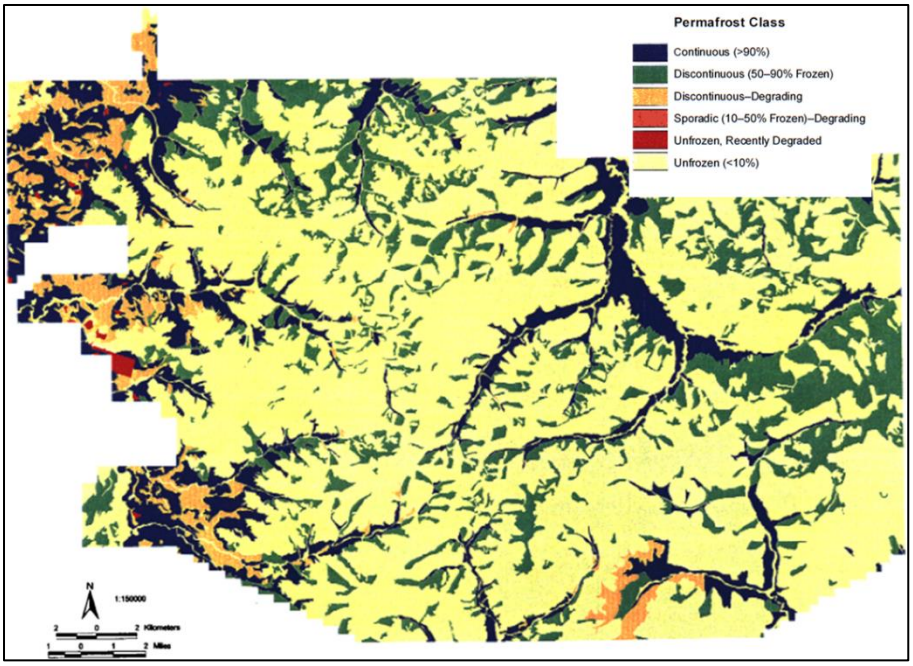

Figure 8. Permafrost Map
(Modified from Jorgenson et al. 1999)

The area lies within the discontinuous permafrost zone, where frozen ground is most likely to be present and near the surface on north-facing slopes and in poorly-drained areas with thick, insulating organic soil layers. A critical characteristic is that the permafrost is generally ice-rich, making the terrain highly susceptible to thermokarst and ground subsidence upon thawing (Bosche 2025). This process can be accelerated by disturbances to the surface vegetation, posing stability risks to infrastructure. The active layer, the zone of soil above the permafrost that thaws annually, varies in thickness based on these local conditions.

To manage permafrost, the Fort Wainwright INRMP directs active permafrost management, which includes monitoring, studying the impact of fire, and restricting off-road vehicle traffic in sensitive areas during the summer thaw. Additionally, the Integrated Training Area Management program conducts annual land condition monitoring and soil rehabilitation (USAG AK 2020a). Any ground disturbance is also subject to strict permitting: a Dig Permit is mandatory for any ground-breaking activity exceeding 6 inches, and an 811 "locate request" is required prior to any excavation in accordance with Alaska Dig Law.

Mineral rights on these lands are managed under a dual-authority framework. While the BLM holds primary authority pursuant to the Engle Act of 1958, this jurisdiction is subject to specific conditions. Public Law 106-65 authorizes the Army to use sand, gravel, and similar resources from established borrow pits for its own construction needs. For any mineral disposition beyond the Army's direct use, such as the sale of "common variety" minerals, the BLM cannot issue a lease or permit without first securing the Army's concurrence. Such sales are governed by the Materials Act of 1947 and coordinated through the BLM Fairbanks District Office. This framework explicitly

does not grant the Army the authority to independently permit, lease, sell, or allow mineral exploration.

The number and location of active, established borrow pits for rock materials, such as gravel, change over time. Some established borrow pits are open specifically for a single project, while others provide a source of material for a variety of purposes and needs.

3.4.2 ENVIRONMENTAL EFFECTS

3.4.2.1 No-Action Alternative

Under the No-Action Alternative, there would be **no effect** on soil and geological resources. No new construction would occur, and ground disturbance would remain consistent with current levels, limited to ongoing training and recreational activities and the as-needed maintenance of the existing Husky DZ Trail and parking pad. Maintenance activities would include the periodic replenishing of gravel and regrading to ensure the infrastructure remains stable and usable. As a result, there would be no impacts on soil and geological resources. However, the existing conditions and risks would persist. The area's ice-rich, discontinuous permafrost would continue to be susceptible to thermokarst and ground subsidence. Continued ground disturbance from foot traffic, vehicle use, and routine maintenance activities would perpetuate the risk of damaging the insulating vegetation and organic soil layers. This ongoing stress on the active layer could potentially accelerate localized thawing and subsidence, continuing to pose a stability risk to the existing road and training area over a long-term period.

3.4.2.2 Sub-Alternatives

While there are distinct differences between the Sub-Alternatives, they share common design features that result in similar types of impacts. Therefore, this section presents a consolidated analysis that first outlines the shared characteristics, then details the specific attributes of each sub-alternative, as necessary, to inform the environmental effects evaluation.

Primary ground-disturbing activities during construction are the installation of the gravel road, parking pad, and underground utilities. Minimal ground disturbance is expected from tree clearance. These ground-disturbing activities would result in **moderate localized, permanent adverse impacts** on soil and geological resources. Installing utility lines would require trenching, creating a linear thermal disturbance. Although it is assumed that the utility corridor would be encompassed within the maintained existing Husky DZ Trail right-of-way, a conservative 50-foot utility corridor is assumed to account for potential variation due to the complexity of installing underground powerlines where permafrost is present. Thus, the utility corridor is assumed to have potential to cause up to approximately 7 acres of disturbance under each sub-alternative. Excavated soil would be put back in place to the maximum extent practicable and regraded according to original topography. The creation of a 2.94-acre parking pad and the road would

involve placing gravel, which alters the ground's thermal properties by absorbing more solar radiation. Tree clearance for the DZ and road corridor would remove the insulating canopy. Combined, these actions alter the ground's thermal regime, leading to a deeper annual thaw and increasing the risk of thermokarst and subsidence in the site's ice-rich permafrost.

To minimize soil disturbance, the ground surface would be left intact wherever practicable. Mechanized grubbing would be restricted to upland areas and the direct footprints of the road and parking pad; in all other areas, trees would be cut at the base of the trunk. All construction would adhere to established BMPs, including obtaining mandatory Dig Permits and conducting 811 "locate requests" prior to any excavation, as required by Alaska Dig Law.

The total area of ground disturbance varies by sub-alternative due to the different footprints for the road and tree clearance activities, as summarized in Table 11. It is important to note that the total impact area is not a simple sum of these features, as overlap exists. For Alternative 1A, the road improvements extend beyond the DZ expansion footprint. Conversely, for Alternatives 1B and 1C, the road improvements are fully contained within their larger DZ expansion footprints. While the total quantity of gravel fill required is to be determined in the final design, the use of material from established, permitted borrow pits represents a sustainable, planned action.

Table 11. Approximate New Ground Disturbance Under Each Sub-Alternative

Alternative	Road Corridor[1] (Acres)	Parking Pad (Acres)	Tree Clearance (Acres)
1A	10.88	2.94	1,430
1B	11.71		1,433
1C	13.69		1,439

Note:
[1] Road ground disturbance is based on the feature's corridor width that would be maintained by USAG AK and susceptible to potential ground disturbing activities post-construction.

Post-construction, the increase vehicle access across the expanded DZ would yield **moderate localized, permanent adverse impacts**. The adverse impacts of increased vehicle access across the expanded DZ would be partially offset by the new infrastructure. The formalized road would centralize standard vehicle traffic, minimizing widespread soil compaction and erosion associated with unmanaged, non-operational off-road traffic. This engineered surface would also provide a more stable and reliable foundation than unimproved trails, creating a safer operational environment while protecting the surrounding landscape from dispersed physical degradation.

While the sub-alternatives vary slightly in their exact footprints, the Preferred Alternative (Alternative 1A) was designed to minimize overall ground disturbance. Implementation of Alternative 1A would result in moderate, long-term, direct adverse impacts due to approximately 10.88 acres of new road construction, 2.94 acres of parking pad installation, and 1,430 acres of vegetative clearing. Although this alters the local soil thermal regime and increases risks of permafrost degradation, these impacts would be heavily mitigated by utilizing winter construction on frozen ground where practicable, ensuring that overall impacts to geological resources remain less than significant.

3.5 WATER RESOURCES

3.5.1 AFFECTED ENVIRONMENT

Waterbodies extending across Interior Alaska are fed by high-quality meltwater from glaciers and the snowmelt of mountainous regions, e.g., the Yukon-Tanana Uplands (NPG 1987, USAG FWA 2013). Consequently, the overall quality of surface water throughout the training lands is high and is assumed to meet Alaska Water Quality Standards (WQSs), with quality increasing further from developed areas (USAG AK 2020a). Independent of human activity, however, the region's groundwater naturally contains high concentrations of iron, manganese, and arsenic, which are common treatment challenges throughout Interior Alaska (Callegary et al. 2013).

While ADEC lacks monitoring stations inside the YTA, it maintains several nearby. The three closest sites (Chena River, Moose Creek A, and Moose Creek B), located approximately 2.25 miles west of the YTA boundary, monitor the Chena River, with recent results showing no exceedances for temperature, pH, or conductivity (ADEC 2026a; Figure 9). Historical industrial activities on the Fort Wainwright main post and Eielson Air Force Base (AFB) caused localized pollution, but have not widely degraded surface or groundwater in the YTA. For example, Garrison Slough, an impaired waterbody on Eielson AFB located 0.5 miles from the YTA boundary, was listed in 1996 due to polychlorinated biphenyl (PCB) contamination and is managed under an EPA-approved recovery plan pursuant to Section 303(d) of the Clean Water Act (CWA; Figure 9).

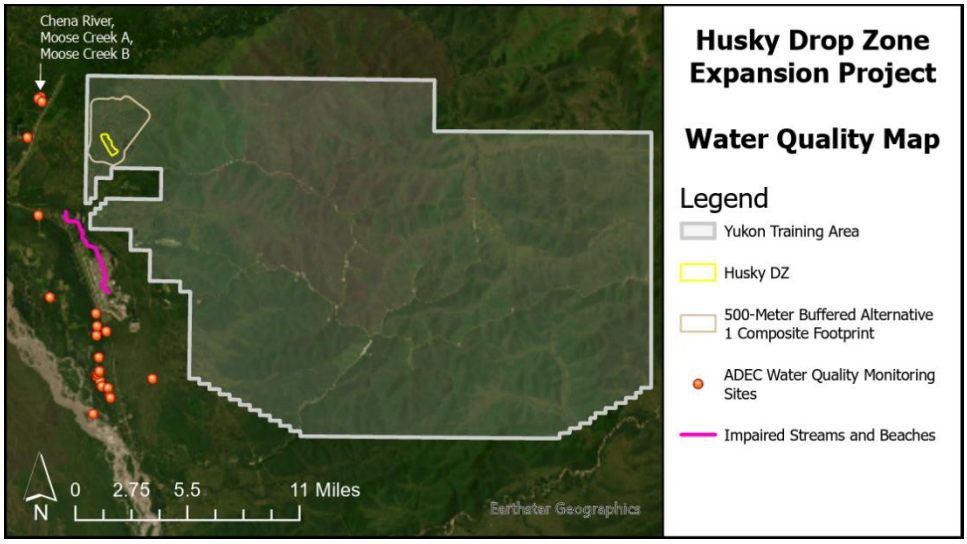

Figure 9. Water Quality Map

In accordance with AR 200-1, "Environmental Protection and Enhancement," the Army must implement plans to minimize pollutant contributions from its operations. Fort Wainwright manages stormwater impacts through an installation-wide Stormwater Pollution Prevention Plan (SWPPP), which supports its industrial permits. Depending on the scope of specific projects, a project-specific SWPPP and federal or state permits

may be required to protect water quality during implementation. Applicable authorizations include CWA Section 401 WQCs, CWA Section 404 Department of the Army (DA) permits, and various Alaska Pollutant Discharge Elimination System (APDES) general permits, specifically the Construction General Permit (CGP), Multi-Sector General Permit (MSGP), and Excavation Dewatering General Permit. To obtain coverage under any of these three APDES general permits, a NOI must be submitted to ADEC along with a corresponding SWPPP.

Groundwater

Groundwater is a critical resource in Alaska, serving as the primary drinking water source for a majority of the population, particularly in rural areas (ADEC 2008). The Yukon River Basin, which encompasses all of Interior Alaska, contains the state's most extensive unconsolidated aquifers (Callegary *et al.* 2013).

YTA hydrogeology consists primarily of highly permeable, unconfined alluvial aquifers composed of unconsolidated glacial and river sediments. Streams flowing from the Yukon-Tanana Uplands range disappear into these sediments, recharging the groundwater, which then flows downslope. When this groundwater encounters finer-grained materials, its movement slows, causing it to accumulate and discharge back to the surface, feeding various wetlands and waterbodies (Callegary et al. 2013). This dynamic is visually expressed across the YTA by extensive wetlands in low-lying areas, which directly indicate a high, near-surface water table. YTA wetlands are discussed in detail in the "Wetlands" subsection below.

Surface Water

Surface water resources within the YTA are diverse and include rivers, streams, creeks, ponds, lakes, and wetlands (Figure 10).

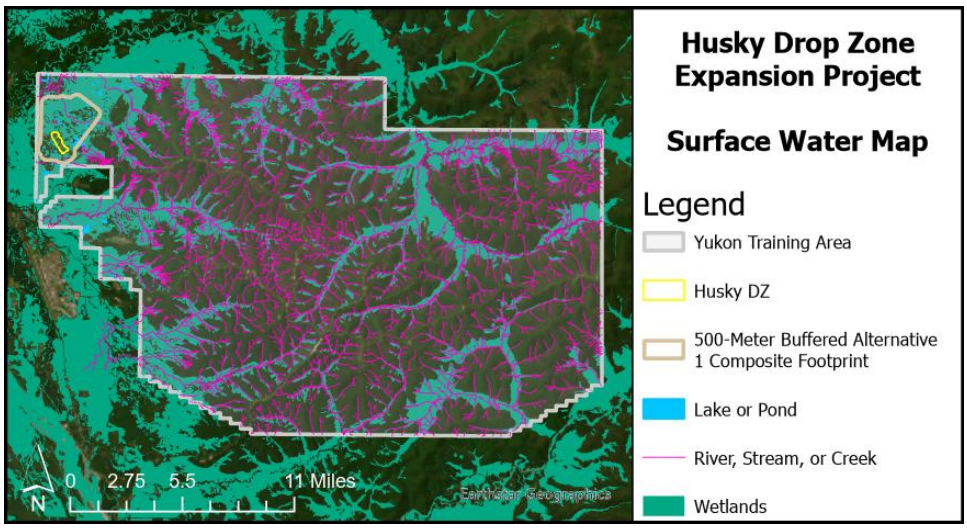

Figure 10. Surface Water Map

The area's hydrology is primarily driven by runoff from the Yukon-Tanana Uplands and is defined by a distinct seasonal cycle. From approximately October to May, frozen ground and surface ice limit or completely stop recharge from snowmelt and precipitation, causing surface water flows to be at their lowest. The annual snowmelt period, typically beginning in March or April and peaking in June and July, is the single largest contributor to the region's surface water volume. Following the peak melt, summer precipitation becomes the primary source of sustaining flows until freeze-up begins in the fall.

In the higher elevations of YTA, water flows through a network of small, ephemeral streams (streams that flow only part of the year). As these streams descend, they merge at confluences, forming larger, more perennial streams and rivers. The Chena River is a prominent river just northwest of YTA's northwestern corner. The low-lying areas of the YTA are predominantly characterized by wetlands, ponds, and lakes. These features are fed by the streams flowing from the uplands and by the area's high-water table, creating a landscape rich in aquatic resources.

Floodplain

The primary flood season in Interior Alaska occurs in the spring and summer, typically caused by heavy runoff from melting snowpack, which can be exacerbated by ice jams or extreme rainfall. The FNSB participates in the Federal Emergency Management Agency's (FEMA's) National Flood Insurance Program. Flood Insurance Rate Maps (FIRMs) are used to delineate the Special Flood Hazard Area (SFHA), which is the area subject to inundation by a 1-percent-annual-chance flood (also known as the 100-year floodplain). In accordance with FNSB Code 15.04, "Floodplain Management Regulations," a Floodplain Permit issued by the FNSB Department of Community Planning is required for development, substantial infrastructure improvements, or structure placement within a regulated SFHA. The FIRMs applicable to the westernmost corner of the ROI wherein a sub-alternative may be constructed include 02090C4515J and 02090C4520J, effective March 2014. These maps identify the SFHA associated with the Chena River and some of its tributaries within the YTA. The upper northwest portion of the YTA is protected from flooding by the Chena Flood Control Project, and its floodplain information is regularly updated with data from FEMA (USAG AK 2020a).

Figure 11 illustrates the spatial distribution of the SFHA within the composite buffered footprint of the proposed Sub-Alternatives. Based on geospatial analysis, approximately 251.1 acres of FEMA-designated Zone A SFHA are located within this combined footprint. Zone A SFHA is a high-risk flood zone designated by FEMA that represents the 100-year floodplain with no base flood elevation determined. Under E.O. 11988, the Army must avoid or minimize long- and short-term adverse impacts associated with floodplain occupancy and modification, reduce flood loss risk, and preserve floodplains' natural and beneficial values. As part of this process, the Army must provide public notice for any proposed action that may occur within or affect a floodplain.

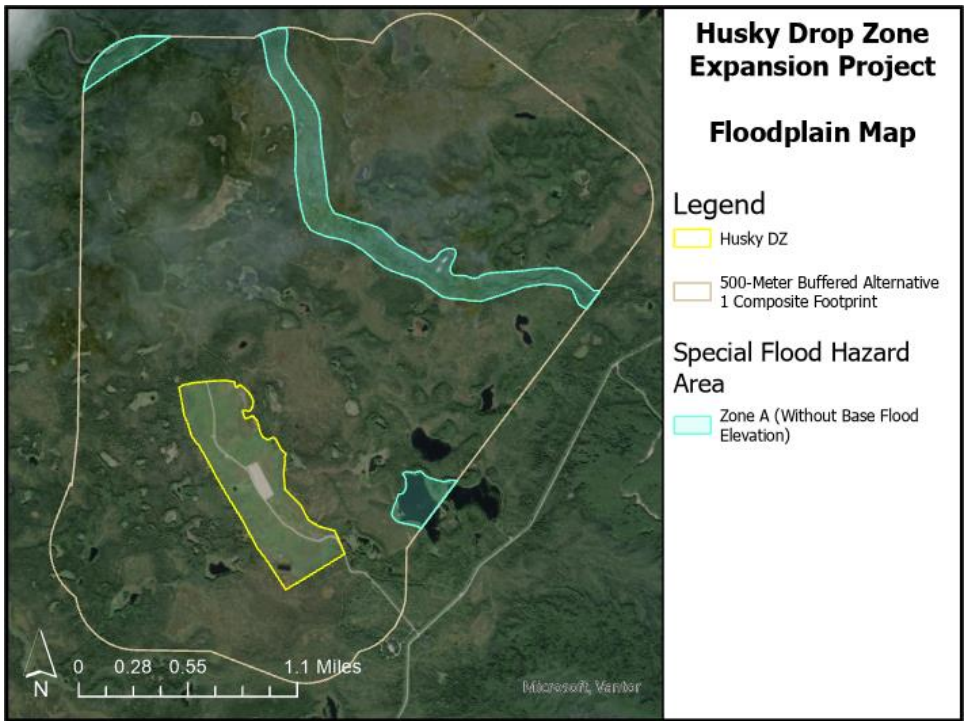

Figure 11. Floodplain Map

Wetlands

Wetlands are regulated as special aquatic sites under the CWA and are legally defined by specific hydrologic, soil, and vegetative conditions (33 Code of Federal Regulations [CFR] § 328.3[b]). In Alaska, a cool climate with low evaporation rates has resulted in wetlands covering approximately 43 percent of the state's surface area. The majority of these are classified as palustrine shrub/scrub habitat (Cowardin *et al*. 1979). Within the YTA, the footprint of the Proposed Action contains these non-tidal palustrine wetlands interspersed with uplands. They are predominantly classified as Scrub-Shrub (PSS), indicating dominance by woody vegetation less than 6 meters tall.

