

# **Draft Environmental Assessment**

**Removal of Trees Intruding into Imaginary Flight Surfaces at  
Maxfield, Lakehurst, Joint Base McGuire-Dix-Lakehurst,  
New Jersey**

**November 2024**



*Prepared for: Joint Base  
McGuire- Dix-Lakehurst  
Department of the Air Force*

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## **Privacy Advisory**

This Environmental Assessment (EA) is being provided for public comment in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality NEPA Implementing Regulations (Title 40 Code of Federal Regulations [CFR] Parts 1500–1508), and Environmental Impact Analysis Process (EIAP) (32 CFR Part 989). The EIAP provides an opportunity for public input on Department of the Air Force's (DAF's) decision making, allows the public to offer input on alternative ways for the DAF to accomplish what it is proposing, and solicits comments on DAF's analysis of environmental effects.

Public input allows the DAF to make better-informed decisions. Letters or other written or verbal comments provided may be published in the EA. Providing personal information is voluntary. Private addresses will be compiled to develop a stakeholder inventory. However, only the names of the individuals making comments and their specific comments will be disclosed. Personal information, home addresses, telephone numbers, and email addresses will not be published in the EA.

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**COVER SHEET**  
**ENVIRONMENTAL ASSESSMENT**  
**REMOVAL OF TREES INTRUDING INTO IMAGINARY FLIGHT SURFACES AT**  
**MAXFIELD, LAKEHURST, JOINT BASE MCGUIRE-DIX-LAKEHURST,**  
**NEW JERSEY**

**Responsible Agency:** United States (U.S.) Department of the Air Force (DAF).

**Report Designation:** Draft Environmental Assessment (EA).

**Abstract:** This EA addresses the DAF's proposal to remove certain trees to maintain the approach-departure glide slope and transitional surfaces associated with airfield operations on runways 15/33 and 06/24 at Maxfield, Lakehurst, Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area encroach into airfield imaginary flight surfaces and violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. The Proposed Action is to cut down trees within the boundaries of JB MDL with heights that violate the criteria specified in UFC 3-260-01 for the approach-departure glide slope and transitional surfaces and pose a hazard to safe airfield operations.

The topics considered in the EA include biological resources, cultural resources, water quality, air quality, safety, and noise. The EA for this Proposed Action is prepared pursuant to the National Environmental Policy Act (NEPA); regulations implementing NEPA (Title 40 Code of Federal Regulations [CFR] §§ 1500–1508); and DAF's implementing regulation for NEPA, the Environmental Impact Analysis Process (32 CFR § 989, as amended). The DAF prepared the EA to assess the potential environmental consequences associated with implementation of the Proposed Action and No Action Alternative.

Written comments and inquiries regarding this document should be directed by mail to the JB MDL NEPA/EIAP Project Manager, 787 CES/CEIEA, 2404 Vandenberg Avenue, Joint Base McGuire-Dix-Lakehurst, NJ 08641, or by email to [catherine.brunson@us.af.mil](mailto:catherine.brunson@us.af.mil). Comments are requested by: January 3, 2025.

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## ABBREVIATIONS AND ACRONYMS

AFI	Air Force Instruction
DAFMAN	Department of Air Force Manual
ANSI	American National Standards Institute
API	Area of Potential Effects
BASH	Bird/Wildlife Airstrike Hazard
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CH <sub>4</sub>	Methane
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	equivalent emissions of CO <sub>2</sub>
CWA	Clean Water Act
DAF	Department of the Air Force
dB	Decibel
dBA	A-weighted decibel
DNL	day-night sound level
DoD	Department of Defense
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EO	Executive Order
ESA	Endangered Species Act
°F	degrees Fahrenheit
ft	feet/foot
GHG	greenhouse gas
HD	Historic District
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
IPaC	Information for Planning and Consultation
JB MDL	Joint Base McGuire-Dix-Lakehurst
LTA	Lighter-Than-Air
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding
msl	mean seal level
N <sub>2</sub> O	nitrous oxide

NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NJDEP	New Jersey Department of Environmental Protection
NLEB	northern long-eared bat
NOA	Notice of Availability
NO <sub>x</sub>	nitrogen oxides
NRHP	National Register of Historic Places
O <sub>3</sub>	Ozone
OSHA	Occupational Safety and Health Administration
PM <sub>10</sub>	particulate matter less than or equal to 10 microns in diameter
PM <sub>2.5</sub>	particulate matter less than or equal to 2.5 microns in diameter
PSD	Prevention of Significant Deterioration
SF	square feet
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO <sub>x</sub>	sulfur oxide
tpy	tons per year
TCB	tricolored bat
UFC	Unified Facilities Criteria
U.S.	United States
USC	United States Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USNVC	U.S. National Vegetation Classification
UXO	Unexploded Ordnance
VOC	volatile organic compounds



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## 1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

### 1.1 Introduction and Background

The Department of the Air Force (DAF) prepared this Environmental Assessment (EA) for the proposal to remove trees encroaching upon imaginary flight surfaces associated with runways 15/33 and 06/24 at Maxfield, Lakehurst, Joint Base McGuire-Dix-Lakehurst (JB MDL), New Jersey. This Draft EA analyzes the potential for significant environmental impacts associated with the Proposed Action and No Action Alternative.

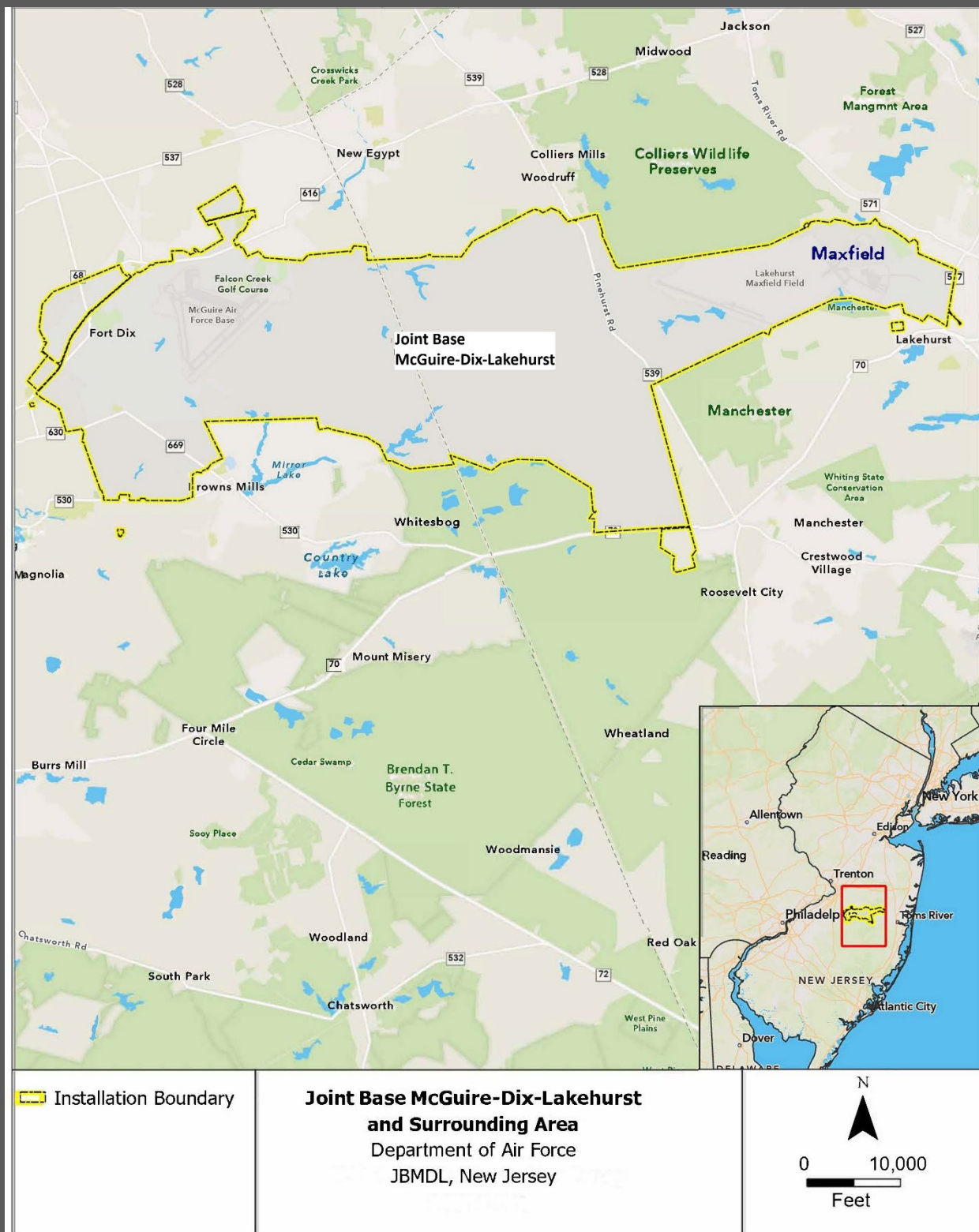
This EA is being developed in compliance with the National Environmental Policy Act (NEPA) (42 United States Code [USC] §§ 4321 et seq.), Council on Environmental Quality (CEQ) regulations (2024 promulgation), and the DAF's Environmental Impact Analysis Process (EIAP; 32 Code of Federal Regulations [CFR] § 989). The DAF is evaluating how the Proposed Action could be affected by or impact other federal and state regulatory and planning processes, such as the Clean Air Act (CAA), Clean Water Act (CWA), or National Historic Preservation Act (NHPA). In this analysis, the DAF has done its best to accurately predict potential impacts and anticipate future conditions. This NEPA analysis identifies environmental permits and management actions to prevent or minimize environmental impacts.

### 1.2 Location

JB MDL is located in south central New Jersey. The installation straddles Burlington and Ocean Counties and covers approximately 41,776 acres (**Figure 1.1**). In accordance with the recommendations of the Department of Defense (DoD) Base Realignment and Closure Commission in 2005, JB MDL was established through the merging of the former McGuire Air Force Base, Fort Dix Army Garrison, and the Naval Air Engineering Station at Lakehurst that became effective in 2009. The Lakehurst component of JB MDL is a 7,430-acre (3,009 hectare) property in Ocean County.

**Figure 1.2** indicates the location of the managed airfield environment that would be affected by the Proposed Action and is referred to throughout this EA as the “project area.” The project area consists of the easternmost airfield at JB MDL, Maxfield airfield, which is the primary airfield for the Naval Air Engineering Station at Lakehurst. Maxfield consists of two perpendicular crosswind runways designated as runways 15/33 and 06/24.

The Maxfield project area indicated in **Figure 1.2** is situated wholly within Ocean County, which lies within the New Jersey Pinelands region, and is approximately 10 miles west of the Atlantic Ocean. Approximately 477 acres within the project area is forested. Colliers Mills Wildlife Management Area directly borders the northern boundary of Lakehurst.