The U.S. Fish and Wildlife Service's (USFWS's) National Wetland Inventory provides reconnaissance-level mapping (Figure 10), a formal jurisdictional wetland delineation is required to confirm the presence and extent of wetlands regulated under the CWA. To inform this environmental analysis, wetland delineations were conducted for the Proposed Action. The resulting data was used to develop a formal Wetland Delineation Map (Figure 12) covering the composite, 500-meter buffered footprint of the Sub-Alternatives. Table 12 and Table 13 provide descriptions for Palustrine wetlands depicted in Figure 12. The delineation verified the required parameters of hydrophytic vegetation, wetland hydrology, and hydric soils, necessary to apply for a DA Permit from the USACE Alaska District under Section 404 of the CWA. All delineations were conducted in accordance with the 1987 USACE Wetland Delineation Manual (USACE 1987) and the Regional Supplement to the USACE Wetland Delineation Manual: Alaska Region (USACE 2007).

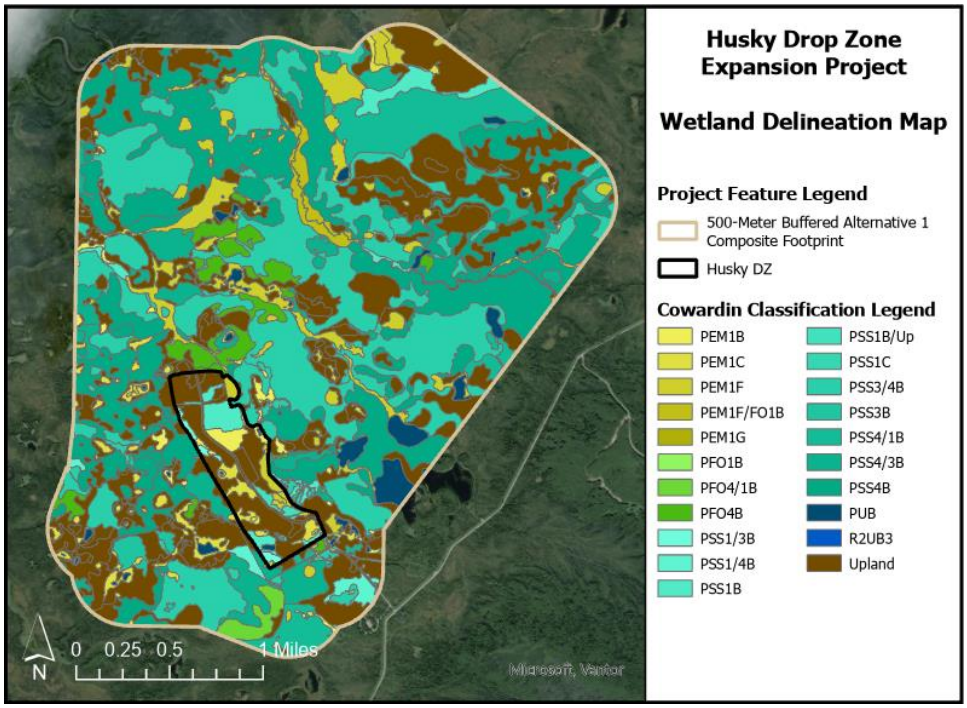

Figure 12. Wetland Delineation Map

Table 12. Cowardin Classification System Codes for Wetland and Deepwater Habitat

Code	Full Name	Description
PEM	Palustrine Emergent	Characterized by erect, rooted, herbaceous plants that are typically present for most of the growing season. This class includes marshes, wet meadows, and fens.
PFO	Palustrine Forested	Dominated by woody vegetation that is 6 meters (20 feet) tall or taller. These are essentially freshwater swamps.
PSS	Palustrine Scrub-Shrub	Dominated by woody vegetation less than 6 meters (20 feet) tall. This class includes true shrubs, young trees, or stunted trees and shrubs.
PUB	Palustrine Unconsolidated Bottom	Characterized by a bottom substrate of at least 25% particles smaller than stones, with less than 75% vegetative cover. This includes the bottoms of ponds, sand or mud bars, and areas where vegetation has been removed by scouring.
R	Riverine	River or stream channel.

Source: (Cowardin *et al*. 1979)

Table 13. Palustrine Subclasses with Interior Alaska Example Species

Class Code	Subclass Code	Subclass Name	Description (with Interior Alaska Examples Species)
PEM	1B, 1C, 1F, 1G	Persistent	Dominated by emergent species that typically remain standing (e.g., sedges [*Carex aquatilis* and *Eriophorum angustifolium*]). Includes saturated (B), seasonally flooded (C), semi-permanently flooded (F), and intermittently exposed (G) areas.
PEM/PFO	1F/1B	Persistent / Broad-Leaved Deciduous	A transitional mix of persistent emergent species (semi-permanently flooded) and broad-leaved deciduous trees (saturated).
PFO	1B	Broad-Leaved Deciduous	Saturated forested wetlands. Pure broad-leaved deciduous (1B, e.g., balsam poplar [*Populus balsamifera*]).
	4/1B, 4B	Needle-Leaved Evergreen / Broad-Leaved Deciduous	Saturated forested wetlands dominated by needle-leaved evergreen trees (4B, e.g., black spruce [*Picea mariana*]), or mixed with broad-leaved deciduous trees (4/1B).

Class Code	Subclass Code	Subclass Name	Description (with Interior Alaska Examples Species)
PSS	1/3B, 1/4B, 1B, 1C	Broad-Leaved Deciduous / Broad-Leaved Evergreen / Needle-Leaved Evergreen	Shrub-dominated wetlands. Pure deciduous (1B, 1C) or mixed with broadleaf evergreen shrubs (1/3B) or needleleaf evergreen trees less than 20 feet tall (1/4B).
	3/4B, 3B	Broad-Leaved Evergreen / Needle-Leaved Evergreen	Saturated shrublands dominated by broad-leaved evergreens (3B), sometimes mixed with needle-leaved evergreens (3/4B).
	4/1B, 4/3B, 4B	Needle-Leaved Evergreen / Broad-Leaved Deciduous / Broad-Leaved Evergreen	Saturated shrublands dominated by needleleaf evergreen trees less than 20 feet tall (4B), sometimes mixed with deciduous (4/1B) or broad-leaved evergreens (4/3B).
PUB	---	Unconsolidated Bottom	Permanently flooded ponds or basins with less than 25% vegetative cover and an unconsolidated bottom.
R	2UB3	Lower Perennial Unconsolidated Bottom, Mud	A continuously flowing, low-gradient river or stream with a bottom made up mostly of silt and mud.

Source: (Cowardin *et al*. 1979) and (Jorgenson *et al*. 1999)

While over 1 million acres of wetlands exist across USAG Alaska training areas, military operations have historically had minimal impact within the YTA watershed (USAG AK 2020a). USAG Alaska actively manages these resources in compliance with the CWA through the USACE Section 404 permitting process, and completes functional assessments for its actions if required by USACE Regulatory Division. Key protective measures include maintaining natural drainage, avoiding sensitive areas via resource protection maps, and conducting annual impact monitoring.

All operations must also comply with damage control protocols in United States Army Alaska Regulation 350-2. Furthermore, federal actions within wetlands are governed by E.O. 11990. Pursuant to this E.O., federal agencies must avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands. To comply, the Army is required to design or modify its actions to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values served by wetlands. As part of this process, the Army must provide public notice for any proposed action that may occur within or affect a wetland.

3.5.2 ENVIRONMENTAL EFFECTS

3.5.2.1 No-Action Alternative

Under the No-Action Alternative, there would be no significant new impacts on water resources. The environmental baseline would not be altered beyond existing conditions. No new construction is anticipated to occur at Husky DZ. Consequently, surface water, groundwater, floodplains, and wetlands would not be affected by new construction activities. The YTA's high-quality surface water, fed by snowmelt and meeting Alaska WQS, would be maintained, and the natural condition of the groundwater, including its high concentrations of iron, manganese, and arsenic, would persist.

However, routine maintenance and military activities, including gravel fill for the existing Husky DZ Trail and parking pad, would continue. These activities inherently commit

moderate localized, permanent adverse impacts to water resources, predominantly wetlands, through disturbance and the potential for sedimentation into nearby streams or wetlands during precipitation events or spring thaw. This ongoing, low-level impact is managed under existing oversight, INRMP, and USACE regulations under the CWA. The natural and beneficial values of floodplains and wetlands would be preserved, with no new actions triggering requirements under E.O. 11988 or E.O. 11990.

3.5.2.2 Sub-Alternatives

While there are distinct differences between the Sub-Alternatives, they share common design features that result in similar types of impacts. Therefore, this section presents a consolidated analysis that first outlines the shared characteristics, then details the specific attributes of each sub-alternative, as necessary, to inform the environmental effects evaluation.

The Sub-Alternatives would result in both **moderate localized, short-term and long-term permanent adverse impacts** on water resources.

During construction, ground-disturbing activities, including tree clearance, trenching for utilities, and gravel placement, would cause **moderate localized, short-term and permanent adverse impacts** with the implementation of BMPs and mitigation measures. The Sub-Alternatives would permanently alter the surface soil structure, through the creation of new semi-permeable surfaces, removal of the tree canopy, and application of woodchips, which could alter localized drainage patterns. Furthermore, the placement of fill material for the access road and gravel parking pad would result in a permanent loss of wetlands, while tree clearance activities would cause long-term wetland degradation via cover-type conversion. Utility installation would result in moderate, short-term wetland disturbances associated with trenching and backfilling activities.

The construction impacts to floodplains and wetlands are distinct across the Sub-Alternatives. Table 14 quantifies the estimated acreage of floodplain disturbance for each sub-alternative, categorizing potential impacts by the direct construction footprint, the 500-meter buffer zone, and the total buffered footprint (Figure 13). Under E.O. 11988, federal agencies must avoid or minimize adverse impacts associated with the occupancy and modification of floodplains. Each sub-alternative overlaps with FEMA-designated Zone A SFHAs. Tree clearance within this regulatory floodplain reduces natural flow resistance, potentially increasing downstream flood velocities, exacerbating soil destabilization, and elevating sedimentation risks during flood events. The road alignment in Alternative 1B and Alternative 1C crosses approximately 0.9 acres of floodplain. Gravel roads across a floodplain cause localized alterations to surface water hydrology by acting as partial barriers to natural sheet flow, displacing floodwater storage capacity, and concentrating water through culverts, which increases the risk of downstream scour, chronic erosion, and sedimentation (USACE 2014).

Table 14. Summary of Estimated Floodplain Disturbance by Sub-Alternative

Alt	Direct Footprint (Acres)	Buffer Zone (Acres)	Total Buffered Footprint (Acres)
1A	65.9	85.1	151.0
1B	111.1	68.2	179.3
1C	95.5	90.9	186.4

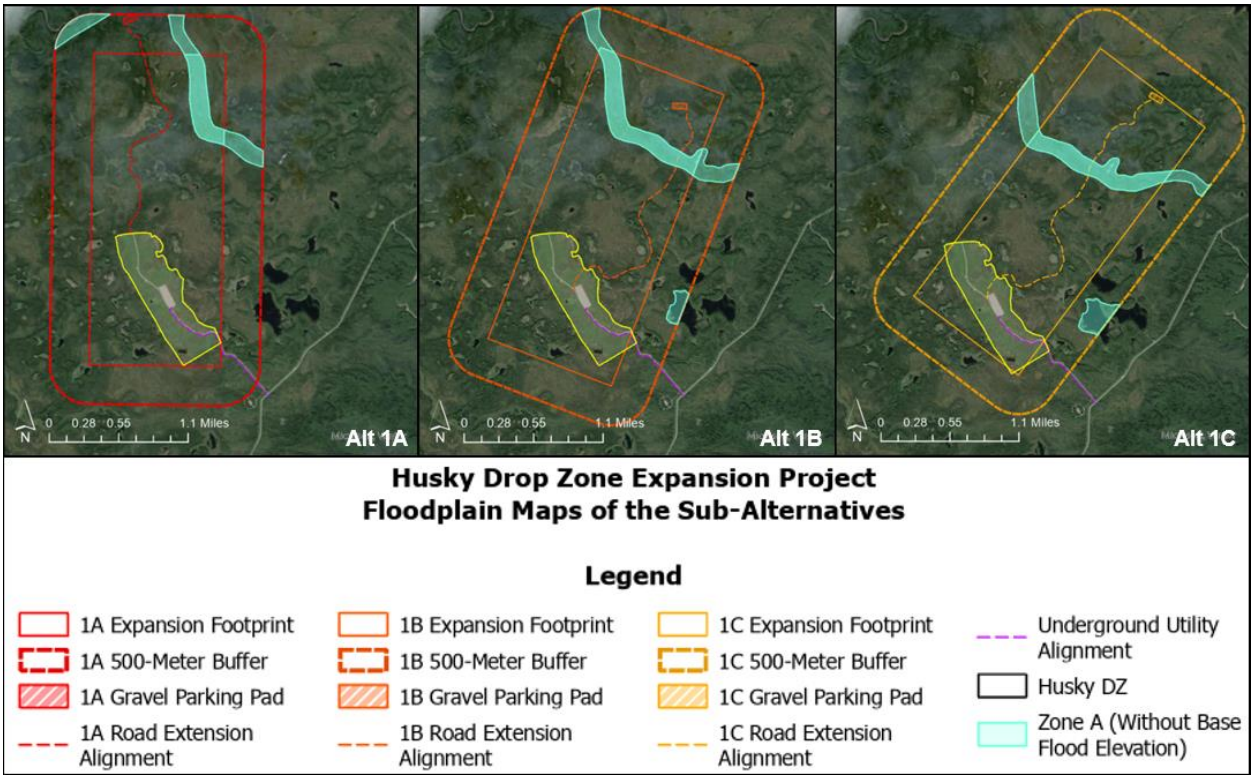

Figure 13. Floodplain Maps of the Sub-Alternatives

The estimated total acres of disturbance by feature are provided in Table 15 with wetland disturbance estimates for the direct footprint, 500-meter buffer zone, and total buffered footprint depicted in Table 16. Wetlands with each sub-alternative footprint are depicted in Figure 14.

Table 15. Estimated Wetland Loss and Decreased Function by Sub-Alternative

Alt	Road Corridor[1]		Parking Pad		Utility Corridor[2]	Tree Clearance
	Wetland Filled (Acres)	Fill Quantity (Cubic Yard)	Wetland Filled (Acres)	Fill Quantity (Cubic Yard)	Wetland Short-term Fill (Acres)	Wetlands Cleared (Acres)
1A	8.7	42,108	0[3]	0[3]	2.7	2,335.6
1B	9.1	44,044	0.4	1,936	2.7	2,244.5
1C	9.0	43,560	0.3	1,452	2.7	2,253.4

Note:
[1] Road-related wetland fill is calculated using the full corridor width to account for post-construction routine maintenance (e.g., gravel replenishment, vegetation clearing).
[2] To account for installation variations caused by permafrost, this analysis assumes a 50-foot utility corridor, even though it likely fits within the existing Husky DZ Trail right-of-way.
[3] The Alternative 1A parking pad is sited in uplands to avoid wetland fill.

Table 16. Summary of Estimated Wetland Disturbance by Sub-Alternative

Alt	Direct Footprint (Acres)	Buffer Zone (Acres)	Total Buffered Footprint (Acres)
1A	1,150.0	1,185.6	2,335.6
1B	1,058.5	1,245.5	2,304.0
1C	1,043.8	1,209.6	2,253.4

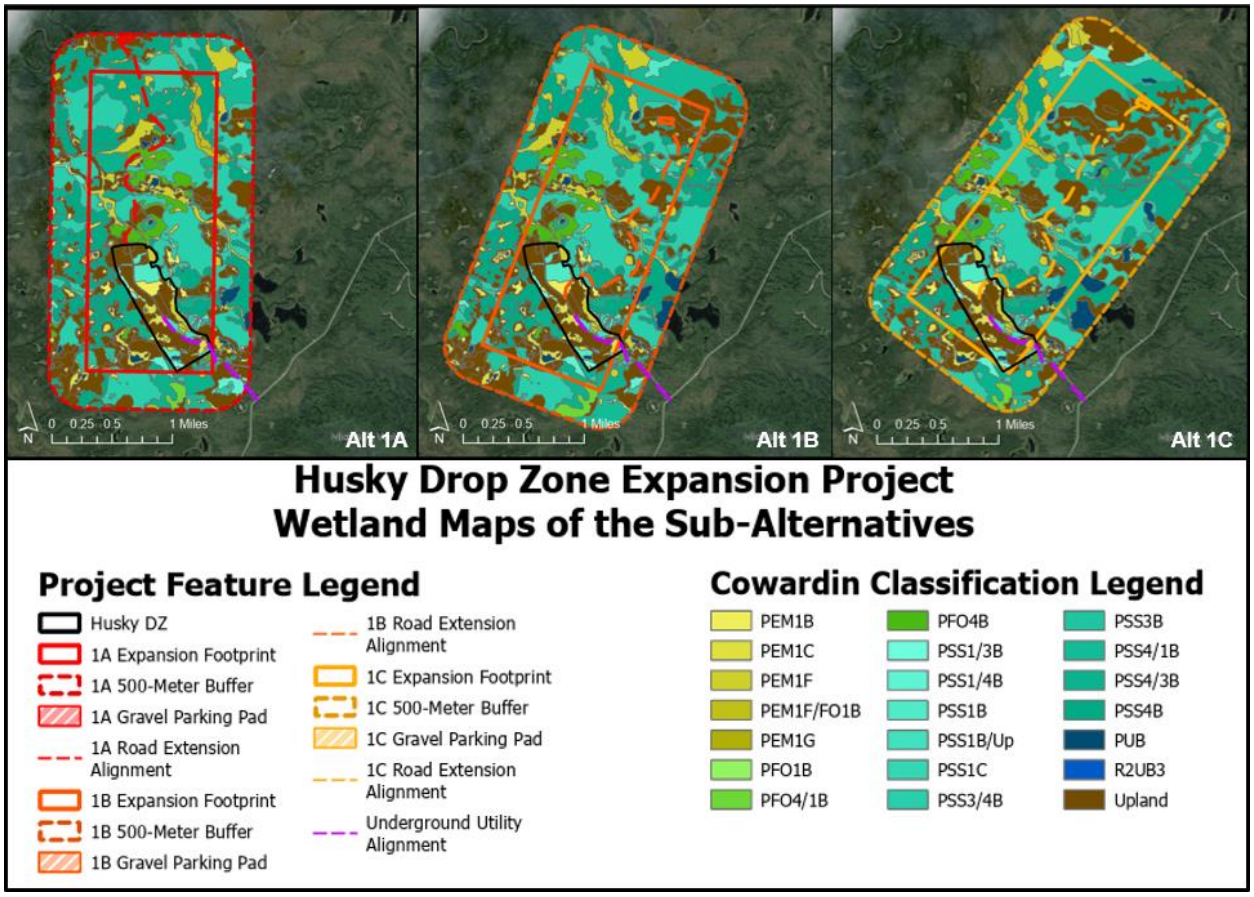

Figure 14. Wetland Maps of the Sub-Alternatives

Tree clearance is assumed to result in a mix of effects, primarily a reduction in wetland quality and function rather than a direct, “one-for-one” loss of acreage. This degradation occurs through two primary mechanisms: first, the removal of the tree canopy increases evaporation from the newly exposed soil surface, altering the local water balance; and second, the wood chips left in place after cutting could smother existing understory vegetation and alter the soil's surface composition.

In evaluating the alternatives for compliance with the CWA Section 404(b)(1) Guidelines, the analysis distinguishes between permanent wetland loss and overall spatial disturbance. Alternative 1A requires the least amount of permanent wetland fill (8.7 acres), representing the smallest permanent loss of aquatic functions and services associated with wetlands. Conversely, Alternative 1C results in the least overall spatial disturbance within its direct footprint and buffered footprint, resulting in approximately 106 acres and 82 acres difference, respectively, of wetland tree clearance than

Alternative 1A. However, because all wetland tree clearance would be restricted to winter months when the ground is frozen, soil disturbance and functional degradation within the cleared areas would be minimized. Due to this mitigation, the permanent loss of wetlands (fill) is weighted more heavily than the temporary spatial disturbance of tree clearing, because permanent fill represents an irreversible loss of aquatic habitat, whereas cleared wetlands retain their hydrologic function and potential for vegetative recovery.

Alternative 1A was selected as the Least Environmentally Damaging Practicable Alternative (LEDPA). This is based on its combined performance of requiring the least amount of permanent wetland fill (8.7 acres) and causing the least amount of disturbance to regulated floodplains (65.9 acres), making its overall impact to aquatic resources lower than the other alternatives.

All road alignments of the Sub-Alternatives are expected to require at least one culvert due to the location of surface water crossings:

- Alternative 1A crosses an unnamed discontinuous incipient stream channel connecting two pond along either side of the road alignment.
- Alternative 1B and 1C cross an intermittent stream that is a Chena River tributary.

Post-construction, the Sub-Alternatives would result in **moderate localized, long-term adverse impacts** on water resources, including wetlands and floodplains, due to the removal of forested riparian buffers, canopy loss, and the subsequent decay of deep root systems that cause long-term soil destabilization. This loss of root structure would increase the potential for chronic soil erosion and localized sedimentation during heavy rain or spring melt events. Additionally, the permanent physical presence of the raised gravel roadbed within the floodplain would obstruct natural overland flow, potentially creating localized backwater ponding upstream of the road corridor during high-water events in Alternative 1B and Alternative 1C. This restriction of flood flows concentrates water velocities through the culverts, increasing the risk of long-term downstream scour, bank erosion, and potential roadbed washouts if culverts are blocked by ice or debris during spring break-up (USACE 2014). This would be compounded by the continued requirement for authorized military vehicles to conduct tactical off-road maneuvers across the expanded DZ. However, these adverse effects would be partially offset by the new road infrastructure. By providing a stable, defined route outside of wet soil, the road naturally deters unauthorized, non-operational off-road driving and channels standard traffic, thereby minimizing widespread soil compaction and erosion. Additionally, the stabilized roadway would decrease the risk of vehicle entrapment and training-related accidents that could lead to fuel spills or hazardous releases, helping to mitigate the overall degradation of water quality in the surrounding watershed.

Adverse impacts from construction to water resources would be mitigated through adherence to a project-specific SWPPP under an APDES CGP. Furthermore, USAG AK would request a 401 Water Quality Certification from ADEC and continue coordinating

with USACE Regulatory Division to obtain a DA Permit and identify required mitigation for unavoidable impacts to wetlands. BMPs would also be implemented through the installation of culverts along the road improvement alignment, wherein necessary to reduce adverse impacts on the hydrologic flow of water within the area. Should a sub-alternative establish a project-specific borrow pit that remains operational post-construction, a NOI and SWPPP would be submitted for coverage under a MSGP, provided there is a potential for stormwater discharges to reach “surface waters of the United States.”

The Preferred Alternative (Alternative 1A) is recognized as the LEDPA. Alternative 1A would result in moderate, long-term, direct adverse impacts associated with approximately 65.9 acres of floodplain disturbance, 2,335.6 acres of wetland cover-type conversion, and 8.7 acres of permanent wetland fill. By maximizing the use of previously disturbed footprints, avoiding wetlands and floodplains, and implementing proposed BMPs and mitigation measures to the maximum extent practicable, the Preferred Alternative ensures that impacts do not reach the threshold of significant degradation to the regional watershed.

3.6 BIOLOGICAL RESOURCES

3.6.1 AFFECTED ENVIRONMENT

Management of the YTA is a cooperative effort. As the primary land manager of the withdrawn lands, the Army is responsible for implementing the INRMP, ensuring its activities are consistent with the requirements of the BLM. This plan was developed in collaboration with the BLM, USFWS, and ADF&G, and it establishes procedures to sustain military training while achieving "no net loss" in the land's capability ensuring active stewardship of the area's environmental resources. The Fort Wainwright INRMP serves as the primary reference for this section, which evaluates the biological fauna and flora resources and associated habitats. The ROI for this section is consistent with the Endangered Species Act Action Area for the Proposed Action. An official species list was obtained from the USFWS Information for Planning and Consultation (IPaC) system (Appendix A). The review confirmed that no species or critical habitats listed under the Endangered Species Act are present. Due to its significant distance from marine waters, no marine mammal species or habitats under the jurisdiction of the National Marine Fisheries Service (NMFS) would occur in the ROI.

An evaluation of subsistence activities, conservation areas, and areas of critical environmental concern (ACEC) are not included in this assessment. Although situated near conservation areas (i.e., Chena River State Recreation Area and Steese National Conservation Area) and an ACEC (Fortymile ACEC for Fortymile Caribou Herd calving areas), the YTA falls entirely outside of designated conservation areas and ACECs. For subsistence, YTA is within an ADF&G Nonsubsistence Use Area, i.e., an area where customary and traditional uses of fish and wildlife are not a principal characteristic of the economy, culture, and way of life (per state statute Alaska Statute [AS] 16.05.258(c)).

Terrestrial Mammals and Habitat

The management of terrestrial mammals and their habitat in the project area is guided by a dual framework of state and federal regulations. State authority, exercised by the ADF&G, directly governs species populations through hunting and trapping regulations (AS Title 16; 5 AAC). Because the project is located on federally withdrawn lands, its habitat management is primarily directed by federal law. The Sikes Act requires the implementation of an INRMP to conserve wildlife and their habitats on the installation, while the Federal Land Policy and Management Act provides the foundational mandate for the BLM to manage and protect these same habitat resources. Table 17 lists species that may be present in the ROI, and the habitat each species typically occupies within Interior Alaska.

Table 17. Terrestrial Mammals with Potential to Occur in YTA

Scientific Name	Common Name	Typical Habitat in Interior Alaska
Canis latrans	Coyote	Boreal forests, open tundra, river corridors, and semi-developed areas.
Canis lupus	Gray Wolf	Nearly all habitats (boreal forests to alpine tundra), tracking prey.
Castor canadensis	North American Beaver	Forested streams, rivers, and lakes suitable for dams and lodges.
Erethizon dorsatum	North American Porcupine	Mixed forests and river valleys (willow, aspen, and birch stands).
Glaucomys sabrinus yukonensis	Northern Flying Squirrel	Mature coniferous/mixed forests with snags and abundant fungi.
Gulo gulo	Wolverine	Remote boreal forests, alpine tundra, and rocky areas; requires large undisturbed territories.
Lepus americanus	Snowshoe Hare	Dense spruce forests, willow/alder thickets, and successional forests with thick understory.
Lutra canadensis	North American River Otter	Rivers, streams, and lakes with stable banks and winter open-water access.
Lynx canadensis	Canada Lynx	Dense, successional boreal forests supporting high snowshoe hare populations.
Marmota caligata	Hoary Marmot	High-elevation alpine tundra, rocky slopes, and boulder fields.
Marmota monax	Groundhog (Woodchuck)	Open woodlands, forest edges, and meadows.
Martes americana	American Marten	Mature coniferous/mixed forests with complex structure (fallen logs, snags).
Microtus pennsylvanicus	Meadow Vole	Grassy meadows, marshes, and riparian areas with dense herbaceous cover.
Mustela erminea	Stoat (Short-tailed Weasel)	Forests, tundra, and riparian zones with abundant small prey.
Myotis lucifugus	Little Brown Bat	Roosts in buildings/trees/rocks; forages over water and forests.
Neovison vison	American Mink	Semi-aquatic; banks of rivers, streams, lakes, and marshes.
Ondatra zibethicus	Muskrat	Marshes, ponds, and slow streams with abundant aquatic vegetation.
Ovis dalli	Dall Sheep	Rugged alpine ridges and meadows near escape cliffs.
Rangifer tarandus	Caribou	Migratory; winter in boreal forests, calve in open tundra/tussock-shrub habitats.
Spermophilus parryii	Arctic Ground Squirrel	Well-drained, open riverbanks, hillsides, and alpine tundra.
Tamiasciurus hudsonicus	American Red Squirrel	Coniferous forests (especially white spruce [Picea glauca]).

Scientific Name	Common Name	Typical Habitat in Interior Alaska
Ursus americanus	American Black Bear	Coniferous/deciduous forests and riparian zones.
Ursus arctos	Grizzly Bear (Brown Bear)	Dense forests to alpine/arctic tundra; river corridors.
Vulpes vulpes	Red Fox	Boreal forests, tundra, river corridors, and human-altered landscapes.

Sources: (ADF&G 2024), (MacDonald *et al.* 2009), (USAG AK 2020a), and (USAG AK 2026)

The diverse habitats on USAG Alaska lands support a variety of game species, such as bear (*Ursus* spp.) and moose (*Alces alces*), and non-game species, like beaver (*Castor canadensis*). These wildlife populations are co-managed between USAG AK and ADF&G, with a primary objective of minimizing interactions between wildlife and military training activities. For game species, management is facilitated through an iSportsman permit system that provides access for legally licensed hunters and trappers. In addition to this broad management, focused habitat and species-specific studies are conducted. Major habitat changes are primarily driven by natural events like wildfire, flooding, and insect outbreaks (USAG AK 2020a).

Incidental observations of game and non-game species use of the YTA are also tracked where practical. For instance, there are four known beaver ponds (i.e., ponds with evidence of beaver activity) within the YTA. Additionally, a suspected beaver pond is located near the northern extent of the Alternative 1 composite footprint, and unrecorded beaver activity may exist in other waterbodies throughout the YTA.

Bird Species and Habitat

Except for state-managed ptarmigan (*Lagopus* spp.) and grouse species, native migratory birds, nests, and eggs in the YTA are protected under the Migratory Bird Treaty Act (MBTA). Furthermore, the Bald and Golden Eagle Protection Act (BGEPA) strictly prohibits the taking of bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*), regulating any construction activities that could interfere with these species.

YTA provides important habitat for a wide array of migratory birds. This includes Birds of Conservation Concern designated by the USFWS, Species of Greatest Conservation Need identified in the ADF&G Wildlife Action Plan, and priority species tracked by regional avian conservation initiatives. To inventory and monitor these populations, extensive surveys have been conducted over several decades, ranging from broad, long-term programs like the annual Breeding Bird Survey (BBS) to more targeted studies on landbird habitat selection (USAG AK 2020a). Raptor populations, including abundant bald eagles and more elusive golden eagles, are tracked through regular nest surveys; in 2018, three golden eagle and 13 bald eagle nests were documented within USAG AK lands (USAG AK 2020a). Additionally, specific attention is given to sensitive species to minimize disturbance from military training.

To comply with federal regulations, all vegetation clearing activities on USAG AK lands are guided by USFWS recommendations to avoid disturbing active nests. The USFWS

has developed regional nesting time windows (Table 18) for the Alaska Interior Region, and it is recommended that land-disturbing activities take place outside these periods to avoid the "take" of protected bird species. Based on the species list received from the USFWS IPaC tool, five bird species of conservation concern have potential to occur in the YTA (Appendix A). Table 19 lists these species along with their typical breeding seasons and habitats in Interior Alaska.

Table 18. Alaska Interior Region Nesting Time Windows by Habitat Type

Habitat Type	Description	Nesting Time Window	
		Begins	Ends
Forest or Woodland	Trees present.	May 1[1,2]	July 15
Shrub or Open	Shrub cover or marsh, pond, tundra, gravel, or other treeless shrubless ground habitat.	May 1[1,2]	July 15
Terns and Gulls	Includes cliff and burrow colonies.	May 1	July 20
Eagles	--	March 1	August 31

Source: (USFWS 2017)
Notes:
The Interior Region is defined as the area north of Talkeetna, Alaska, to the south slope of the Brooks Range with the western boundary extending to the west tree line.
[1] Raptors may nest as early or earlier than March.
[2] Canada geese and swans nest beginning April 20.

Table 19. Bird Species of Conservation Concern with Potential to Occur in YTA

Scientific Name	Common Name	Breeding Season	Typical Habitat in Interior Alaska[1]
Aquila chrysaetos	Golden Eagle	Mar 1 to Aug 31	Open country, rolling hills, and uplands; nests on cliffs or in large trees.
Contopus cooperi	Olive-sided Flycatcher	May 20 to Aug 31	Open coniferous/mixed forests, forest edges, and burns with tall perching snags.
Haliaeetus leucocephalus	Bald Eagle	Mar 1 to Aug 31	Mature forests along major rivers and lakes with large nesting trees and access to fish.
Pluvialis dominica	American Golden-Plover	May 20 to Aug 15	Moist, open tundra and sparsely vegetated uplands at high elevations.
Tringa flavipes	Lesser Yellowlegs	May 1 to Aug 15	Boreal wetlands, muskegs, marshes, and edges of ponds and streams.

Sources: (Audubon 2024), (Cornell 2024), (USAG AK 2020a), (ADF&G 2024) and USFWS IPaC Species Listing in Appendix A.

Fish Species and Habitat

Numerous waterbodies in Interior Alaska support resident and anadromous fish. These resources are protected by federal and state law. As mandated by the Magnuson-Stevens Fishery Conservation and Management Act, USAG AK works with the National Oceanic and Atmospheric Administration NMFS to minimize environmental impacts to Essential Fish Habitat (EFH) for its actions. At the state level, specific regulations are in place to protect these resources. Anadromous waters, which are inventoried in the Anadromous Waters Catalog (AWC), receive special protection; a permit from the ADF&G is required before affecting or modifying these designated waterbodies (AS 16.05.871–16.05.901). Additionally, the Fish Passage Act requires that the ADF&G be notified of any activities that could impede fish passage in fish-bearing streams (AS 16.05.841).

Most rivers and lakes within Fort Wainwright's training areas, including the YTA, have been surveyed for fish species (USAG AK 2020a). Program management units for fisheries consist of major drainages. Major drainage surveys within YTA took place for the Chena River and Moose Creek drainages (USAG AK 2020a). Chena River and Salcha River are the primary fisheries near YTA. Their tributaries flowing through the YTA are documented as important habitats for both resident species, such as Arctic grayling (*Thymallus arcticus*), and anadromous species like Pacific salmon.

A map of fish resources (Figure 15) was developed based on the ADF&G's Alaska Fish Resource Monitor Interactive Map's AWC and Alaska Freshwater Fish Inventory (AFFI) Maps (ADF&G 2026a). Figure 15 identifies YTA waterbodies with known resident fish species. Table 20 lists relevant anadromous waters and associated species.

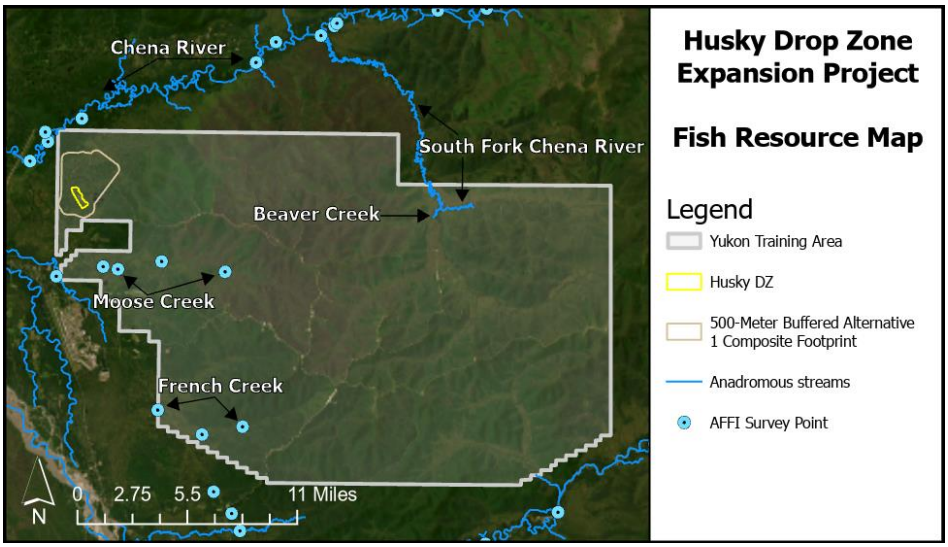

Figure 15. Fish Resource Map

Table 20. Anadromous Waters and Fish Species of YTA

Anadromous Waterbody (AWC Number)	Species	Lifestage(s)	Location with Respect to YTA
Chena River (334-40-11000-2490-3301)	Arctic Lamprey[1] (*Lethenteron camtschaticum*)	Present	Not within YTA but within relative proximity of the Sub-Alternatives.
	Chinook Salmon[1] (*Oncorhynchus tshawytscha*)	Present	
	Chum Salmon[1] (*Oncorhynchus keta*)	Present	
Beaver Creek (334-40-11000-2490-3301-4078-5019)	Chinook Salmon	Rearing, spawning	Within YTA.
Moose Creek (Not a specified in AWC)[2]	Chum Salmon	Unknown	Within YTA.
South Fork Chena River (334-40-11000-2490-3301-4078)	Chinook Salmon	Present, rearing, spawning	Partially within YTA.
	Chum Salmon[1]	Present	
Beaver Creek (334-40-11000-2490-3301-4078-5019)	Chinook Salmon	Rearing, spawning	Within YTA.

Source: (Giefer and Evers 2025)
Note:
[1] Presence was associated with the waterbody but outside the boundaries of YTA.
[2] AFFI Site Number SF2018-15200008 (ADF&G 2026a) had a Chum Salmon record, but as this water was not specified in the AWC, it is not afforded protection as EFH.