**FIGURE 1.1. LOCATION OF JOINT BASE MCGUIRE-DIX-LAKEHURST AND SURROUNDING AREA.**



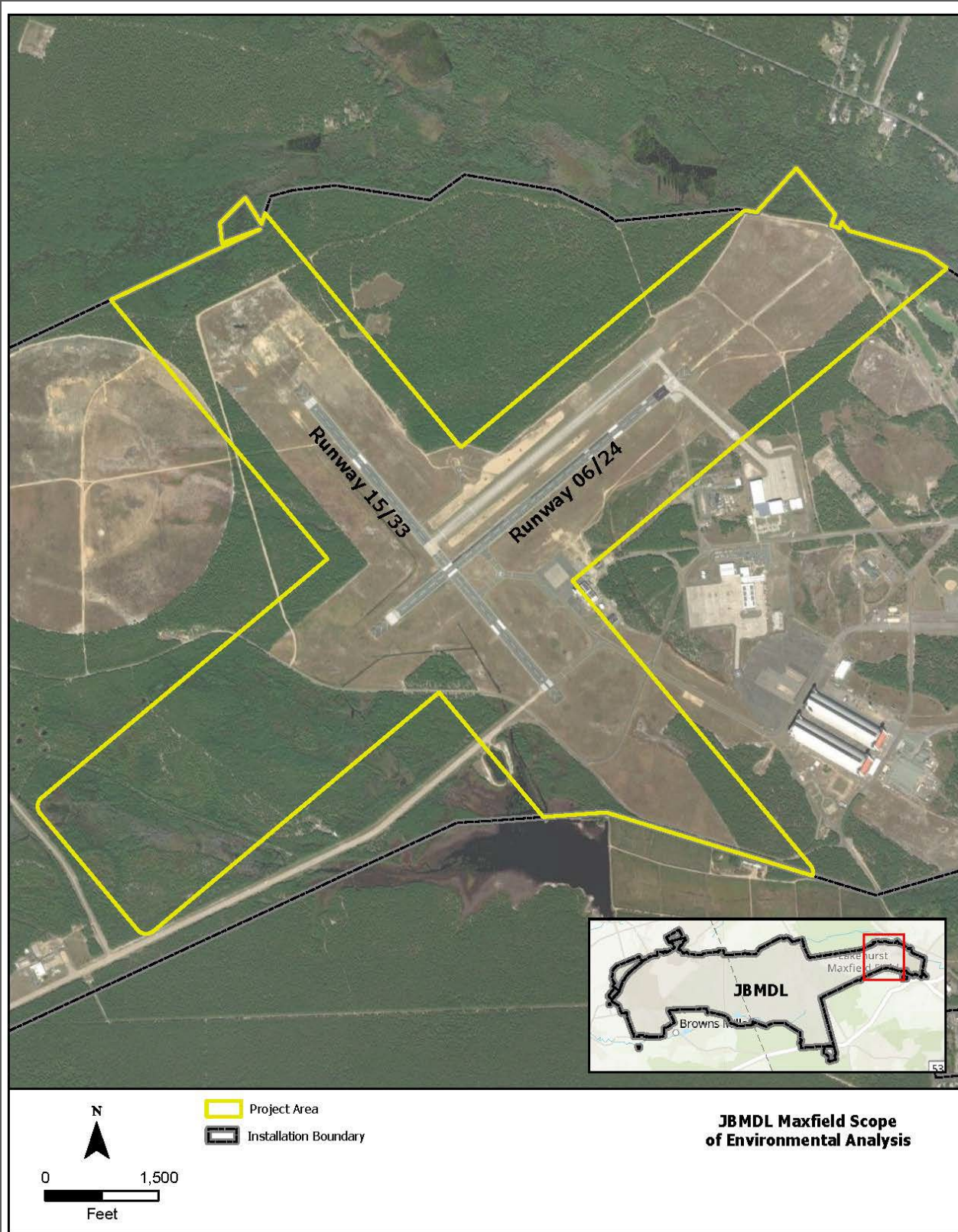
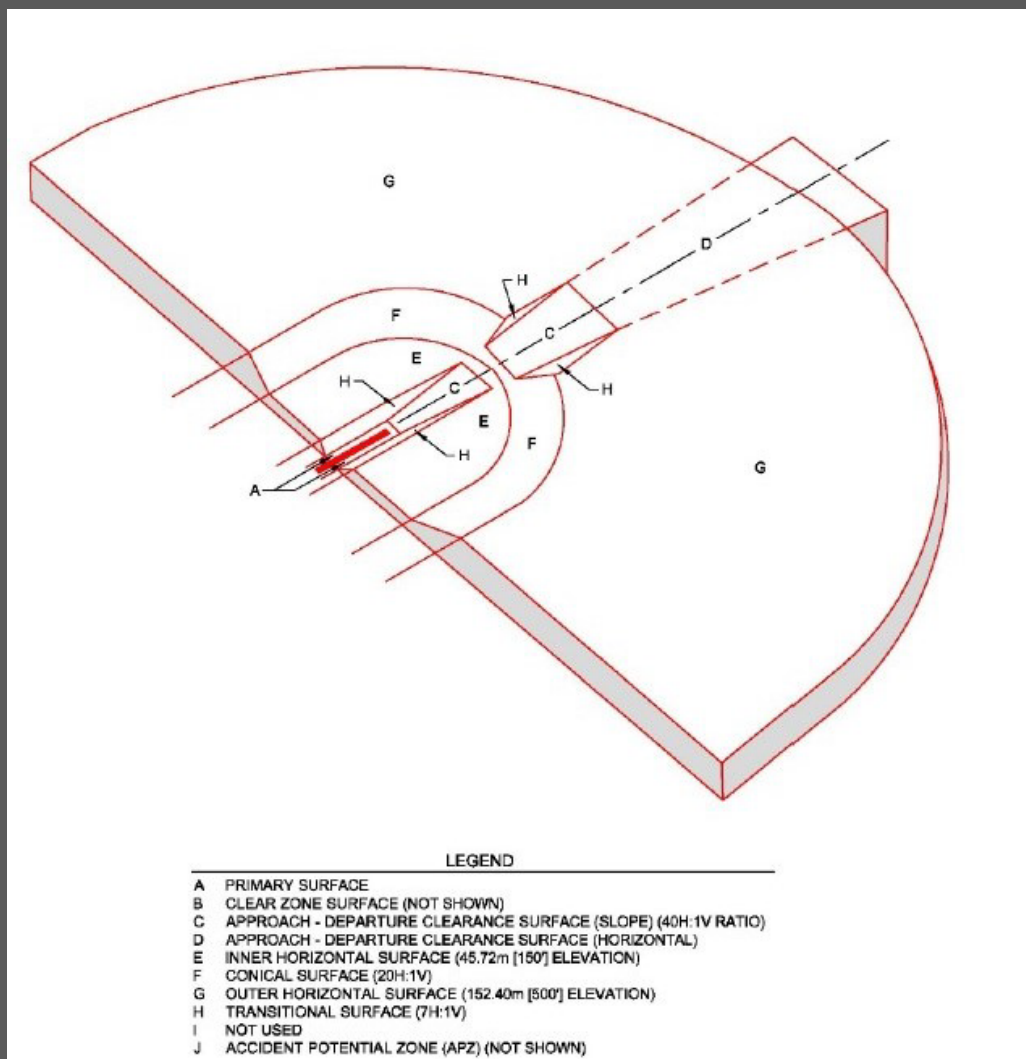


FIGURE 1.2. PROJECT AREA AT MAXFIELD AIRFIELD.

### 1.3 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to maintain safe clearance for the 40:1 approach-departure glide slope and 7:1 lateral transitional surfaces that are required for safe aircraft flight operations at Maxfield. The Proposed Action is needed because trees currently intrude into the airfield approach-departure glide slope and transitional surfaces and pose a hazard to safe airfield operations. **Figure 1.3** provides a diagram of the three-dimensional airspace projections, known as imaginary flight surfaces, that are required for safe takeoff and landing of aircraft from a runway. Tree heights below these flight surfaces must meet the standards of the Unified Facilities Criteria (UFC) 3-260-01 *Airfield and Heliport Planning and Design* for a Class A airfield. UFC 3-260-01 requires that tree heights must be at least 10 feet (ft) below the elevation of the airfield imaginary flight surfaces. Trees with heights that violate the criteria established in UFC 3-260-01 must be removed to ensure safe aircraft operations.