Table 21. Resident Fish Species of YTA

Waterbody	Resident Species
Moose Creek	Arctic Grayling, Unidentified Sculpin
French Creek	Arctic Grayling

Source: (Giefer and Evers 2025)

It is important to note that the species and waterbodies listed in these tables do not preclude the presence of unlisted fish species or the occurrence of fish in other YTA waterbodies. Tributaries of major fish-bearing rivers like the Chena and Salcha have the potential to support various resident and anadromous species, and the ADF&G stocks several lakes in Fort Wainwright training areas, such as Horseshoe Lake and Manchu Lake in YTA (USAG AK 2020a).

ADF&G's broad definition of "fish" includes amphibians. Based on its known distribution, the wood frog (*Rana sylvatica*) is likely to occur within the YTA, and USAG AK conducted wood frog monitoring in YTA, resulting in a 2012 Wood Frog Monitoring Project Report. This species inhabits a wide range of habitats, including open forests, muskeg, and tundra. It typically breeds in shallow, permanent water bodies in the spring after hibernating in forest litter but can be found far from water at other times of the year (Gotthardt 2005).

Invertebrates

Terrestrial invertebrates, including insects, spiders, and earthworms, are a diverse and integral component of the YTA ecosystem, serving several critical functions. They act as primary decomposers, breaking down organic matter and cycling nutrients in the soil. Furthermore, this group serves as a vital food source for numerous bird and mammal species. While most invertebrates contribute to ecosystem health, some species can have substantial impacts. For example, outbreaks of the spruce beetle (*Dendroctonus rufipennis*) can cause widespread mortality in spruce forests. Additionally, biting insects like mosquitoes are a prominent seasonal feature of the Interior Alaska environment, acting as both a food source for wildlife and a nuisance to humans.

Invasive Species

Invasive species can have devastating impacts on the natural ecosystems of Alaska. E.O. 13112, "Invasive Species," defined invasive species as a species that is (1) non-native to the ecosystem under consideration; and (2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

An invasive species' pathway of introduction to an area may be intentional and/or unintentional transport from human activities (e.g., ballast water, recreational, and transportation activities) or natural processes (e.g., environmental change). Invasive species of particular concern with potential to occur in or around the YTA are listed in Table 22. This list is not all-inclusive.

Table 22. Fauna and Flora with Potential to Occur in or Near the YTA

Type	Scientific Name	Common Name	Typical Invaded Habitat
Terrestrial Mammal	*Rattus norvegicus*	Norway rat	Disturbed or human-occupied areas (buildings, training facilities, landfills).
Bird	*Sturnus vulgaris*	European starling	Open disturbed areas, roadsides, and human infrastructure.
	Columba livia	Rock pigeon / Rock dove	Man-made structures, buildings, and YTA facilities.
Invertebrate	*Lymantria dispar*	Gypsy moth	Boreal forests, particularly hardwood stands (aspen, birch, willow).
	Dreissena polymorpha	Zebra mussel	Shallow near-shore zones on hard surfaces below the freeze line.
	Dreissena rostriformis bugensis	Quagga mussel	Deep, cold zones on hard or soft substrates (mud/sand).
Terrestrial Plants[1]	*Caragana arborescens*	Siberian peashrub	Upland forests and disturbed areas.
	Cirsium arvense	Canada thistle	Disturbed upland sites, fields, and roadsides.
	Convolvulus arvensis	Field bindweed	Upland fields, gardens, and disturbed sites.
	Crepis tectorum	Narrowleaf hawksbeard	Dry soils, gravel pits, and roadsides.
	Fallopia convolvulus	Black bindweed	Upland gardens, fields, and disturbed soils.
	Galeopsis bifida	Splitlip hempnettle	Moist, disturbed upland sites.
	Galeopsis tetrahit	Brittlestem hempnettle	Disturbed upland sites and open woods.
	Hieracium umbellatum	Narrowleaf hawkweed	Upland woods, roadsides, and disturbed areas.
	Leucanthemum vulgare	Oxeye daisy	Meadows, pastures, and disturbed upland sites.
	Linaria vulgaris	Butter and eggs	Disturbed upland soils, roadsides, and meadows.
	Lolium perenne	Italian ryegrass	Disturbed upland sites, lawns, and roadsides.
	Medicago sativa ssp. falcata	Yellow alfalfa	Roadsides and dry, disturbed upland fields.
	Prunus virginiana	Chokecherry	Upland forests and disturbed thickets.
	Scorzoneroides autumnalis	Fall dandelion	Disturbed upland sites, lawns, and roadsides.
	Sonchus arvensis	Field sowthistle / Moist sowthistle	Disturbed upland soils, fields, and roadsides.
	Sorbus aucuparia	European mountain ash	Upland forests and forest edges.
	Tanacetum vulgare	Common tansy	Disturbed upland sites, roadsides, and meadows.
	Taraxacum officinale	Common dandelion	Ubiquitous in lawns, fields, and disturbed soils.
	Trifolium hybridum	Alsike clover	Moist meadows, pastures, and disturbed upland soils.
	Trifolium pratense	Red clover	Disturbed upland sites, fields, and roadsides.
	Trifolium repens	White clover	Disturbed upland sites, lawns, and moist meadows.
	Vicia cracca	Bird vetch	Roadsides, open fields, and disturbed upland sites.
	Alopecurus pratensis	Meadow foxtail	Moist meadows, pastures, and riparian corridors.
	Atriplex hortensis	Garden orache	Moist disturbed soils and riverbanks.
	Bromus inermis	Smooth brome	Roadsides, riparian areas, and open, mesic fields.

Type	Scientific Name	Common Name	Typical Invaded Habitat
	Elymus repens	Quackgrass	Moist meadows, riparian zones, and disturbed soils.
	Hordeum jubatum	Foxtail barley	Saline or disturbed soils, roadsides, and wet meadows.
	Impatiens capensis	Ornamental jewelweed	Moist soils along streams, ditches, and wetlands.
	Melilotus albus	White sweetclover	Riverbanks, gravel bars, and disturbed moist soils.
	Melilotus officinalis	Yellow sweetclover	Riverbanks, gravel bars, and disturbed moist soils.
	Phalaris arundinacea	Reed canarygrass	Wetlands, ditches, and riparian zones.
	Phleum pratense	Timothy	Roadsides, pastures, and moist meadows.
	Prunus padus	European bird cherry	Moist forests, riparian zones, and wetlands.
Aquatic Plant	*Elodea* spp.	Elodea	Submerged lakes, ponds, and slow rivers.

Source: (ACCS 2026a, 2026b), (ADF&G 2026c), (AK Aqua. 2026), (Fofonoff 2024), USAG AK 2020a), (USDA NRCS 2026), and (USGS 2024).
Note:
[1] Only plants that were modestly invasive (invasiveness score of 50 to 59) or more were included in this table.

The management of invasive species is a shared responsibility, with USAG AK overseeing issues related to military activities under the INRMP, and the BLM managing those from non-military activities in YTA. The primary focus for invasive species (and noxious weeds) management is on controlling state-listed noxious vascular plants, such as *Elodea* spp. (present within the Hydrologic Unit Code 12 applicable to YTA), as there are currently few invasive animal species of major concern (USAG AK 2020a). USAG AK conducts opportunistic surveys in high-use and recently disturbed areas, while the U.S. Forest Service performs annual monitoring for insects, and diseases. YTA has waterbodies identified as vulnerable to *Driessen* spp., such as the Zebra mussel (*Dreissena polymorpha*) and Quagga mussel (*Dreissena rostriformis bugensis*; ACCS 2026b. Manchu and Horseshoe Lakes are monitored for early detection of Elodea *(Elodea* spp.*;* ACCS 2026b; AK Aqua. 2026). All findings are mapped and maintained in a geographic information system database (USAG AK 2020a). Based on this data, USAG AK controls efforts aimed to eradicate or contain populations, and implements protocols to prevent spreading via military vehicles.

Vegetation

Vegetation is an important biological resource because plants form the basis of the food chain by providing primary productivity, converting energy from the sun into chemical energy that can be used by animals and fungi. Plants also stabilize the soil, which can reduce erosion, and some plants can enrich the soil through decomposition and nitrogen fixation. Additionally, plant communities create habitat for animals, move water from the soil into the atmosphere through evapotranspiration, and sequester carbon.

A vast amount of carbon is stored within the soil and vegetation of Interior Alaska. Covered extensively by boreal forests, the region is dominated by black spruce (*Picea mariana*) residing on poorly drained, acidic soils in valley bottoms and on northern

mountain slopes. On well-drained, warmer south-facing slopes, white spruce (*Picea glauca*), trembling aspen (*Populus* spp.), and birch (*Betula* spp.) are dominant (Calef *et al*. 2023). Rising temperature trends indicate a potential for increased extent, frequency, and severity of wildfires. Consequently, the vegetation composition within Interior Alaska may shift away from spruce-dominated landscapes, although there is also evidence that spruce abundance is increasing in cool, moist areas and at higher elevation range boundaries (Calef *et al.* 2023, Foster *et al.* 2019).

There are currently no plant species of concern on USAG Alaska lands, the installation continues to monitor the state's plant status list for any changes (USAG AK 2020a).Under the USAG AK Range Training Land Assessment Program, data has been collected to monitor these resources. The plant taxa list for YTA and Fort Wainwright main post increased to 512 in 2011 (USAG AK 2020a).

Land cover in the YTA is typical of Interior Alaska, varying by topography and soil (Figure 16; data derived from LANDFIRE 2024). Eastern and northern regions are predominantly shrub and herb cover, consistent with historical mapping (Jorgenson et al. 1999) and the Proposed Action wetland delineation (Figure 12). Western and southern regions are dominated by elevation-dependent forests. Unlike the adjacent Eielson AFB, YTA development is minimal and clustered around training infrastructure. USAG AK updates its maps depicting vegetation communities every 5 years (USAG AK 2020a). Figure 17 depicts the current 2025 vegetation baseline for the Husky DZ area.

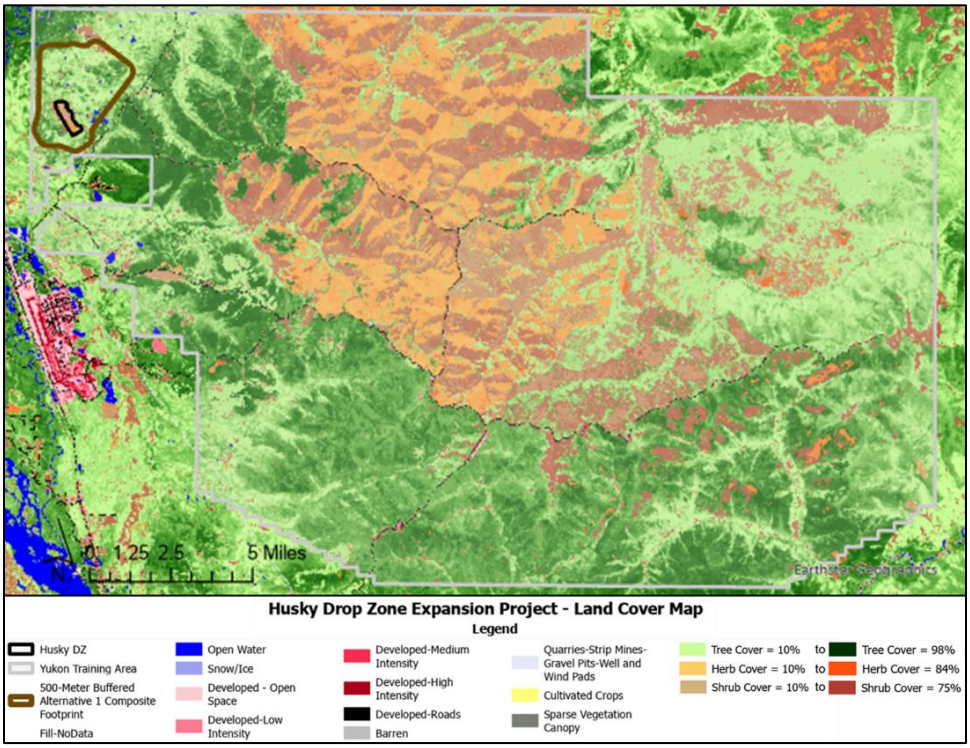

Figure 16. Land Cover Map

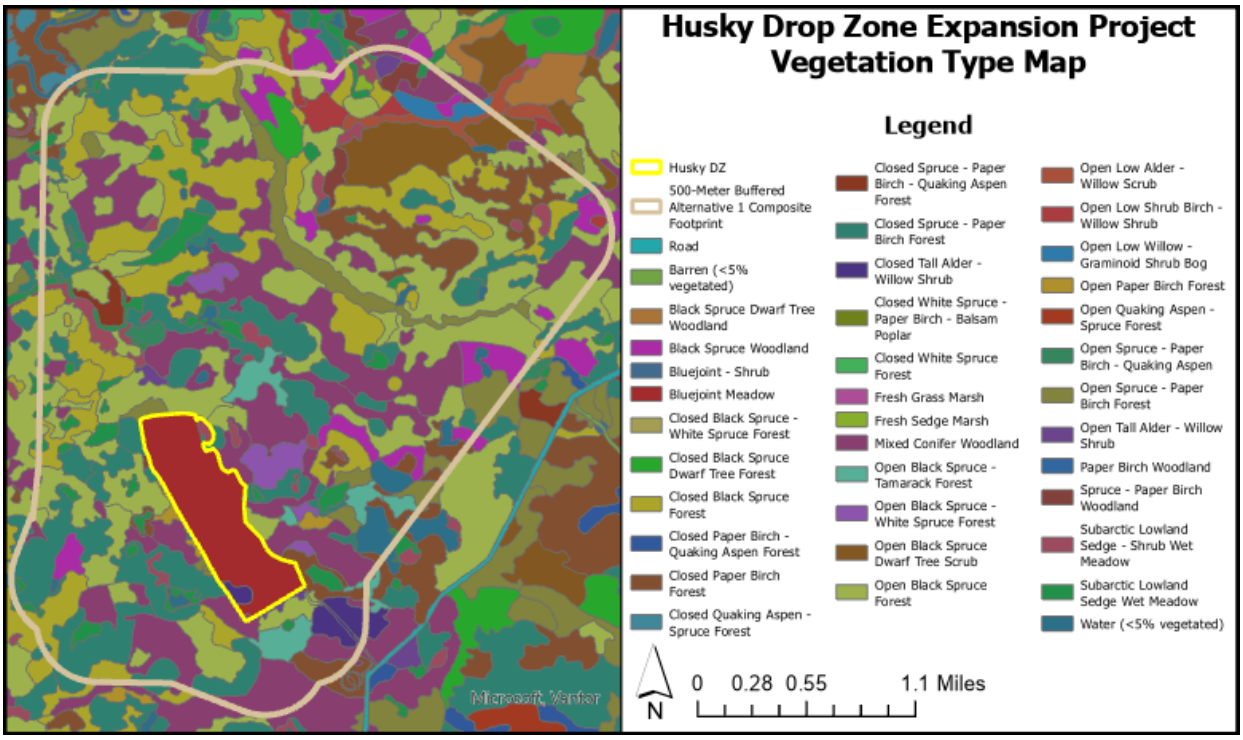

Figure 17. Vegetation Type Map

Husky DZ is situated in the northwestern portion of the YTA and is a large, open, grassy clearing with areas delineated as wetlands (Figure 12). Its vegetation is predominantly characterized as a bluejoint meadow. A bluejoint meadow is a specific type of wetland or mesic (moderately moist) plant community dominated by bluejoint reedgrass (*Calamagrostis canadensis*). While these meadows are characterized by a dense growth of the dominant bluejoint grass that is often intermixed with various sedges and forbs (flowering plants), bluejoint reedgrass can survive in a wide range of moisture regimes including dry habitats.

Husky DZ's surrounding area is a natural and undeveloped mosaic of boreal forest and wetland vegetation. The area primarily consists of palustrine wetlands predominantly of the subclass "Scrub-Shrub." This classification indicates that the dominant vegetation is woody plants less than 6 meters (20 feet) tall, a category that can include true shrubs, young trees, or mature trees that are stunted due to environmental conditions. Dominant tree species in this area include black spruce, white spruce, quaking aspen (*Populus tremuloides*), paper birch (*Betula papyrifera*), and tamarack (*Larix laricina*). Common shrub species include various types of willow (*Salix* spp.) and alder (*Alnus* spp.).

Both USAG AK and the BLM have concurrent jurisdictions for vegetation management. Consistent with the Resource Management Plans and the INRMP, the BLM defers authority to the Army for management actions that support the military mission. This includes creating fuel breaks, reducing fuel loads, and managing the sale of timber, firewood, and other wood products. To support these efforts, the installation maintains a comprehensive forest inventory and stand maps. Annually, approximately 50 acres of

timber are harvested, and about 200 firewood permits are sold, with all proceeds funding further natural resource projects on the Fort Wainwright installation (USAG AK 2020a).

Wildfires

Wildland fire is a critical and natural component of Alaska's boreal ecosystems, essential for their rejuvenation. For thousands of years, this key environmental force has reset forest succession, cycled nutrients through ash and decomposition, and regulated the permafrost table. Without these natural disturbances, which historically occur in cycles of 100-150 years, ecosystems decline in productivity and biodiversity, diminishing their value as wildlife habitat (USAG AK 2020a). The fire season's extent varies annually and is driven by fuel availability, ignition sources, and conducive weather (Calef *et al.* 2023). The native flora and fauna of the YTA are adapted to this fire-prone environment, where large tracts of black spruce forest provide the primary fuel for high-intensity crown fires. Following a typical fire, a predictable succession occurs, beginning with grasses and herbaceous plants, followed by deciduous trees like aspen and eventual evergreen return.

However, the ecological response is dictated by fire severity. Severe fires that consume the soil's organic layer can inhibit the recovery of spruce, often converting the habitat to a more deciduous-dominant landscape (Foster *et al.* 2019). Furthermore, while many animals are adapted to fire, high-severity events can cause significant displacement and mortality (Bonde and Keane 2017). The disturbed ground also creates an opportunistic environment for invasive species that might otherwise be unable to colonize the area (Snow 2022). This dual nature of fire, its essential ecological role balanced against its potential threat to wildlife, human life, and military infrastructure, creates a complex challenge for land management (see Section 3.11 for further details on wildfires with regards to human health and safety).

3.6.2 ENVIRONMENTAL EFFECTS

3.6.2.1 No-Action Alternative

Under the No-Action Alternative, existing environmental conditions, ongoing management practices, and current levels of impact on biological resources would continue, and no new significant impacts are anticipated. The specific effects to biological resources will be assessed by the subcategories covered in the affected environment section and are detailed below.

Terrestrial Mammals and Habitat

Under the No-Action Alternative, there would be no new significant impacts on terrestrial mammals or their habitats. No new habitat would be lost or fragmented. Existing routine military training and the as-needed maintenance of the Husky DZ Trail and parking pad would continue, perpetuating the current level of **minor localized, short-term adverse**

impacts from noise and vehicle disturbance. Management of game species through the cooperative iSportsman permit system with ADF&G, along with species-specific monitoring studies, would continue as currently implemented. Known habitat features, such as the beaver ponds within the YTA, are not expected to be affected by any foreseeable actions.

Bird Species and Habitat

Under the No-Action Alternative, there would be no new significant impacts on migratory birds, raptors, or their habitats. No nesting or foraging habitat would be cleared. The existing risk of **minor localized, short-term adverse impacts** by disturbance to birds from noise associated with current training activities would continue, because no new vegetation clearing would occur outside routinely maintained areas. Routine maintenance areas would be evaluated as necessary to ensure they do not trigger compliance requirements under the MBTA or the BGEPA.

Fish Species and Habitat

Under the No-Action Alternative, there would be no new significant impacts on fish species or aquatic habitats. The high quality of surface water in the YTA would be maintained, preserving the habitat for resident fish like Arctic grayling and ensuring the continued integrity of designated anadromous waters for Pacific salmon. No new in-stream work, alteration of stream channels, or impediment of fish passage would occur. The existing **minor localized, short-term adverse impact** to potential fish-bearing water habitats would persist from localized sedimentation of routine trail maintenance, but it is managed under current BMPs. No new actions would trigger permitting requirements under the Fish Passage Act or consultation for EFH.

Invertebrates

Under the No-Action Alternative, there would be no significant new impacts on invertebrate populations or their ecosystem functions. Existing habitats that support these species would remain undisturbed, and natural cycles of decomposition and nutrient cycling would continue at their current state. **Minor localized, short-term adverse impacts** to invertebrates from military or recreational activities may occur, but such impacts would at most be negligible.

Invasive Species

Under the No-Action Alternative, there would be no new significant impacts related to invasive species. The **minor localized short-term adverse impacts** associated with the risk of introduction or spread of invasive species would be limited to existing pathways along current access routes and from military and recreational activities. Cooperative monitoring and control efforts between USAG AK and the BLM would continue at their present levels, managing the current baseline risk.

Vegetation

Under the No-Action Alternative, there would be no new significant impacts on vegetation. The existing landscape, a mosaic of boreal forest and wetland, would remain intact and subject to natural processes of succession and wildfire. No new tree clearance would occur beyond that necessary for maintenance of existing infrastructure. Ongoing impacts would be limited to the **minor localized, short-term adverse** impacts of existing training activity disturbance throughout the area and maintenance activities along the current road and pad footprint.

Wildfires

Under the No-Action Alternative, there would be **no effect** on the existing wildfire regime. The area would remain subject to the natural fire cycle characteristic of Interior Alaska's boreal ecosystem, and the risk of human-caused ignition would not increase beyond current levels associated with existing training and recreational use. No new planned firebreaks are known at this time.

3.6.2.2 Sub-Alternatives

Because the effects on biological resources are consistent across all Sub-Alternatives, this section presents a single, consolidated analysis.

The Sub-Alternatives would result in **minor to moderate localized, permanent and short-term adverse impacts** to biological resources. All Sub-Alternatives require adherence to the management directives of the INRMP, with the primary goal of achieving "no net loss" of the land's capability to support wildlife. No federally-listed threatened or endangered species, critical habitats, or marine mammals would be affected. Table 23 summarizes the estimated acreage of habitat that would be converted by the construction of each sub-alternative.

Table 23. Summary of Estimated Habitat Conversion by Sub-Alternative

Alt	Direct Footprint (Acres)	Buffer Zone (Acres)	Total Buffered Footprint (Acres)
1A	1,434	1,587	3,021
1B	1,433	1,588	
1C	1,439	1,582	

The Preferred Alternative (Alternative 1A) would result in **minor to moderate localized, permanent and short-term adverse impacts** primarily due to the loss, conversion, and fragmentation of natural forested habitat, the removal of riparian buffers, and the increased risk of invasive species introduction. However, these adverse effects would be partially offset as the modified habitat continues to support some wildlife species. Specifically, the project creates new edge and early-successional habitats favored by certain wildlife, reduces widespread habitat degradation and aquatic sedimentation caused by non-operational off-road vehicle use, and establishes permanent engineered firebreaks that aid in regional wildfire management. Through strict adherence to

seasonal vegetation clearing windows (or approved active nest exclusion zones) to protect nesting birds, implementation of a SWPPP, installation of culverts, and application of invasive species BMPs, overall impacts to biological resources would remain less than significant.

Terrestrial Mammals and Habitat

Construction activities would result in **moderate localized, permanent adverse impacts** on terrestrial mammals and their habitat. The placement of the gravel road and parking pad would cause direct loss and permanent conversion of habitat. Tree clearance for the expanded DZ would further alter the habitat structure by converting dense forested areas into early-successional shrubland and open meadow. This conversion would adversely affect interior-forest species dependent on dense thermal and escape cover, such as the Canada lynx (*Lynx canadensis*), American marten (*Martes americana*), and snowshoe hare (*Lepus americanus*; Stenseth et al. 1997; Paragi et al. 1996). Conversely, the newly converted habitat would continue providing open meadow and edge habitat (i.e., boundary or transition zone where two or more distinct ecological communities meet) would partially offset the adverse impacts. Transition zones along the perimeter of the expanded DZ would establish favorable foraging corridors for species like moose and black bear (*Ursus americanus*), which frequently utilize nutrient-rich riparian and wetland shrubs (e.g., willow and alder) that rapidly regenerate in cleared, wet areas (Lord & Kielland 2015; Schwartz & Franzmann 1991).

During construction, noise and human activity would cause **minor localized, short-term adverse impacts** via displacement of wildlife from the immediate construction vicinity. For example, if a beaver is present in the suspected beaver pond, it could be displaced due to the construction activities.

Post-construction, the formalized road would cause **moderate localized, long-term adverse impact** on terrestrial species and habitat by increasing existing vehicle traffic and access, fragmenting habitat, and slightly elevating the risk of wildlife collisions. Although the new road infrastructure would naturally deter unauthorized, non-operational off-roading by providing a stable travel route outside of wet soils, authorized operational maneuvering and increased off-road activity associated with expanded access are still anticipated across the DZ and adjacent areas. Despite this localized increase in vehicular movement, overall operational noise levels are expected to remain consistent with baseline conditions, as the road primarily supports established military training profiles rather than introducing new, high-intensity noise sources that could significantly disrupt wildlife behavior. This overall increase in vehicular access and localized traffic volume would also likely result in minimal elevation in risk of vehicle-wildlife collisions within the project vicinity. For smaller, less-mobile species, the road corridor may act as a physical barrier to movement and increase their vulnerability to predation along the newly created edge. However, because the road would be narrow, unpaved, and experience low-volume, seasonal military traffic, it would not represent a significant barrier or fragment the regional landscape for larger, highly mobile species

such as moose or bears. Operational noise levels are expected to remain consistent with baseline conditions.

Bird Species and Habitat

During construction, the Sub-Alternatives would result in **moderate localized, permanent and short-term adverse impacts** on birds and their habitat. The primary impact would be the permanent loss of nesting and foraging habitat due to tree clearance and the construction of infrastructure. While this would disproportionately adversely affect dense forest and mature shrub-dwelling species (such as such as the Boreal Chickadee [*Poecile hudsonicus*] and Swainson's Thrush [*Catharus ustulatus*]), it would create more favorable foraging and nest habitat that supports edge, grassland, and open-country bird species that utilize early successional vegetation after boreal canopy removal (such as the Alder Flycatcher [*Empidonax alnorum*], Savannah Sparrow [*Passerculus sandwichensis*], and White-crowned Sparrow [*Zonotrichia leucophrys*]; Cotter & Andres 2000; Benson and Winker 2001). While no known golden or bald eagle nests are within the immediate sub-alternative footprints, construction noise could temporarily disturb any nesting raptors in the vicinity.

The greatest risk is the potential for incidental "take" of migratory birds if construction, particularly tree clearing, occurs during the nesting season (generally from May 1 to July 15 for most species). To comply with the MBTA and BGEPA, tree clearing would be scheduled outside the critical nesting window. If this timing window cannot be practicably avoided through the full extent of construction, pre-construction surveys for active nests would be conducted by a qualified biologist. Any identified nests would be protected by an active nest exclusion zone (established in coordination with the USFWS and ADF&G) within which no tree clearing or ground-disturbing work would occur until the young have fledged while the activities outside these exclusion zones may proceed.

Post-construction, the formalized road would cause **moderate localized, long-term adverse impacts** on avian species and their habitat by increasing vehicle traffic, fragmenting habitat, and slightly elevating the risk of vehicle strikes for low-flying or ground-foraging birds. While increased vehicular access and off-road traffic would adversely impact nesting and foraging habitats, these effects would be partially offset by the new road infrastructure. By providing a stable travel route outside of wet soil, the new roadway naturally deters unauthorized, non-operational off-roading, thereby protecting surrounding habitat from unmanaged vehicular disturbance. Despite this localized increase in vehicular movement, overall operational noise levels are expected to remain consistent with baseline conditions, as the road primarily supports established military training profiles rather than introducing new, high-intensity noise sources that could significantly disrupt avian communication, foraging, or nesting behaviors. For interior-forest bird species, the cleared road corridor may act as a barrier to movement and increase nest vulnerability to predators. However, because the road would be narrow, unpaved, and experience low-volume, seasonal military traffic, it would not significantly fragment the regional landscape or impede the movement of highly mobile, edge-adapted, or canopy-dwelling avian species.

Fish Species and Habitat

Sub-alternative construction activities would pose a **minor localized, short-term adverse impact** on fish and their aquatic habitats. The primary risk of short-term adverse impacts to fish species and their aquatic habitat would be soil erosion and subsequent sedimentation into nearby ephemeral streams and wetlands during construction, which could temporarily increase turbidity and degrade water quality downstream. This risk would be mitigated by adhering to a project-specific SWPPP which would include erosion and sediment control measures. The road alignments for each sub-alternative cross at least one surface water feature, requiring the installation of culverts. There are no water crossings across the proposed road alignment that are known to bear fish. If road alignments cross a fish-bearing surface waterbody, USAG AK would coordinate with the ADF&G and install culverts that adhere to ADF&G Fish Passage Act requirements. Adverse impacts from culvert installation would persist only for the duration of construction activities.

Post-construction, the Sub-Alternatives would cause **moderate localized, permanent adverse** impacts to fish species and their aquatic habitats. Removal of forested riparian buffers would locally reduce shade cover, which can alter water temperatures, and decrease the natural filtration of nutrients entering adjacent wetlands (Buttle et al. 2005; Naiman et al. 2005). Furthermore, the loss of mature tree canopy and the subsequent decay of deep root systems would result in long-term soil destabilization. This would potentially increase the potential for soil erosion and localized sedimentation during heavy rain or spring melt events, which could transport fine sediments downstream into fish-bearing waters. These adverse effects would be partially offset by the road naturally channeling non-operational vehicle traffic away from wetlands, as well as the installation of properly designed culverts to maintain hydrologic connectivity.

The Sub-Alternatives would have **no effect** on EFH. There are no designated anadromous waters within the project footprint, and the stabilized infrastructure would minimize potential downstream water quality degradation.

Invertebrates, Vegetation, and Invasive Species

These subcategories have been combined due to their strong ecological connection. The construction of the Sub-Alternatives would cause the permanent loss of trees within the DZ expansion footprint, resulting in **moderate localized, permanent adverse impacts** to vegetation. The removal of the forest canopy would noticeably alter existing wetlands by promoting the rapid growth of early-successional vegetation (e.g., shrubs and understory plants). While this permanently changes the structural habitat, these newly established plant communities would continue to form the base of the local food web and provide habitat for invertebrates and other wildlife.

A **minor localized, permanent adverse impact** would be the increased risk of introducing and spreading invasive plant species during construction. Ground disturbance creates ideal conditions for the establishment of non-native plants like white

sweetclover (*Melilotus albus*), which can be inadvertently transported by construction equipment. This risk would be minimized by implementing BMPs outlined in the INRMP.

Post-construction, the maintained footprint of the expanded DZ and road would result in **moderate localized, permanent adverse** impacts to invertebrates, vegetation, and invasive species dynamics. The original forested habitat would be permanently replaced by early successional or altered wetland vegetation, resulting in a noticeable ecological shift. Furthermore, increased vehicular access along the constructed road presents a potential pathway for the introduction and spread of invasive plant species, such as the white sweetclover. These adverse impacts would be partially offset by the new road infrastructure, which would naturally channel traffic and reduce unauthorized, non-operational off-road driving. By providing a stable travel corridor, the road would minimize the widespread trampling and disturbance of flora across the broader DZ.

Wildfires

During construction, the initial clearing of vegetation and combustible materials to expand the DZ and install the new road and utility infrastructure would result in **minor localized, permanent beneficial impacts**. The site preparation process physically removes fuel loads, immediately creating a footprint that functions as a permanent, engineered firebreak.

Post-construction, the completed infrastructure would continue to yield **minor localized, permanent beneficial impacts** for regional wildfire management. The cleared areas would act as permanent firebreaks that inhibit the spread of potential wildfires and provide a safe, accessible line for firefighters to conduct suppression or prescribed burn operations. Ecologically, by containing a fire's extent, these engineered breaks protect adjacent habitats, create crucial refuge areas for local wildlife, and reduce overall mortality and injury to both flora and fauna during fire events.

3.7 CULTURAL RESOURCES

3.7.1 AFFECTED ENVIRONMENT

The USAG AK manages cultural resources in YTA, including prehistoric and historic archaeological sites, buildings, landscapes, Alaska Native sacred sites, and Traditional Cultural Properties (TCPs), pursuant to Section 106 of the National Historic Preservation Act (NHPA; 36 CFR Part 800), AR 200-1, the Sikes Act, and the installation's ICRMP (USAG AK 2020b). The NHPA requires evaluating the effects of its actions on "historic properties" eligible for the National Register of Historic Places (NRHP). Furthermore, USAG AK conducts Government-to-Government consultation with Alaska Native tribal governments to ensure key stakeholders are integrated into the Section 106 process while complying with all established management protocols.

A critical first step in this process is defining the project's Area of Potential Effect (APE). As defined in 36 CFR § 800.16(d), the APE is the geographic area where a project may

directly or indirectly alter the character of a historic property. The Proposed Action APE (Appendix A) encompasses all areas where direct or indirect effects are anticipated. The direct and indirect footprints used to determine the APE represent the 500-meter buffered footprint of the expanded DZ. Establishing this comprehensive APE ensures that all potential impacts on historic properties are thoroughly identified and considered, fulfilling the Army's responsibilities under the NHPA. For purposes of this EA, the APE would be the ROI for cultural resources.

Cultural Resources

The ICRMP documents 14,000 years of human occupation in the Tanana Valley, highlighting the potential for undiscovered archaeological sites within the YTA (USAG AK 2020b). In 2023, to inform the environmental analysis of the Proposed Action, an archaeological survey was carried out around the Husky DZ. This survey led to a finding of No Historic Properties Affected. The State Historic Preservation Officer (SHPO) concurrence was received on October 4, 2023 (3130-IR Army/2023-00868; Appendix A). The 2023 survey encompassed 1,640 acres, including both previously unexamined locations and re-surveyed areas (Table 24). This effort ensured comprehensive due diligence in identifying potential archaeological resources, as well as military and non-military historic materials. However, there are areas remaining within the APE that require survey. Survey work for the unsurveyed areas is planned for the 2026 field season. The planned 2026 survey would mimic the 2023 survey strategy. Thus, it would include pedestrian surveying un-surveyed acreage and shovel testing high probability non-wetland locations

Table 24. APE Surveys and Identified Cultural Resources

Survey Year(s)	Surveyor(s)	Identified Cultural Resource(s)
2002, 2013, 2023	Colorado State University	None.
2026 (Planned)	University of Alaska Fairbanks	Will be determined after surveys are complete.

Traditional/Alaska Native Resources

Seven federally recognized Tribes may attach cultural significance to cultural resources within the APE: Healy Lake Village, Native Village of Minto, Native Village of Tanacross, Native Village of Tetlin, Nenana Native Association, Northway Village, and Village of Dot Lake.

In accordance with DoD Instruction 4710.02, “DoD Interactions with Federally-Recognized Tribes,” and AR 200-1, “Environmental Protection and Enhancement,” the Army offered tribal governments the opportunity to consult on both a Government-to-Government basis and as part of the Section 106 process. The ANCSA Corporation Doyon, Ltd. and Native Consortium Tanana Chiefs Conference were also offered the opportunity to consult. To date, no TCPs, sacred sites, or other sites of traditional cultural importance have been identified within the APE as a result of these consultations. All consultation correspondence is provided in Appendix A.

3.7.2 ENVIRONMENTAL EFFECTS

Cultural resource impacts would be evaluated using NHPA Section 106 statutory language:

- **No historic properties affected:** No historic properties are present; or, historic properties are present, but the undertaking would have no effect upon them.
- **Historic properties affected:** historic properties are affected by the undertaking.

Impacts on cultural resources can occur by physically altering, damaging, or destroying a resource or by altering characteristics of the surrounding environment that contribute to the resource's significance. Direct impacts entail physical changes to a historic property. Indirect effects usually occur through increased use, visual disturbance, or noise. To evaluate impacts, the criteria of adverse effect (36 CFR § 800.5[a][1]) are applied to the historic properties within the APEs. An adverse effect to a historic property occurs when an undertaking alters, directly or indirectly, any of the characteristics of a historic property that qualify it for inclusion in the NRHP in a manner that would diminish its integrity. Adverse effects can include, but are not limited to:

- Physical destruction of or damage to all or part of the property;
- Alteration of a property, including repair and maintenance, that is not consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR § 68);
- Removal of the property from its historic location;
- Change of character in the property's use or change of physical features within the property's setting that contribute to its historic significance;
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features;
- Neglect of a property which causes its deterioration; and,
- Transfer, lease, or sale of property out of federal ownership or control.

Adverse effects can also include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative.

3.7.2.1 No-Action Alternative

Under the No-Action Alternative, there is **no potential to affect historical properties**. Based on prior surveys, the risk of encountering cultural resources in the Husky DZ area is low. However, ongoing military and recreational activities could involve ground-disturbing actions that could potentially affect unknown historic properties. These activities are often conducted by personnel not trained in cultural resource identification or occur in non-ideal conditions resulting in a risk that such resources could be inadvertently damaged without being recognized.

In accordance with standard operating procedures, if an unknown cultural resource is identified or incidentally damaged, Fort Wainwright would implement the appropriate coordination and mitigation procedures.

3.7.2.2 Sub-Alternatives

This section evaluates the potential environmental effects on cultural resources. While there are distinct differences between the Sub-Alternatives, they share common design features that result in similar types of impacts. Therefore, this section presents a consolidated analysis that first outlines the shared characteristics, then details the specific attributes of each sub-alternative, as necessary, to inform the environmental effects evaluation.

USAG AK is making a reasonable and good faith effort to identify historic properties before construction of the selected sub-alternative. USAG AK has reviewed the existing cultural resources information and conducted surveys of the APE. Surveying the remaining unsurveyed areas within the footprint of the Sub-Alternatives considered under this Draft EA is planned for 2026. On April 9, 2026, USAG AK determined that the Preferred Alternative, Alternative 1A, would result in **no historic properties affected** (Appendix A). The SHPO concurred with this assessment on May 21, 2026 (Appendix A).

No TCPs, sacred sites, or other sites of traditional cultural importance have been identified within the APE, and there would be **no effect** to traditional/Alaska Native resources. However, to avoid unintentionally or unknowingly affecting any unidentified historic properties or cultural resources not covered in the scope of this Draft EA, the USAG AK and its contractor would adhere to all state and federal laws and actions outlined in the ICRMP (USAG AK 2020b).

Based on an informed finding of **no historic properties affected** for the Preferred Alternative (Alternative 1A) in addition to no identified TCPs, sacred sites, or other sites of traditional cultural importance within its footprint, there would be no direct or indirect impacts on known cultural resources. Because any inadvertent discoveries during construction would be strictly managed under the installation's Integrated Cultural Resources Management Plan (ICRMP), the project would have no significant impact on cultural resources.