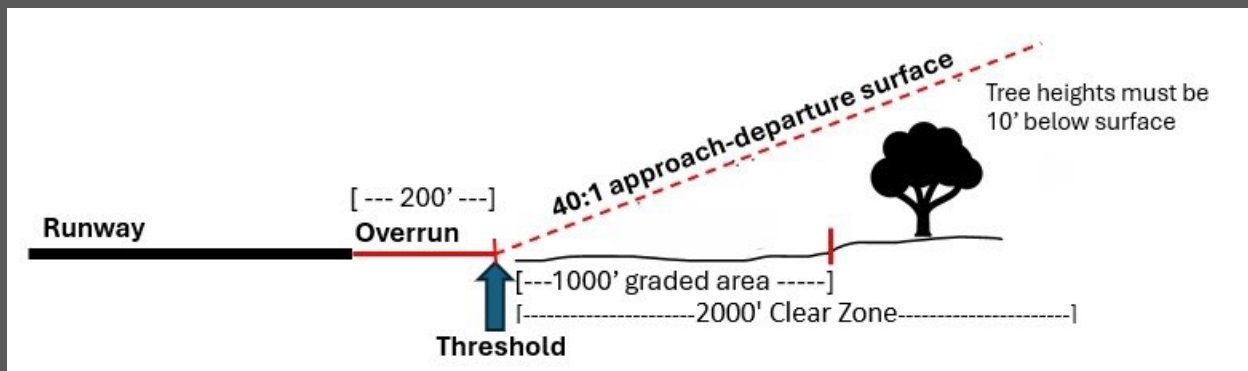
**FIGURE 1.3. DIAGRAM OF AIRFIELD IMAGINARY FLIGHT SURFACES FOR A CLASS A INSTRUMENT FLIGHT RULES RUNWAY.**



## 1.4 Scope of the Environmental Analysis

The extent of the Proposed Action is limited only to areas that are within the boundaries of JB MDL and beneath the imaginary flight surfaces for a Class A airfield. The required airfield clearance criteria for a Class A airfield are contained in UFC 3-260-01, which is herein incorporated by reference and can be found at <https://www.wbdg.org/ffc/dod/unified-facilities-criteria-ufc/ufc-3-260-01>. The airfield clearance criteria were used to identify the forested areas that may be impacted by the Proposed Action based upon distance from the runway and potential tree heights. The analysis area includes the area within which forest trees could have the potential to grow to a height that would intrude into the imaginary flight surfaces.

As described in UFC 3-260-01 and depicted in **Figure 1.4**, a runway threshold exists beyond the end of each runway as an overrun area that extends to a point 200 feet from the end of the active runway surface. A Clear Zone exists at the end of each runway at least 2,000 feet beyond the threshold wherein vegetation must be managed to UFC 3-260-01 specifications. The first 1,000 feet of the Clear Zone beyond the threshold is known as the “Clear Zone Graded Area” which serves as an accident potential zone that is graded, free of obstructions, and mowed to prevent the encroachment of woody vegetation. The 40:1 approach-departure flight surface begins at the end of each runway threshold and projects upward at a slope such that one additional foot of vertical clearance beneath the glide slope flight path is allowed for each increment of 40 ft of horizontal distance from the runway threshold. Required vertical clearance is based upon a comparison of the ground elevation at the runway threshold to the ground elevation at any point beneath the approach-departure glide slope.



**FIGURE 1.4. RUNWAY THRESHOLD AND 40:1 APPROACH-DEPARTURE IMAGINARY FLIGHT SURFACE FOR A CLASS A AIRFIELD.**

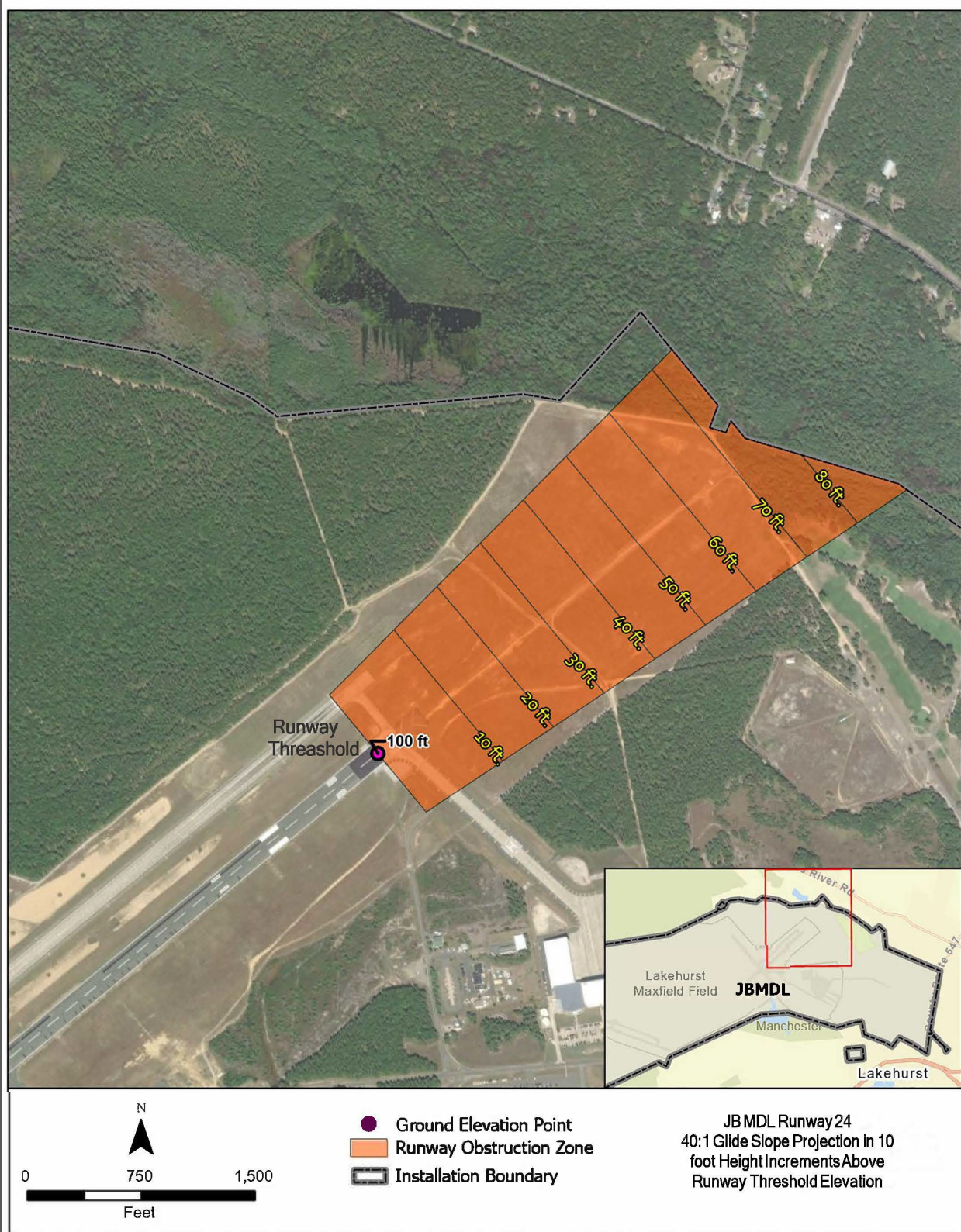
**Table 1.1** indicates the required vertical clearance between approach-departure flight surface and runway threshold elevation. Based upon the 40:1 glide slope requirement, the allowable vertical clearance increases with increased distance from the runway threshold.