3.8 TRANSPORTATION AND TRAFFIC

3.8.1 AFFECTED ENVIRONMENT

While the YTA contains numerous waterways, they are unsuitable for water transportation; therefore, this analysis focuses on air and ground networks.

Air and ground traffic within the YTA and the broader Joint Pacific Alaska Range Complex (JPARC) are primarily driven by military activities, such as major military

exercises like (1) RED FLAG-Alaska, a Pacific Air Forces-led exercise for U.S. and international partners, focused on joint offensive counter-air, interdiction, and close air support, and (2) Northern Edge, a U.S. joint-service exercise designed to enhance tactical and strategic interoperability. These exercises feature a diverse array of aircraft, from fighters to transport and refueling planes, and critical ground maneuver elements that add complexity and realism to the training. This places considerable demand on the YTA's road and trail system and airspace. Consequently, residents near the training areas may observe a higher volume of military aircraft, including low-flying jets and helicopters, during these periods.

Air Transportation and Traffic:

The regional airspace, including that over YTA, is depicted on the Fairbanks Sectional Aeronautical Visual Flight Rules (VFR) Chart (FAA 2026b), which is updated by the Federal Aviation Administration (FAA) every 56 days. The airspace over the YTA is a critical and actively managed component of the JPARC. It is a multi-use airspace, supporting a dynamic mix of military, commercial, and general aviation activities. The safe and efficient use of this airspace is achieved through a structured system managed jointly by the FAA and the military, utilizing Air Traffic Control (ATC) systems and specialized use designations.

YTA airspace classifications include Air Traffic Control Assigned Airspace (ATCAA; Table 25), managed by the Anchorage Center to separate military and civilian traffic, and Special Use Airspace (SUA; Table 26), which temporarily confines hazardous military operations. YTA is fully encompassed by SUA, which overlays but does not alter the underlying Air Traffic Service classification. Because SUA is active only during scheduled military training, civilian pilots rely on the 24-hour, military-operated SUA Information Service for real-time status updates on YTA Restricted Areas and Military Operations Areas (MOAs). Additionally, YTA airspace contains three Military Training Routes (MTRs): VR935, VR936, IR953/VR955. MTRs are flight corridors supporting high-speed (less than 250 knots), low-altitude (less than 10,000 feet mean sea level) DoW training. Instrument Routes (IR) operate under Instrument Flight Rules (IFR) and require ATC coordination to maintain separation from civilian traffic. Visual Routes (VR) operate without ATC control, requiring military pilots to self-separate.

Table 25. Air Traffic Control Assigned Airspace Over YTA

Class	Description	Relevance to YTA
A	Controlled airspace that overlies the region for high-altitude traffic.	Across the entirety of the airspace.
D	Controlled airspace that generally surrounds airports with an operational control tower.	Across a portion on the westernmost boundary of YTA. The space extends from the Eielson AFB airfield's control tower and has a ceiling of 3,000 feet mean sea level.
E	Controlled airspace that serves various terminal or en route purposes.	Across a portion on the westernmost boundary of YTA. The space extends from the Eielson AFB airfield's control tower and has a 700-foot floor.

Table 26. Special Use Airspace Over YTA

Type	Description	Relevance to YTA
Restricted Area	Controlled airspace (when active) that confines an activity to a specific area and/or imposes limitations on aircraft operations.	Restricted Airspace R-2205 A B, C, D, E, F G, H, J, and K are located within YTA.
MOA	Controlled IFR airspace (when active) that separates non-hazardous military activities from IFR traffic. Uncontrolled airspace for VFR traffic.	Yukon 1 MOA fully encompasses YTA and is excluded when R-2205 A, B, C, D, E, F, G, H, J, and K are active. Viper A & B MOAs encompass a portion of the westernmost area of YTA. Viper A MOA is excluded when R-2205 A, B, and D are active and within Class D Airspace of Eielson AFB airfield. Viper B MOA is excluded when R-2205 F, G, and J are active.
Alert Area	Uncontrolled airspace that informs pilots of an area of high-volume pilot training or unusual aeronautical activity. Does not extend into Class A, B, C, or D airspace or Class E airport surface areas.	Overlaps with the MOA airspace in YTA.
Controlled Firing Areas	Uncontrolled airspace not depicted on aeronautical charts. Hazardous activities to aircraft cease upon aircraft approach.	Applies to airspace overlapping active impact areas, ranges, and any live-fire exercises in YTA.

Sources: FAA 2025a, 2025b, and 2026

The number of annual air operations varies year by year due to various circumstances including but not limited to, the number of major flying exercises and combat and training aircraft deployments and annual fiscal constraints. Military aircraft operating in YTA generally depart from Eielson AFB or Joint Base Elmendorf-Richardson. During major exercises, a wide variety of aircraft operate within the YTA's airspace. These include fighter and attack aircraft, bomber aircraft, transport and mobility aircraft, and various support aircraft like tankers and command and control platforms. Operations can include low-level flight, air-to-air combat simulations, close air support training with ground troops, and airdrops of personnel and equipment, all of which utilize the specialized airspace and MTRs.

Ground Transportation and Traffic

The Richardson Highway provides primary external access along the western boundary, while a complex internal network of roads and trails (Table 27) spans the YTA.

Table 27. YTA Ground Transportation Network

Route Type	Description & Condition	Primary Use	YTA Examples
Primary Roads	Wide, well-maintained paved or gravel roads for heavy traffic; reliable year-round access.	Main supply routes linking Richardson Hwy to central staging/ranges.	Transmitter Road
Secondary (Range) Roads	Narrower, improved gravel/dirt roads branching from primary routes; moderately maintained.	Access to specific ranges, observation points, and logistical sites.	Husky DZ Trail
Trails and Unimproved Routes	Non-engineered, unmaintained two-tracks and tank trails; condition depends on weather, soil, and use.	Tactical wheeled/tracked maneuver; access to remote sites/fire-breaks.	Fire-breaks and other trails

This ground transportation network supports military operations, accommodating everything from movement of troops to heavy combat and logistics platforms (e.g., Stryker Armored Vehicles and Heavy Expanded Mobility Tactical Trucks). During major exercises, increased military traffic can cause temporary closures on the Richardson Highway and internal routes. Otherwise, public access is highly restricted; recreation requires a Sikes Act Permit and is generally limited to primary and secondary roads using passenger vehicles, ATVs, or snowmobiles.

The usability of the ground transportation network is heavily influenced by the seasons. While frozen ground and snowpack in winter can enable off-road travel and construction of ice roads, many unimproved routes become impassable without the appropriate gear, like snowshoes or skis. During the spring thaw ("breakup") and fall freeze-up periods, saturated and unstable ground conditions severely limit access and training due to heightened risk of damage and entrapment.

3.8.2 ENVIRONMENTAL EFFECTS

The scope of this section is limited to describing how traffic would operate. The physical environmental effects resulting from changes in traffic are addressed under their respective resource sections (e.g., use of non-established route traffic effects on vegetation will be discussed further in Section 3.6.2, Biological Resources).

3.8.2.1 No-Action Alternative

Under the No-Action Alternative, there would be **no effect** on transportation and traffic. The frequency and patterns of both airspace and ground road network traffic associated with Husky DZ would remain consistent with existing conditions. Traffic, which is predominantly associated with military training, is expected to continue at current levels and patterns. In areas not serviced by established ground routes, military training would involve foot, vehicle, and equipment traffic in off-road areas. While some existing trails and informal routes (e.g., fire breaks) present fewer barriers to movement, accessing more remote locations would necessitate creating temporary, user-defined paths.

3.8.2.2 Sub-Alternatives

While there are distinct differences between the Sub-Alternatives, they share common design features that result in similar types of impacts to transportation and traffic. Therefore, this section presents a consolidated analysis that first outlines the shared characteristics, then details the specific attributes of each sub-alternative, as necessary, to inform the environmental effects evaluation.

Air Transportation and Traffic

The Sub-Alternatives would have **no effect** on air transportation and traffic. Air operations would utilize existing YTA airspace, with traffic levels and frequencies remaining consistent with the No-Action Alternative. For example, utilizing three C-17

aircraft for a large-scale airdrop in the expanded DZ represents an operational method change rather than an increase in airspace intensity when compared to the nine C-130s required under the No-Action Alternative. Because these minor operational variations yield negligible effects, air transportation is not a distinguishing factor for this analysis, which focuses instead on ground transportation and traffic.

Ground Transportation and Traffic

The Sub-Alternatives would construct a new gravel road across the expanded DZ. The road would extend the Husky DZ Trail, which does not require improvements, and would be categorized as a secondary road. The built road specifications would include:

- Road Corridor: The road would have a 44-foot (13.4-meter) wide driving surface within a 60-foot (18.3-meter) wide construction corridor.
- Drainage: Drainage: Sloping from the roadbed to the natural grade would be used to drain stormwater away from the road with culverts and up to 8-foot (2.4-meter) wide ditches constructed only where necessary to maintain natural hydrologic flow (Section 2.3.2.).
- Material: Roads would be predominately constructed out of gravel.
- Terminus: The road would terminate at an approximately 68 by 175-meter gravel parking pad.

The new roads proposed under each sub-alternative differ primarily in alignment, length, and total acreage (Figure 18 and Table 28).

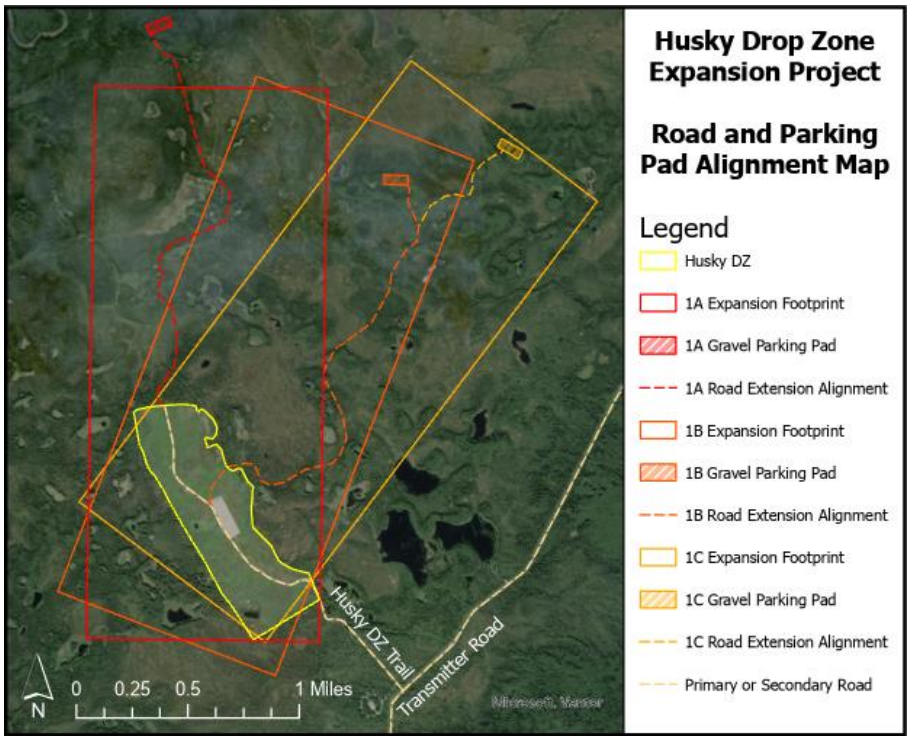

Figure 18. Road and Parking Pad Alignment Map

Table 28. Distinct Road Characteristics of the Sub-Alternatives

Alt	Roads				
	General Bearing	Length (Meters [Miles])	Width (Meters)	Total Area[1] (Acres)	Total Corridor Area (Acres)
1A	0°	3,287 [2.04]	13.4	10.88	14.86
1B	21°	3,536 [2.20]		11.71	15.99
1C	37°	4,133 [2.57]		13.69	18.69

Notes: Values are approximate and subject to change in the final design.
[1] Total Area is based on the "Total Road Length" multiplied by the "Road Width."
[2] Total Corridor Area is based on the "Total Road Length" multiplied by the width of the road corridor; 18.3 meters.

Although there are distinct differences in the road alignments and location of the gravel parking pad under each sub-alternative, these differences are not significant. The alignment of the road and parking pad that would be established under each sub-alternative is described as follows:

- Alternatives 1B and 1C follow a similar path for most of their length, running generally northeast from the Husky DZ Trail. They diverge near their end, with the road for Alternative 1C extending further northeast to its parking pad location.
- Alternative 1A follows a distinct northern route. Notably, under this sub-alternative, the gravel parking pad and a small portion of the access road would be located outside of the sub-alternative's proposed direct expansion footprint but remain within its the buffered footprint.

Sub-Alternatives would cause **minor localized, short-term adverse impacts** on ground transportation and traffic for the duration of construction activities. These impacts would result from heavy equipment traffic, material-staging, and potential delays on existing access routes. Due to YTA access restrictions, ground traffic is infrequent and predominantly associated with military training, which minimizes the potential for disruption.

Post-construction, the Sub-Alternatives would result in **minor localized, permanent adverse impacts** on ground transportation and traffic. Constructing a new roadway would increase overall vehicle access and traffic volume in the remote Husky DZ area. Because this traffic is concentrated along a corridor adjacent to newly cleared, wildlife-attracting edge habitat, the risk of vehicle-wildlife collisions would likely increase, and authorized military operational off-roading would continue across the expanded DZ. However, these adverse effects would be partially offset by the road's channeling mechanism. The constructed road would provide a stable, defined route outside of wet soils, naturally deterring unauthorized, non-operational off-road driving. This would also centralize standard traffic on a durable surface, minimizing widespread soil compaction and erosion while reducing the risk of vehicle entrapment and training-related accidents that could lead to fuel spills or hazardous releases.

Although the road alignments and lengths of each sub-alternative are distinct, impacts to traffic and transportation are consistent across the Sub-Alternatives. Under the

Preferred Alternative (Alternative 1A), road construction would cause minor, short-term direct adverse impacts to localized traffic. Post-construction, the permanent road and increased vehicle access would result in minor, long-term, direct adverse impacts by elevating vehicle-wildlife collision risks and allowing continued operational off-roading. However, these effects would be partially offset because the road channels traffic away from wet soil and reduces entrapment and accident risks. Because air traffic remains unaffected and ground disruptions would be managed, overall transportation impacts would be less than significant.

3.9 UTILITIES

3.9.1 AFFECTED ENVIRONMENT

The utilities that fall under the scope of the Proposed Action are power and communication utilities. Electrical power in YTA is serviced by the Eielson AFB Central Heat and Power Plant (CHPP). This CHPP generates power using coal as a fuel source and, following a turbine installation in 2024, has a total power capacity of approximately 30 megawatts. Communication utility services are provided through a mix of military-operated infrastructure from Eielson AFB and contracted civilian utility providers.

Within YTA, the decision to place power lines aboveground or underground is dictated by the military activities and infrastructure planned for the area. While aboveground lines are generally more cost-effective, they are not always suitable for military needs. Table 29 identifies the primary drivers (safety, security, and operational freedom) that require underground power line installation and provides examples of existing or required locations for these installation in YTA.

Table 29. Military Drivers of Underground Powerline Installation

Driver	Primary Activites	Reason	YTA Examples
Airspace Safety	Airfields, Landing Zones, DZs	Prevent vertical obstructions for aircraft and personnel.	Husky DZ
Ordnance Safety	Ammunition and Explosive Ordnance Storage, Firing Ranges, Live Fire Exercise Areas	Minimize risk of accidental ignition or detonation.	Stuart Creek Impact Area, Manchu Range and Impact Area
Security and Resiliency	Command Centers, Critical Infrastructure	Protect mission-critical power supply from damage.	None
Freedom of Maneuver	Tactical Vehicle Training Areas, Live Fire Exercise Areas	Ensure unrestricted movement of vehicles and troops.	None

The installation of underground power lines in YTA is further constrained by environmental and engineering challenges. These obstacles, which impact both feasibility and long-term stability, are summarized in Table 30.

Table 30. Obstacles and Challenges for Underground Powerline Installation

Obstacle/Challenge	Reason
Permafrost	Permafrost presents multiple engineering challenges. – The frozen ground is as hard as concrete, making excavation slow and costly.

Obstacle/Challenge	Reason
	– The annual freeze-thaw cycle of the surface "active layer" causes ground instability from frost heave (pushing the cable up) and thaw settlement (sinking and stretching it). – Heat from the cable itself can melt the surrounding permafrost, creating a linear sinkhole (thermokarst) that damages the line. – Locating and repairing faults in the frozen, unstable ground is extremely difficult, leading to prolonged outages.
Solid Bedrock	Extremely difficult and expensive to excavate; requires blasting or heavy machinery.
High Water Table / Wetlands	Trenches are unstable and constantly fill with water, making installation and long-term integrity difficult.
Unstable Soil / Steep Slopes	High risk of landslides or erosion; trenching can destabilize the area and expose or break the cable.
Contaminated Soil	Potentially requires costly and specialized handling and disposal of excavated materials.
Culturally / Archaeologically Sensitve Areas	Ground disturbance is often prohibited by law to protect historical artifacts or sacred sites.

3.9.2 ENVIRONMENTAL EFFECTS

The scope of this section is limited to describing the capacity and adequacy of utility infrastructure. The physical environmental effects resulting from the installation of these utilities are addressed under their respective resource sections (e.g., obstacles and challenges of installing underground power and communication lines [Table 3-18] in permafrost, wetlands, and unstable soils will be discussed further in Section 3.4.2, Soil and Geological Resources).

3.9.2.1 No-Action Alternative

The No-Action Alternative would result in no new construction, and therefore, **no effect** on the existing utility infrastructure. This alternative, however, fails to resolve the current shortfall in power and communications capabilities, which are necessary to support the enhanced training and operational tempo at Husky DZ.

3.9.2.2 Sub-Alternatives

Because the effects on utility capacity are consistent across all Sub-Alternatives, this section presents a single, consolidated analysis.

The Sub-Alternatives would address the need for increased utility capacity by extending existing utilities to a central location within the existing Husky DZ footprint. This requires installing approximately 1,812 meters (1.13 miles) of underground utility lines within the Husky DZ Trail right-of-way (Figure 19). The utilities would be installed underground to ensure they do not conflict with military training activities and would meet the following specifications:

- Power: 200 Ampere, 3-phase, 4-wire, 208V alternating current shore power.
- Communications: 12-strand fiber optic cable.

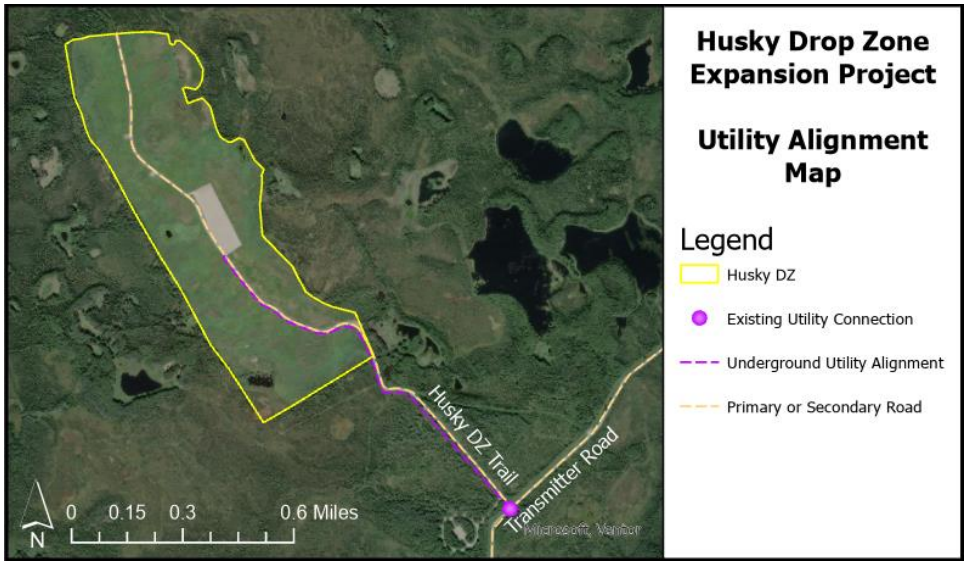

Figure 19. Utility Alignment Map

The primary operational consideration is the existing grid's capacity to support this utility extension. The Army would coordinate with Eielson AFB, and other service providers as appropriate, to verify that the projected utility demand can be sustained without impacting existing services. The project services an existing operational need rather than creating a new, large-scale demand. Consequently, the impact on the providers' overall grid capacity is considered negligible.