In general, allowable tree height increases with distance from the runway threshold. However, the vertical clearance requirement is based upon the difference between the ground elevation at the runway threshold and the ground elevation at any point beneath the approach-departure glide slope. Therefore, the difference between the runway threshold elevation and ground elevation at a given point must be taken into account when determining allowable tree heights. **Figures 1.5 through 1.8** indicate the required clearance beneath the approach-departure flight surface based upon distance from the threshold.

**TABLE 1.1. VERTICAL DISTANCE BETWEEN RUNWAY THRESHOLD ELEVATION AND AIRFIELD 40:1 APPROACH-DEPARTURE GLIDE SLOPE FOR A CLASS A AIRFIELD.**

<b>Distance from runway threshold (located 200' beyond end of runway)</b>	<b>Vertical distance between runway threshold elevation and approach- departure flight surface</b>
400'	10'
800'	20'
1200'	30'
1600'	40'
2000'	50'
2400'	60'
2800'	70'
3200'	80'
3600'	90'
4000'	100'
4400'	110'

As an example, application of applying the tree height restrictions specified in UFC 3-260-01, if the runway threshold elevation is 100 feet above sea level as shown in **Figure 1.5**, and a tree is located at 2,000 feet from the threshold where the ground elevation is 95 feet above sea level, then a tree cannot be more than 45 feet in height. As shown in **Table 1.1**, the 40:1 glide slope is 50 feet above the runway threshold elevation at a distance of 2,000 feet. As the ground elevation at this point is at 95 feet, and airfield safety criteria requires tree heights be at least 10 feet below the glide slope, allowable tree height is calculated as  $(100-95) + (50-10) = 45$ .



**FIGURE 1.5. 40:1 APPROACH-DEPARTURE GLIDE SLOPE FLIGHT SURFACE 10-FOOT ELEVATION INCREMENTS FROM THE INDICATED RUNWAY THRESHOLD ELEVATION FOR MAXFIELD RUNWAY 06/24 (24 – NORTHEAST).**