During construction, there would be **minor short-term, localized adverse impacts** due to potential service disruptions during installation of the utilities. However, post-construction the project would ultimately have a **moderate permanent, localize beneficial impact,** because it would provide the necessary utility capacity directly supports and enhances modern training and operational requirements at Husky DZ.

The Sub-Alternatives would yield consistent outcomes regarding utility infrastructure. Thus, the Preferred Alternative (Alternative 1A) would result in moderate, long-term, direct beneficial impacts through the installation of underground power and communication lines. This would resolve existing infrastructure deficiencies and provide the essential, modern utility capacity required to sustain current and future operations at Husky DZ. Because the project fulfills an existing operational requirement rather than introducing a new large-scale demand, it is anticipated to have a negligible effect on the capacity of the broader installation grid and the service levels of existing providers. Thus, these utility impacts would remain well below the threshold of significance.

3.10 HAZARDOUS MATERIALS AND WASTE

3.10.1 AFFECTED ENVIRONMENT

This section describes the existing conditions related to hazardous materials and waste within the YTA. Hazardous materials and waste are managed in accordance with AR 200-1. For the purposes of this Draft EA, definitions for 'Hazardous Material,'

'Hazardous Substance,' and 'Hazardous Waste' are derived, respectively, from the Toxic Substances Control Act (15 U.S.C. § 2601 et seq.) and Department of Transportation regulations; the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA; 42 U.S.C. § 9601(14)); and the Resource Conservation and Recovery Act (RCRA; 42 U.S.C. § 6921 et seq.; 40 CFR § 261).

Within YTA, all spills within YTA must be reported immediately to the Fort Wainwright Spills Office at (907) 482-4267, in compliance with federal mandates under the CWA (33 U.S.C. § 1251 et seq.), CERCLA, and state regulations (18 AAC 75).

Operational Hazardous Materials and Waste Streams

Routine military training and support activities at YTA involve the use of hazardous materials, primarily Petroleum, Oils, and Lubricants (POLs) for vehicles and equipment, as well as solvents, batteries, and cleaning agents. There are no permanent hazardous material storage facilities within the YTA; these materials are stored at designated facilities off-site (e.g., Fort Wainwright main post). However, during training exercises, temporary and mobile storage is utilized as needed (e.g., fueling operations or vehicle and equipment maintenance during training exercises). All temporary storage and handling of hazardous materials follow the procedures outlined in the installation's Hazardous Materials Management Plan as well as Spill Prevention, Control, and Countermeasure (SPCC) requirements under the CWA (40 CFR § 112) and AR 200-1.

YTA contributes to the installation's overall waste generation. YTA is regulated as a Very Small Quantity Generator (VSQG) of hazardous waste under RCRA Subtitle C, and its EPA identification number is AKR000209841. As a VSQG, YTA generates no more than 100 kilograms (220 pounds) of hazardous waste and no more than 1 kilogram (2.2 pounds) of acute hazardous waste per month. Waste is typically collected by the training units at the conclusion of their activities, through a scheduled cleanup event, or transported off-site for disposal by a licensed contractor, when applicable, in accordance with installation, state, and federal regulations. The waste streams generated within the YTA are typical of military training operations and include:

- Non-Hazardous Solid Waste: General refuse, food waste, construction and demolition debris, and packaging materials such as wood pallets managed under RCRA Subtitle D and 18 AAC 60.
- Hazardous Waste: Used POLs, spent batteries, contaminated soil, and spill cleanup materials managed under RCRA Subtitle C and 18 AAC 75.
- Military-Specific Waste: Range-related debris (e.g., spent brass casings and target fragments) and, potentially, Munitions and Explosives of Concern.

Defense Environmental Restoration Account and Contaminated Sites

A review of the ADEC contaminated sites database confirms there are no active or open contaminated sites within the YTA. However, there is a site with institutional controls, as well as one evaluated area managed under range maintenance.

The ADEC contaminated sites database identified one known contaminated site within YTA: “Fort Wainwright (2P) Nike Sites ‘B & C,” with ADEC Hazard ID 1682 (Figure 20). The status of this site is listed as “Cleanup Complete.” However, residual contamination remains present at the site at levels that could pose a risk to human health and the environment, even after historical remediation efforts were conducted to clean up the site (EPA, 1999). To minimize potential risks to human health and the environment, institutional and land use controls remain in place. The hazardous materials formerly associated with this site included PCBs, asbestos, POLs, batteries, heavy metals, and associated debris (ADEC 2026b). There is no confirmed presence of per- and polyfluoroalkyl substances with this site. No other active or open contaminated sites are located within the YTA.

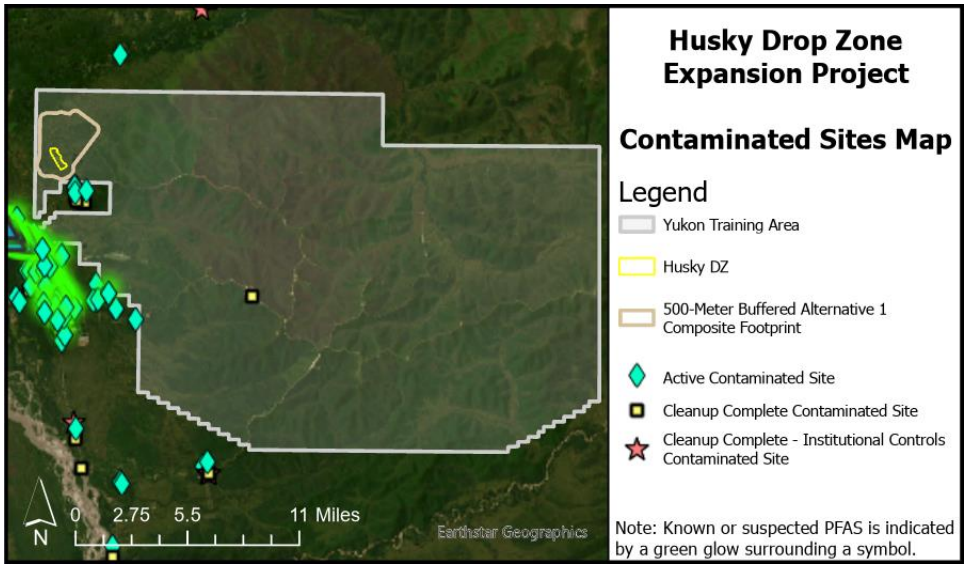

Figure 20. Contaminated Sites Map

Approximately 625 feet south of Husky DZ, along its access road, is a 55-acre active range maintenance area. During vegetation clearing for a new bivouac area south of Husky DZ in 2014, the discovery of 55-gallon drums and munitions-related debris prompted a work stoppage and formal site evaluation. This evaluation characterized the parcel as an active military training area with historical use as a demolition range. Site surveys of the area (Figure 21) confirmed the presence of drums, munitions debris, and associated range artifacts. The report concluded that the debris was generated by past training activities within an active range (USACE 2018). As a result, under the Military Munitions Rule (40 CFR § 266 Subpart M), the materials are exempt from solid and hazardous waste classifications under RCRA and CERCLA, classifying the site as an "active range maintenance issue" managed under DoW Operational Range directives and AR 200-1, rather than a regulatory cleanup project.

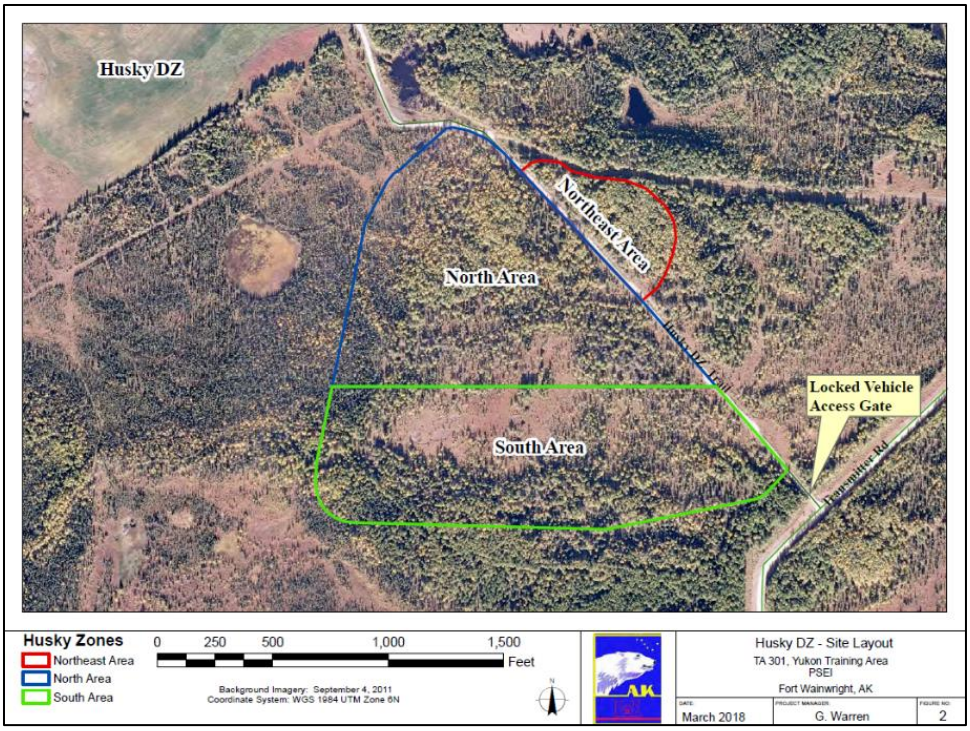

Figure 21. Evaluated Area South of Husky DZ

3.10.2 ENVIRONMENTAL EFFECTS

3.10.2.1 No-Action Alternative

Under the No-Action Alternative, there would be continuing potential for **minor short-term, localized adverse impacts** from the incidental spill or release of hazardous materials. While there are no known active contaminated sites within 1,500 feet of Husky DZ, there is a historically contaminated site (Nike Sites 'B & C') managed with institutional controls, and an active range maintenance area located south of Husky DZ characterized by historical 55-gallon drums and munitions-related debris. Furthermore, the continuation of existing military and recreational activities presents a risk of incidental releases. Potential sources include, but are not limited to (1) spent ammunition from live-fire training and hunting, and (2) fuel or fluid leaks from airdropped equipment, infield fueling operations, or generators.

The magnitude of any potential impact would be determined by the specific context (e.g., location and type of contaminant), intensity, and duration of a spill or release. An incident could result in a new contaminated site and/or require USAG AK to conduct a clean-up action subject to state cleanup levels under 18 AAC 75 and federal spill response regulations. However, the risk of a significant, unmitigated release is minimized by existing controls and proper planning. USAG AK adheres to established protocols for the proper handling of hazardous materials. Furthermore, if an incident were to occur, USAG AK would contain and remediate the hazardous materials and/or waste in accordance with CERCLA, RCRA, 18 AAC 75, and AR 200-1. A project-specific SPCC Plan complying with CWA regulations (40 CFR § 112) would be

developed to establish procedures for managing, containing, and mitigating hazardous materials and waste, including specific coordination and reporting requirements. Due to the prevention and response protocols that would be established in the SPCC Plan, the overall potential for adverse impacts under the No-Action Alternative is considered minor, and impacts would most likely be localized and short-term.

3.10.2.2 Sub-Alternatives

Because the effects on hazardous materials and waste are consistent across all Sub-Alternatives, this section presents a single, consolidated analysis.

The construction and post-construction activities associated with any sub-alternative would have the potential for **minor short-term, localized adverse impacts.** The potential for impacts stems from the use of hazardous materials and production of hazardous waste during these activities, which involve the use of heavy equipment, vehicles, and generators containing hazardous materials such as fuel, lubricants, and hydraulic fluids. There is a risk of incidental spills or leaks from this equipment. Other potential sources of hazardous and solid waste, consistent with the No-Action Alternative, include the expenditure of spent ammunition from training and hunting, and the generation of waste like wooden pallets and range debris. Furthermore, during construction activities south of Husky DZ, legacy 55-gallon drums and munitions-related debris associated with the active range maintenance area may be encountered. Consequently, any construction occurring within this boundary will require the implementation of specialized safety protocols and coordination with Range Control. In contrast, Nike Sites ‘B & C’ are located at a sufficient distance from the proposed footprint to preclude any exposure to residual contamination.

A hazardous release in the northwestern YTA wetlands (near Husky DZ) poses a specific risk because the shallow water table connects to larger adjacent waterbodies. Although natural dilution and soil adsorption generally keep minor spills localized, larger releases could migrate rapidly via groundwater or surface runoff. The risk of widespread contamination is heavily influenced by spill volume, discontinuous permafrost, and soil permeability. Consequently, all spill response and remediation efforts would be handled in accordance with the CWA and ADEC WQS (18 AAC 70 and 18 AAC 75) on a site-specific basis, tailored to the exact contaminant and local environmental conditions.

The overall risk of significant, unmitigated release of hazardous substance to the environment is low. The severity of any resulting potential contamination is limited by both the nature of the activities in the YTA and the implementation of robust preventative planning and response protocols. During construction, contractors are required to adhere to standard BMPs, which include developing a spill prevention and response plan and maintaining readily available spill kits. If historical drums or munitions debris are encountered, work stoppage and formal evaluation protocols under DoW range safety regulations would be immediately initiated. During post-construction operations, USAG AK adheres to established controls for the proper handling of hazardous materials and waste. In the event of any spill during either phase, USAG AK

and/or the contractor would immediately contain and remediate the release in accordance with all applicable federal regulations (RCRA, CERCLA, CWA), state regulations (18 AAC 75), and AR 200-1. Additionally, the spill would be immediately reported to the Fort Wainwright Spills Office at (907) 482-4267.

With the adherence to comprehensive prevention and response protocols, any adverse impacts from hazardous materials or waste are expected to be, at most, minor, short-term, and localized. Thus, the Sub-Alternatives would introduce **minor short-term, localized adverse impacts** during the construction phase, and the long-term operational impacts, including the types of potential contamination and mitigation protocols (identical to those of the No-Action Alternative), would **introduce minor short-term, localized adverse impacts**. Therefore, hazardous materials and waste are not a distinguishing factor in the environmental analysis between the Sub-Alternatives.

The risks associated with hazardous materials and waste are consistent across the Sub-Alternatives. The Preferred Alternative (Alternative 1A) would result in minor, short-term, direct adverse impacts due to the low risk of accidental POL spills or hazardous material releases during construction, as well as the associated requirements for managing potentially hazardous waste. Because these risks would be actively managed and mitigated through mandatory adherence to a project-specific SPCC Plan (40 CFR § 112), state spill and contaminated site regulations (18 AAC 75), and active range maintenance avoidance protocols in compliance with AR 200-1, impacts related to hazardous materials and waste would remain less than significant.

3.11 HUMAN HEALTH AND SAFETY

3.11.1 AFFECTED ENVIRONMENT

Occupational safety for this project is governed by AR 385-10, “The Army Safety Program,” which provides standards equivalent to or exceeding those of the Occupational Safety and Health Administration (OSHA). Civilian personnel and contractors must also comply with Alaska Occupational Safety and Health (AKOSH) regulations. The implementation of these programs is consistent with E.O. 12196 and 29 CFR § 1960.

Long-term public safety risks are not anticipated under the Proposed Action due to the remote location of the YTA and strict public access controls. Consequently, this section focuses on occupational safety and environmental hazards affecting personnel within the ROI. It details emergency medical response resources as well as the physical, environmental, and operational hazards inherent to training activities within the YTA.

Medical Care

The nearest Level IV trauma centers to YTA are the Fairbanks Memorial Hospital and Bassett Army Community Hospital. The Fairbanks Memorial Hospital is a civilian hospital that services the public. Whereas the Bassett Army Community Hospital is an

Army hospital that provides services to military service members at Fort Wainwright but may provide treatment to civilians requiring urgent care when no other feasible options are available. Both hospitals are approximately 18 miles straight-line distance from the westernmost boundary of YTA. Patients requiring higher level care than a Level IV trauma center would be transferred to a Level II trauma center in Anchorage, Alaska, approximately 255 miles straight-line distance southwest of Fairbanks.

Environmental Hazards

Environmental hazards present in or that may affect YTA include natural disasters, wildlife, and contaminated or hazardous sites. Potential natural disasters that may occur within YTA are earthquakes, wildfires, and flooding. Table 31 describes each type of natural disaster and its relevance to YTA.

Table 31. Natural Disasters with Potential to Occur within YTA

Natural Disaster	Relevance to YTA
Earthquake	Earthquakes result from tectonic plate movement along fault lines. The closest fault lines are the Tintina Fault north of YTA and the Denali Fault south of YTA. Both are strike-slip faults where tectonic plates are parallel to one another and move in opposite directions. However, YTA seismic activity is generally not linked to movement along major faults like the Denali fault (USAG AK 2020a). The largest earthquake to date from the movement at either of these faults occurred in 2002. A 7.9 magnitude earthquake resulted from slippage of the Denali Fault approximately 2.6 miles below ground surface (AEC 2002) and caused landslides, damaged roads, and more.
Wildfire[1]	Interior Alaska experiences frequent, extensive wildfires, including stand-replacing ground, surface, or crown fires triggered by lightning or human activity (Abrahamson 2014). The wildfire season runs from late May to late July, peaking in June, and burned 3.1 million acres statewide between 2013 and 2022 (Moore et al. 2020). The Army suppresses fires resulting from military activities, while the BLM manages non-military or natural fires, assisting the Army on a reimbursable basis under a separate agreement. Since the 1950s, active suppression has created an overabundance of older, vulnerable forests (60 to 120 years old) susceptible to severe fire, insects, and disease. To restore ecosystem health and manage risk, USAG AK uses an integrated strategy that allows remote fires to burn, maintains 250 miles of fuel breaks, conducts regular risk assessments, and annually treats 50 acres mechanically and 50,000 acres via prescribed fire. Although USAG AK responds to all 100-plus annual fires, tactical actions vary from monitoring to full suppression to protect life, infrastructure, and resources (USAG AK 2020a).
Flood[2]	In Interior Alaska, the primary flood season occurs in spring and summer. Flooding is typically caused by heavy spring runoff from rapid snowmelt, often exacerbated by river ice jams or extreme rainfall events.

Notes:
[1] For additional information about wildfire in relation to wildlife, see Section 3.6.1.
[2] For additional information about floodplains, see Section 3.5.1.