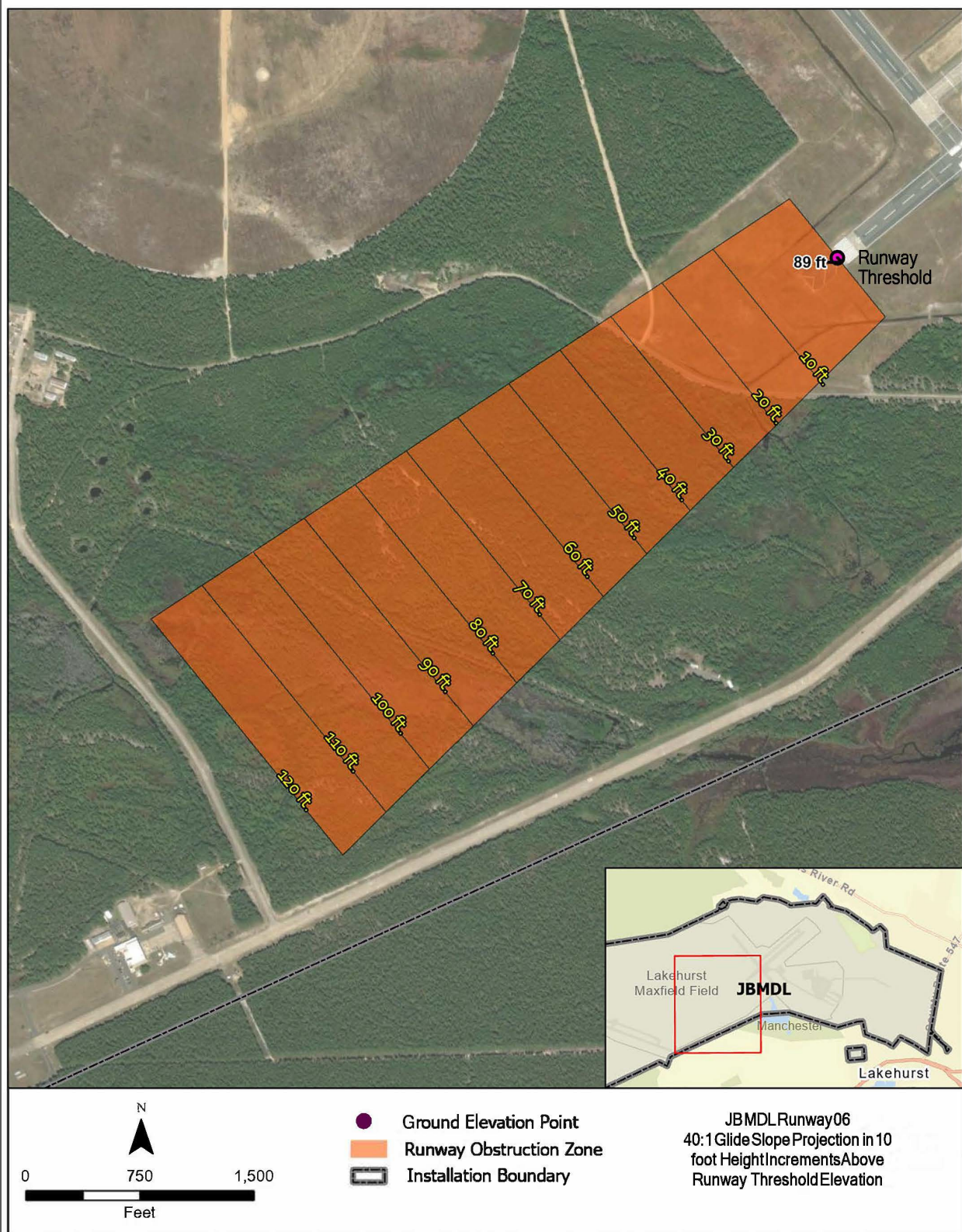
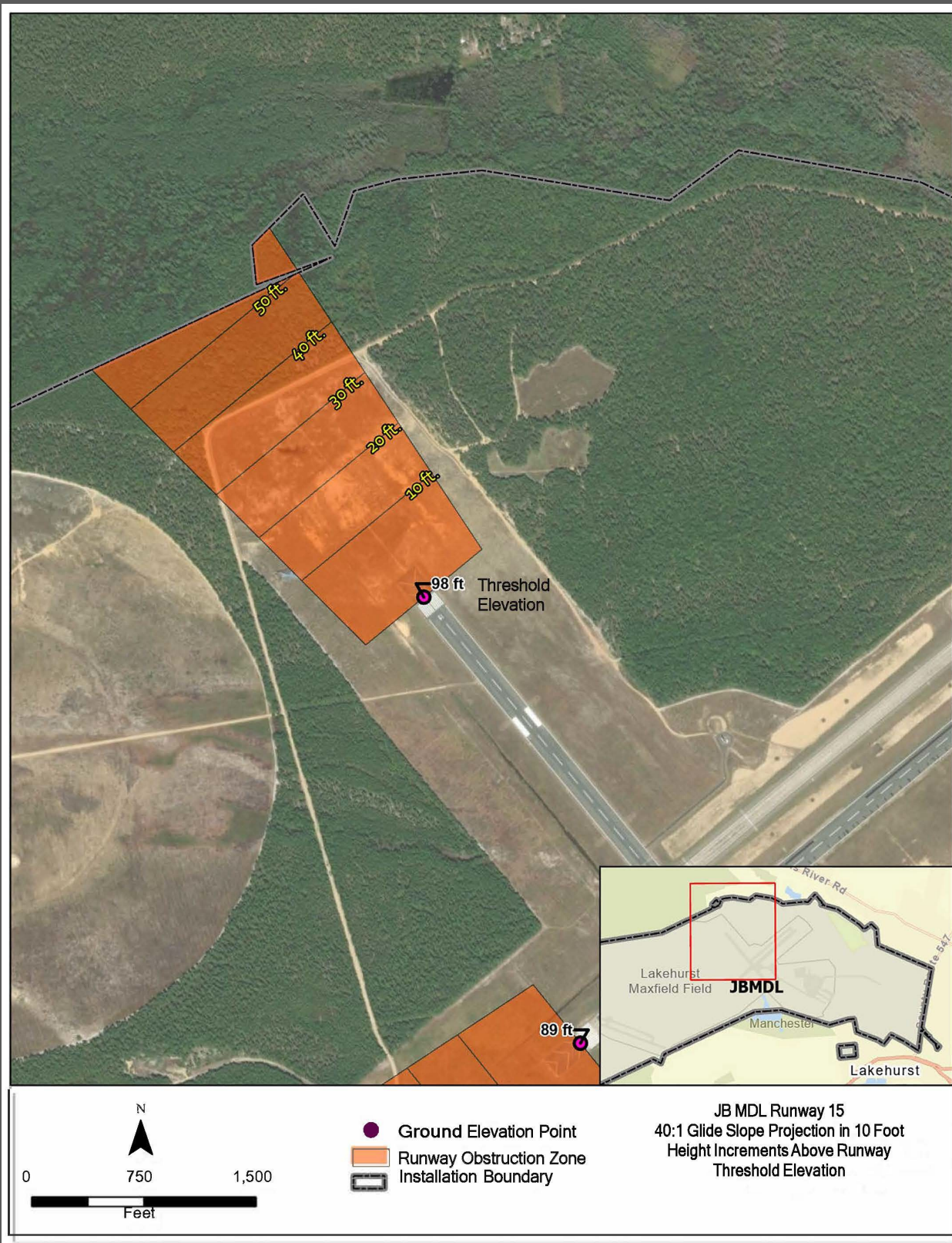


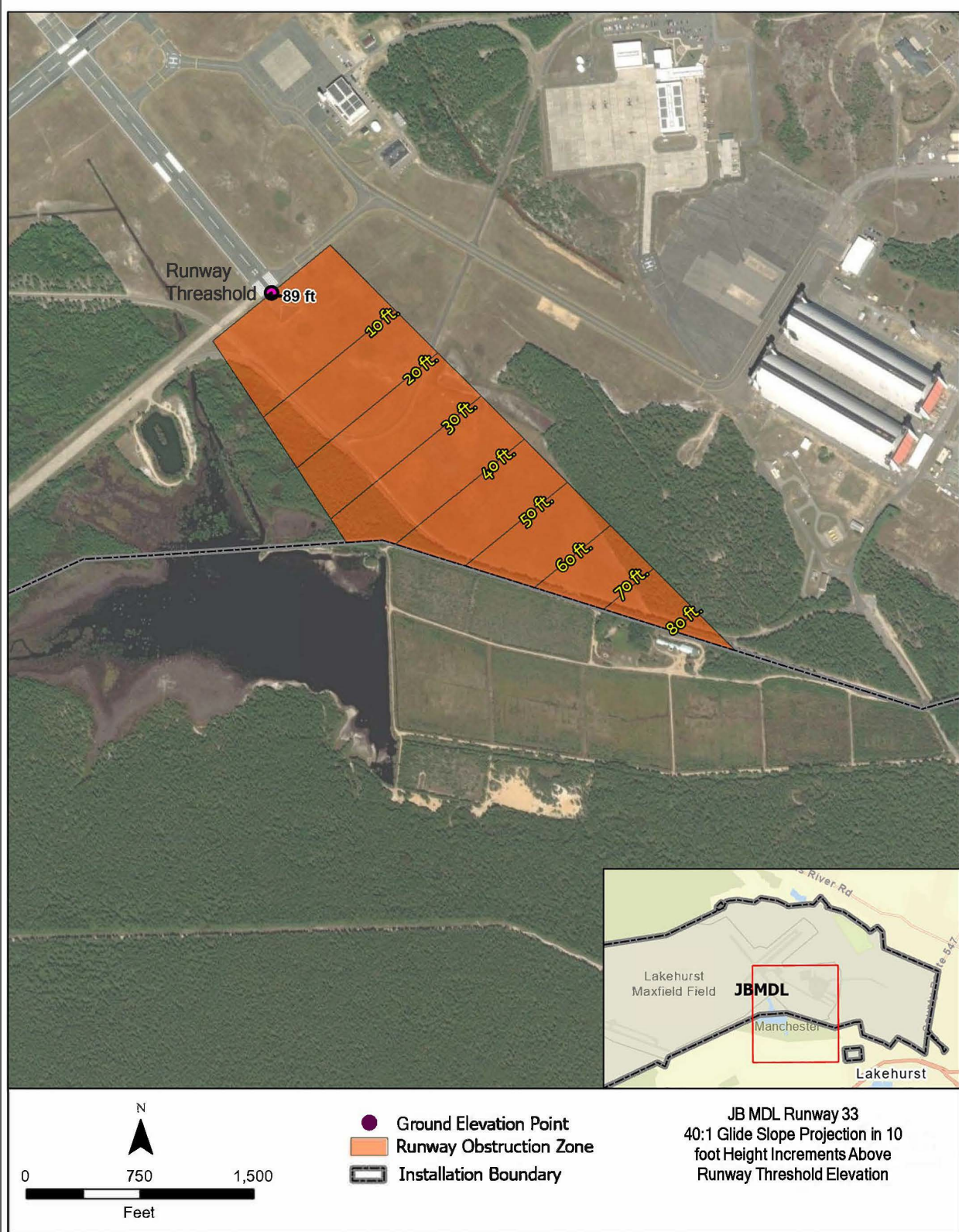
FIGURE 1.6. 40:1 APPROACH-DEPARTURE GLIDE SLOPE FLIGHT SURFACE 10-FOOT ELEVATION INCREMENTS FROM THE INDICATED RUNWAY THRESHOLD ELEVATION FOR MAXFIELD RUNWAY 06/24 (06 – SOUTHWEST).





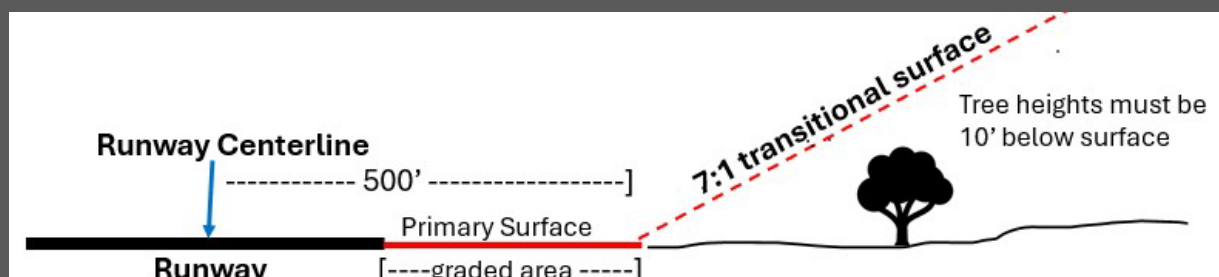
**FIGURE 1.7. 40:1 APPROACH-DEPARTURE GLIDE SLOPE FLIGHT SURFACE 10-FOOT ELEVATION INCREMENTS FROM THE INDICATED RUNWAY THRESHOLD ELEVATION FOR MAXFIELD RUNWAY 15/33 (15 – NORTHWEST)**





**FIGURE 1.8. 40:1 APPROACH-DEPARTURE GLIDE SLOPE FLIGHT SURFACE 10-FOOT ELEVATION INCREMENTS FROM THE INDICATED RUNWAY THRESHOLD ELEVATION FOR MAXFIELD RUNWAY 15/33 (33 – SOUTHEAST).**

In addition to the tree height restrictions beneath the 40:1 approach-departure glide slope, a 7:1 lateral transitional surface must be maintained free of obstructions on each side of a Class A runway as indicated in **Figure 1.9**. For each runway, the transitional surface begins at a point that is 500 ft from the runway centerline. Per UFC 3-260-01, tree heights must be maintained at a level that is at least 10 ft below the transitional surface elevation. The actual ground elevation beneath the transitional surface, as compared to the runway centerline elevation, must be taken into account when determining the maximum tree heights allowed at any location for adherence to vertical clearance criteria. **Table 1.2** indicates the transitional surface vertical clearance criteria based upon the 7:1 slope and distances from runway centerline.



**FIGURE 1.9. GRAPHIC DEPICTING LONGITUDINAL VIEW OF RUNWAY AND 7:1 TRANSITIONAL SURFACE FOR A CLASS A AIRFIELD.**

**TABLE 1.2. VERTICAL DISTANCE IN FEET BETWEEN THE RUNWAY CENTERLINE ELEVATION AND AIRFIELD TRANSITIONAL SURFACE FOR A CLASS A AIRFIELD.**

Horizontal Distance from Runway Centerline	Distance from Beginning of Lateral Clearance Zone at 500'	Vertical Distance Between Runway Elevation and 7:1 Transitional Surface
570'	70'	10'
640'	140'	20'
710'	210'	30'
780'	280'	40'
850'	350'	50'
920'	420'	60'
990'	490'	70'

## 1.5 Federal Permits, Licenses, and Other Authorizations

**Table 1.3** presents a summary of federal permits, licenses, or other authorizations applicable to the Proposed Action.

**TABLE 1.3. SUMMARY OF APPLICABLE FEDERAL PERMITS, LICENSES, AND CONSULTATIONS.**

Requirement	Agency	Status of Requirement
ESA, Section 7, Consultation for Federally Listed Species	USFWS	The DAF is conducting informal consultation with USFWS. See <b>Section 3.2</b> for additional information.
NHPA, Section 306108 (36 CFR § 800)	New Jersey SHPO	The DAF is consulting with the New Jersey SHPO and federally recognized tribes for the undertaking. See <b>Section 3.3</b> for additional information.

Key: ESA = Endangered Species Act; SHPO = State Historic Preservation Officer; USFWS = United States Fish and Wildlife Service

## 1.6 Public and Agency Review

Because the project area coincides with floodplains and wetlands, it is subject to the requirements and objectives of Executive Order (EO) 11988, *Floodplain Management* and EO 11990, *Protection of Wetlands*. The DAF notified federal, state, and local agencies; federally recognized Tribes; nongovernmental organizations; and interested individuals, through letters and newspaper notices, of the Proposed Action, the intent to prepare an EA, and that the Proposed Action would occur in a floodplain and wetlands. The early notices solicited public and agency comment on the Proposed Action and any practicable alternatives. **Appendix A** provides a list of the agencies notified and the early coordination letters and responses received.