Wildlife within YTA could also pose a threat if there is human-wildlife encounter. The Fort Wainwright installation INRMP establishes a comprehensive framework to manage the multifaceted interactions between human activities and wildlife, balancing the military mission with conservation and public safety. The plan addresses direct conflicts

with animals through education, strict waste management, and habitat modification. Of particular concern are black bear, brown bear (*Ursus arctos*), and moose.

Although contaminated sites pose inherent risks to human health and wildlife, there are no known active contaminated sites within the YTA (Section 3.10.1). However, because military training presents a risk of accidental hazardous material releases, established spill response and contingency plans are in place to immediately secure release sites, restrict access, and execute regulatory remediation. While no formal environmental cleanup projects are active, specific legacy hazards do require ongoing safety management. Notably, a 55-acre parcel south of Husky DZ contains 55-gallon drums and munitions-related debris from a historical demolition range. As previously noted, this area is legally classified as an "active range maintenance issue" rather than a formal cleanup project (USACE 2018). Because these materials are exempt from standard CERCLA and RCRA classifications, hazard management is strictly enforced through operational range safety protocols to prevent human exposure to legacy munitions and artifacts.

Human Activity Hazards

Human activity hazards within YTA are predominately associated with military training but also with recreation. Military operations are the priority within the YTA, encompassing a wide range of activities from live-fire exercises and airborne drops to vehicle convoys and personnel foot-marches. To minimize the risk to the safety of military personnel and the public, a multi-layered safety protocol governs all military activities. The military unit in charge of an activity is responsible for ensuring its actions are fully compliant with all applicable military, local, state, and federal laws and regulations. The level of safety planning, coordination, and notification is commensurate with the assessed risk of the activity. These procedural safeguards are reinforced by administrative and physical controls, such as restricted access, as well as by specific land and airspace designations, which provide additional layers of security.

Recreation within the YTA, a multi-use military training area, is authorized but highly controlled to ensure the safety of military personnel and the public. Access is managed through strict procedures, and popular recreation activities like hiking, hunting, fishing, and Christmas tree cutting are restricted to designated areas. While the military manages the safety of the training area, individuals are personally responsible for the inherent risks of their chosen recreation. For instance, hunters are accountable for the safe use of firearms. Recreational users must comply with all laws and regulations applicable to their activity and the authorized area.

3.11.2 ENVIRONMENTAL EFFECTS

3.11.2.1 No-Action Alternative

Under the No-Action Alternative, there would be **no effect** on current human health and safety conditions. Existing military training and recreational activities would continue,

governed by the current safety protocols outlined in AR 385-10 and state regulations. The inherent risks associated with these activities, as well as environmental hazards such as potential human-wildlife encounters and natural disasters (wildfires, earthquakes), would persist at their current levels. Military and recreational users would continue to operate within the established framework of safety procedures, access restrictions, and personal responsibility. The availability and response times of medical services from Fairbanks Memorial Hospital and Bassett Army Community Hospital are also expected to remain unchanged.

3.11.2.2 Sub-Alternatives

Because the potential effects on human health and safety are consistent across all Sub-Alternatives, this section presents a single, consolidated analysis.

The implementation of any sub-alternative would introduce potential for **minor short-term, localized adverse impacts** during construction, but would result in **minor long-term localized, beneficial impacts** post-construction.

During the construction phase, which includes tree clearing, utility installation, and road excavation, on-site workers would be exposed to temporary health and safety risks. Potential hazards include equipment operation, cave-ins, and environmental exposure inherent to the YTA. However, these risks are substantially minimized by mandatory adherence to established safety regulations. Civilian contractors must comply with all AKOSH and federal OSHA standards, including specific protective measures for excavations and the required use of PPE. Given the proximity to a known hazardous site south of the proposed expansion, clearance surveys are required before excavation begins. If any concerning debris is identified, a stop-work order would be immediately implemented to ensure the safety of all personnel. With the implementation of BMPs, the adverse impacts from construction would be considered minor, short-term, and highly localized, limited to on-site personnel with no anticipated impact on military personnel not involved in the project or to the general public.

After construction is completed, the new infrastructure created under any of the Sub-Alternatives would create a minor, permanent, and localized beneficial impact on human health and safety. The formalized gravel road would provide safer and more reliable access for military vehicles and personnel, which would improve routine transit and is critical for providing emergency medical or firefighting access. A stable road surface reduces the risk of vehicle accidents compared to navigating unimproved trails. The road also reduces the need for soldiers to traverse potentially hazardous off-road terrain when not operationally warranted, thereby lowering the risk of injuries associated with uneven ground or hidden obstacles and creating a safer operational environment at Husky DZ. Furthermore, the gravel road and parking pad would act as a firebreak, a gap in combustible material that can slow or stop the progress of wildfire.

Health and safety outcomes are consistent across the Sub-Alternatives. The Preferred Alternative (Alternative 1A) would result in minor, short-term, direct adverse impacts

related to standard occupational hazards during construction, which would be mitigated via OSHA-compliant safety protocols. Long-term, the project provides minor, direct beneficial impacts by establishing a safer, well-connected, and easily accessible training environment. Overall, impacts on human health and safety would be less than significant.

4.0 OTHER NEPA CONSIDERATIONS

4.1 PROTECTED TRIBAL RESOURCES

Pursuant to the 1994 Executive Memorandum on "Government-to-Government Relations with Native American Tribal Governments;" 1998 DoD "American Indian and Alaska Native Policy;" AR 200-1; and DoD Instruction 4710.01, "DoD Interactions with Federally Recognized Tribes," the Army must assess impacts on Protected Tribal Resources. This trust responsibility, deriving from the Federal Trust Doctrine, is discharged through compliance with multiple statutes (Table 32) and through ongoing Government-to-Government consultation (Section 1.5.3).

In this Draft EA, Protected Tribal Resources are generally understood to include natural resources, cultural resources, and access to subsistence resources; no specific resource(s) have been identified by any Federally recognized Tribe (list of Tribes consulted in Appendix A).

Table 32. Draft EA Sections that Addressed Potential Protected Tribal Resources

Resource	Section	Relevant Statutes	Potential Effects
Natural Resources	3.5, 3.6	– Migratory Bird Protection Treaty Act of 1918 – National Environmental Policy Act of 1970 – Clean Water Act of 1972	Moderate, permanent, localized adverse impacts from wetland loss, floodplain disturbance, and habitat conversion. Minor, short-term adverse construction impacts from erosion and noise. Minor, long-term beneficial impacts from improved infrastructure reducing unauthorized off-road travel.
Cultural Resources	3.7	– National Historic Preservation Act of 1966 – National Environmental Policy Act of 1970	No Historic Properties Affected. Surveys and ongoing consultation have identified no historic properties, TCPs, or sacred sites within the APE.
Subsistence Use	3.1, 3.6	– Alaska National Interest Lands Conservation Act of 1980	No Effect. The project is in a state-designated Nonsubsistence Use Area. Customary and traditional subsistence uses would not be impacted.

4.2 UNAVOIDABLE ADVERSE EFFECTS

This Draft EA identifies any *unavoidable adverse impacts* that would be incurred by the selected sub-alternative of the Proposed Action and evaluates the significance of the potential impacts to resources and issues. A determination of significance requires consideration of context and intensity. The construction of a new gravel road and parking pad, installation of underground utilities, and tree clearance within the DZ expansion footprint of a sub-alternative would predominantly impact the localized area within YTA in and around the existing Husky DZ. The severity of potential impacts would

be limited by regulatory compliance, proposed mitigations, and BMPs (Table 35) for the protection of the human and natural environments.

Unavoidable short-term adverse impacts associated with implementing a sub-alternative would include short-term construction impacts related to erosion and sedimentation, increases in fugitive dust and air pollution, intermittent noise, impacts to wetland vegetation, and alterations to traffic. However, these effects are considered minor and would be confined to the immediate area.

Unavoidable, moderate, long-term, adverse impacts would include wetland loss, wetland disturbance, floodplain disturbance, habitat conversion, fugitive dust emissions, ground thermal regime alteration, and traffic change under the implementation of a sub-alternative. Table 33 summarizes the wetland, floodplain, and habitat impacts. Adhering to BMPs and required regulatory permits minimizes these impacts to the greatest extent practicable, ensuring they do not reach the threshold of significant environmental degradation.

Table 33. Summary of Estimated Wetland, Floodplain, and Habitat Impacts by Sub-Alternative

Alt	Wetland				Floodplain Disturbance (Acres)			Habitat Conversion (Acres)		
	Loss (Acres)	Disturbance (Acres)								
	Direct Footprint	Direct Footprint	Buffer Zone	Total	Direct Footprint	Buffer Zone	Total	Direct Footprint	Buffer Zone	Total
1A	8.7	1,150.0	1,185.6	2,335.6	65.9	85.1	151.0	1,434	1,587	3,021
1B	9.5	1,058.5	1,245.5	2,304.0	111.1	68.2	179.3	1,433	1,588	
1C	9.3	1,043.8	1,209.6	2,253.4	95.5	90.9	186.4	1,439	1,582	

While the Preferred Alternative (1A) has a slightly larger wetland disturbance footprint than 1B and 1C, it requires the least permanent wetland loss (8.7 acres) and floodplain disturbance (65.9 acres), with comparable habitat conversion (1,434 acres). Implementing proposed mitigations ensures these unavoidable impacts remain less than significant.

4.3 RELATIONSHIP OF SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

This section evaluates the relationship between the project's short-term impacts (construction) and its enhancement of long-term productivity (post-construction operational benefits).

Under the Preferred Alternative (Alternative 1A), the negative effects of short-term construction and installation activities would be minor compared to the long-term enhancement of productivity. Upon project completion, the Preferred Alternative (Alternative 1A) would provide immediate and enduring benefits that enable required training in the YTA, substantially outweighing short-term impacts and permanently ensuring long-term military readiness.

4.4 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

This section identifies irreversible and irretrievable resource commitments for the Preferred Alternative (Alternative 1A). Irreversible commitments involve resources that cannot be replaced (e.g., energy), while irretrievable commitments involve resources that cannot be restored (e.g., permanent wetland loss).

The short-term irreversible commitments of resources from the Sub-Alternatives include planning and engineering costs, building materials and supplies and their cost, use of energy resources during construction, labor, loss of wetlands, reduction of wetland function, generation of fugitive dust and other air pollutant emissions, permanent conversion of habitat, and creation of temporary construction noise. In addition to these, the Preferred Alternative (Alternative 1A) represents an irreversible commitment to future maintenance resources. The new road and expanded DZ would require ongoing maintenance, including periodic grading, erosion control, and vegetation management, for the operational lifespan of the facilities. This represents a long-term, irretrievable commitment to funding, equipment, and personnel hours.

The loss of wetlands and reduction in their function would require USAG AK to seek an authorization under the CWA Section 404 from USACE Regulatory Division.

4.5 INCOMPLETE OR UNAVAILABLE INFORMATION

During the development of this Draft EA, the following was identified as incomplete or unavailable information:

- Borrow sources: Specific commercial or installation borrow pits are undetermined. The contractor will source materials independently, which USAG AK will evaluate prior to use to ensure impacts remain within the scope of this EA and do not require supplemental NEPA documentation.
- Cultural resource surveys: Unsurveyed areas will be assessed during the 2026 field season to inform the Final EA.

5.0 REASONABLY FORESEEABLE ACTIONS AND CUMULATIVE EFFECTS

This Draft EA evaluates the potential cumulative effects of the Preferred Alternative (Alternative 1A) to ensure compliance with the NEPA of 1969 (42 U.S.C. § 4321 et seq.) Following the 2026 rescission of the Council on Environmental Quality, this analysis relies on the statutory text of NEPA, the DoW NEPA Implementing Procedures, and established federal judicial precedent. Consistent with DoW NEPA Implementing Procedures (Part 1.5), this section assesses the "reasonably foreseeable effects" of the Proposed Action alongside other actions to determine if a FONSI or EIS is warranted. Ultimately, this approach ensures the Army considers whether individually minor actions could cause collectively significant environmental degradation over time if the Preferred Alternative (Alternative 1A) is implemented.

A cumulative impact is the environmental effect from the incremental impact of the Preferred Alternative (Alternative 1A) when added to other past, present, and reasonably foreseeable future actions. This analysis evaluates cumulative impacts within the spatial and temporal context of the Husky Drop Zone (DZ) and its vicinity.

5.1 REASONABLY FORESEEABLE FUTURE ACTIONS

USAG AK has identified reasonably foreseeable future actions in the immediate vicinity of Husky DZ that will be evaluated in conjunction with the Preferred Alternative (Alternative 1A). The following are reasonably foreseeable future actions:

- **Maneuver Trail Network Expansion:** This action would clear vegetation to construct unpaved winter and fair-weather trails connecting Husky DZ to Beaver Creek Road and the Manchu Lake Trail. Construction would primarily consist of vegetation clearing with gravel hardening applied only where necessary.
- **Mock Village Training Facilities:** This action would involve clearing trees and installing a hardened gravel pad east of Husky DZ to support urban operations training. To maintain operational flexibility and minimize permanent footprints, the site would host temporary, mobile buildings rather than permanent structures, and additional mock villages and trails may be developed nearby as training needs evolve.

If the No-Action Alternative is selected, there is a reasonably foreseeable need to upgrade utility infrastructure at Husky DZ to meet operational requirements. Thus, a standalone project to install utility infrastructure is likely if the Preferred Alternative (Alternative 1A) is not built. Thus, a standalone utility infrastructure project (herein called, “Utility Infrastructure Project”) would likely install utility consistent with that proposed under the Preferred Alternative (Alternative 1A). Thus, this foreseeable action is assumed to involve the installation of approximately 1.13 miles of underground power and communication lines within the existing Husky DZ access road corridor to modernize the site and support current training demands.

5.2 EVALUATION OF CUMULATIVE EFFECTS BY RESOURCE

This section evaluates whether the incremental effects of the alternatives, when combined with reasonably foreseeable future actions (Section 5.1), would cause significant cumulative environmental degradation within the YTA. Because the foreseeable actions currently lack final designs, this cumulative analysis is qualitative (Table 34).

Table 34. Cumulative Effects Analysis

Resource	No-Action Alternative	Preferred Alternative (Alternative 1A)
Land Use	Insignificant: Standalone utility project is confined to existing corridors; fundamental land use remains unchanged.	Insignificant: Minor adverse impacts from habitat conversion (approximately 1,434 acres) and new trail/village development. Long-term beneficial impacts from formalized access. Consistent with YTA’s military designation.

Resource	No-Action Alternative	Preferred Alternative (Alternative 1A)
Air Quality	Insignificant: Temporary, localized emissions from utility installation. Cumulative impacts are negligible to minor.	Insignificant: Minor, intermittent increases in dust and vehicle emissions from phased construction. Impacts remain below regulatory standards.
Noise	Insignificant: Minor, short-term construction noise from utility trenching.	Insignificant: Minor construction and operational noise increases. Mitigated by remote location and standard hearing protection; consistent with YTA's military environment.
Soil and Geological Resources	Insignificant: Minor, highly localized soil disturbance from utility trenching.	Insignificant: Moderate, localized impacts to soil and permafrost from combined grading and facility construction. Managed via BMPs without destabilizing the regional landscape.
Water Resources	Insignificant: Approximately 2.7 acres of short-term wetland disturbance for utilities; no floodplain impacts.	Insignificant: Moderate adverse impacts (approximately 8.7 acres permanent, approximately 2.7 acres temporary wetland fill) compounded by trail/village construction. Kept below significance via CWA Sec 404 permitting and USACE mitigations.
Biological Resources	Insignificant: Negligible to minor impact from localized brush clearing in the road corridor.	Insignificant: Moderate impacts from non-unique regional habitat conversion (i.e., trees cleared from approximately 3,021 acres; 1% of the total 260,000-acre YTA) with implementation of winter-clearing mandates.
Cultural Resources	No Effect: Because Alternative 1A has no direct or indirect effects on historic properties or Alaska Native resources, there is no potential for cumulative effects.	
Transportation and Traffic	Insignificant: Minor, temporary construction traffic increase; operational traffic unchanged.	Insignificant: Minor increases in training and construction traffic. Easily accommodated by the military road network without affecting civilian roadways.
Utilities	No Effect: The standalone utility project is evaluated entirely within the direct/indirect effects analysis.	No Effect: Foreseeable future projects (trails, mock village) do not require new utility infrastructure.
Hazardous Materials and Waste	Insignificant: Short-term hazardous material use in construction equipment; managed via strict SOPs and SPCC Plans.	Insignificant: Increased POL use. Managed independently for all projects via strict adherence to AR 200-1 and SPCC Plans.
Human Health & Safety	Insignificant: Temporary risks to trenching workers, managed via military and OSHA regulations.	Insignificant / Beneficial: Construction risks managed via OSHA/Army regulations. Completed projects yield long-term beneficial impacts by establishing a safer, controlled training environment.

6.0 SUMMARY OF PROPOSED ENVIRONMENTAL MANAGEMENT AND MITIGATIONS

Table 35 summarizes proposed environmental management and mitigation measures for the Preferred Alternative (Alternative 1A). This list excludes additional BMPs or mitigations that may be required later during permitting, agency consultations, or final design. To minimize environmental impacts, Alternative 1A was designed to maximize the use of the previously disturbed Husky DZ footprint. Land Use, Transportation, and Utilities are excluded from the table as they require no specific mitigations.

Table 35. Summary of Proposed Environmental Management and Mitigation Measures

Resource	Proposed Environmental Management and Mitigations
Air Quality	• Apply water to exposed soils and unpaved surfaces to control fugitive dust. • Limit vehicle speeds to 15 miles per hour or less on unpaved roads. • Conduct daily cleaning of public paved roads to remove tracked-out mud or dirt.
Noise	• Require working personnel wear hearing protection in accordance with safety regulations. • Restrict non-essential personnel from active construction areas.
Soil and Geological Resources	• Obtain mandatory Dig Permits and conduct 811 "locate requests" prior to excavation. • Leave the ground surface and vegetative mat intact wherever practicable. • Restrict mechanized grubbing to upland areas and direct construction footprints; in all other areas, flush-cut trees at the ground surface.
Water Resources	• Adhere to a project-specific SWPPP under an APDES CGP. • Obtain a CWA Section 401 Water Quality Certification from ADEC. • Obtain a CWA Section 404 DA Permit and adhere to required mitigation. • Install culverts for water crossings that are appropriately sized.
Biological Resources	• Adhere to management directives of the INRMP. • Schedule tree clearing outside of the primary migratory bird nesting time window (May 1 to July 15) where feasible. • Conduct pre-construction surveys for active nests to identify and avoid them if clearing during the nesting time window is unavoidable. • Install culverts in accordance with ADF&G Fish Passage Act requirements for fish-bearing waterbodies. • Implement practicable BMPs from the INRMP to prevent the spread of invasive species. • Make available to the public the salvaged timber.
Cultural Resources	• Cease work activities in the event of an inadvertent discovery of archaeological materials or human remains and follow applicable ICRMP protocols and state/federal law.
Hazardous Materials and Waste	• Require the contractor to develop a spill prevention and response plan. • Maintain readily available spill kits on-site during construction. • Contain immediately and remediate any release or spill in accordance with all applicable laws and regulations.
Human Health and Safety	• Ensure contractors comply with all AKOSH and federal OSHA standards. • Conduct clearance surveys before any excavation begins. • Require contractors to implement a stop-work order if concerning debris is identified.

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8.0 LIST OF PREPARERS AND CONTRIBUTORS

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