A Notice of Availability (NOA) of the Draft EA and Draft Finding of No Significant Impact (including Finding of No Practicable Alternative statement) is being published in local newspapers announcing the availability of the Draft EA for review at the Ocean County Public Library, Manchester Branch and on the JB MDL website at <https://www.jbmdl.jb.mil/Home/Public-Affairs/>. The NOA invites public and agencies to review and comment on the Draft EA. Concurrent with the publication of the NOA, DAF is distributing notification letters to the project distribution list in **Appendix A** requesting review and comment on the Draft EA and Draft Finding of No Significant Impact. This Section will be updated in the Final EA following completion of the Draft EA public review period.



## 2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

### 2.1 Proposed Action

The DAF and JB MDL propose to remove trees on installation property that encroach upon imaginary surfaces associated with runways 15/33 and 06/24 at Maxfield, Lakehurst, JB MDL to satisfy the purpose of and need for the Proposed Action as described in **Section 1.1**. Tree heights below airfield imaginary flight surfaces must meet the standards of UFC 3-260-01, which requires that tree heights must be at least 10 ft below the elevation of the airfield imaginary flight surfaces as defined by the runway Class designation.

### 2.2 Selection Standards and Screening Criteria

In accordance with 32 CFR § 989.8(c), selection standards are established as an efficient mechanism for identifying, comparing, and evaluating viable alternatives. These standards are developed to align with the purpose and need of the Proposed Action and address relevant mission, environmental, and safety considerations. The following selection standards were utilized to identify reasonable alternatives for analysis in this EA:

- Airfield safety criteria
- UFC 3-260-01 standards compliance
- Compliance with environmental laws and regulations
- Economic and logistic feasibility
- Aesthetically acceptable

Alternatives that failed to meet any one of the selection standards were insufficient to meet the project purpose and need and therefore were not considered further in the EA.

### 2.3 Detailed Description of Alternatives

This EA analyzes two alternatives: the Proposed Action (Preferred) and a No Action Alternative. **Section 2.4** discusses other alternatives that were considered but dismissed from detailed analysis and explains why those alternatives were not carried forward.

#### 2.3.1 Proposed Action Alternative (Preferred)

The Proposed Action is to selectively cut trees that encroach upon imaginary flight surfaces of the respective runways to manage tree heights in accordance with glide slope and lateral clearance criteria specified in UFC 3-260-01. Tree heights need to be at least 10 ft below the imaginary flight surfaces in accordance with the glide slope and lateral clearance criteria for a Class A runway. Selective forest management would be utilized to identify and cut down any tree with a height that violates the tree height criteria specified in UFC 3-260-01.

Based upon the criteria indicated in **Table 1.1** and **Table 1.2**, the number of trees required to be cut down would diminish with increasing distance from the runway threshold. Cut trees adjacent to roads and cleared areas would be removed to mitigate any negative aesthetic effects caused by tree debris. Cut trees not visible from the forest edge would be left in place and either mulched or cut into pieces so that all branches and leaf debris would be at ground level to facilitate natural decomposition. Tree stumps for cut trees would be less than 10 inches in height and left in place.

No conversion of forest land to non-forest conditions would occur. The proposed tree removal would favor the dominance of native low-growing and slow-growing tree and shrub species in the long term, which are desirable species for retention in the forest area beneath the airfield imaginary flight surfaces. Future forest management practices would remove tall-growing trees when they violate airfield imaginary flight surfaces.

The Proposed Action would meet the purpose and need for the Proposed Action and the selection standards indicated in **Section 2.2**. The DAF has identified the Proposed Action as the Preferred Alternative.

### 2.3.2 No Action Alternative

The NEPA implementing regulations (40 CFR § 1502.14(c)) require the analysis of a No Action Alternative, which provides a benchmark that enables decision-makers to compare the magnitude of the environmental effects to a proposed action and alternatives. Under the No Action Alternative, the proposed tree removal beneath airfield imaginary surfaces would not occur and the integrity of the airfield approach-departure glide slope and transitional surfaces, as indicated in **Figure 1.4** and **Figure 1.9**, would not be maintained. The trees would continue to be in violation of airfield approach-departure glide slope and transitional surface criteria, and Maxfield would not meet the standards of UFC 3-260-01. Trees would continue to pose a hazard for safe airfield operations. The No Action Alternative will be used to analyze the consequences of not undertaking the Proposed Action and will serve to establish a comparative baseline for analysis.



## 2.4 Alternatives Considered but Eliminated from Further Consideration

A detailed review of each alternative considered in comparison to the selection standards, as described in **Section 2.2**, is provided in **Sections 2.4.1 through 2.4.3**.

### 2.4.1 Tree Topping

Tree topping is a practice where tree trunks are cut at a designated height, leaving a large wound. Under this alternative, the top of the tree would be cut off at a designated height dictated by the glide slope requirements and the tree would be left in place with a reduced height. This practice has been condemned by the International Society of Arboriculture, U.S. Forest Service, and the State of New Jersey due to the negative effects on tree health as indicated the publication *How to Prune Trees*. Research has indicated that topping of trees stresses the tree such that the tree is more susceptible to insects and diseases (see *Don't Top Trees*: <https://extension.psu.edu/dont-top-trees>). Evidence from past tree topping activities at Joint Base Andrews in Maryland indicates that some topped trees will die, and that topped tree stems of some hardwood tree species, such as yellow poplar (*Liriodendron tulipifera*) and red maple, will grow new terminal leaders that would

eventually encroach again into airfield imaginary flight surfaces. Additionally, tree topping is an expensive practice that poses a significant safety risk for tree workers that would need to climb trees with chain saws and powered saws to cut and fell treetops. Therefore, this alternative does not meet airfield safety compliance, environmental compliance, or economic and logistic feasibility criteria.

#### **2.4.2 Clearcut**

Under this alternative, all trees in the project area would be cut down regardless of tree heights. As there is a limited commercial market for wood products in the region, most cut trees would be left on the ground to decay naturally over time. Clearcutting can create an aesthetically unpleasing forest viewshed and can also result in the rapid regrowth of undesirable tree species and other undesirable vegetation in the open areas created. Natural tree regrowth in a clearcut forest area in this region would tend to be dominated by early-successional fast-growing “pioneer” tree species due to open full sunlight growing conditions. Large open areas exposed to full sunlight would be conducive for the establishment of undesirable invasive plant species (Snyder et al. 2004). Additionally, vegetation regrowth in a clearcut forest areas may create a habitat that favors birds, deer, and other wildlife that can increase the Bird/Wildlife Airstrike Hazard (BASH) risk for the airfield as indicated in DAF Instruction 91-212 (see <https://www.safety.af.mil/Divisions/Aviation-Safety-Division/BASH/>). Therefore, this alternative does not meet safety and aesthetic goals or economic and logistic feasibility criteria.

#### **2.4.3 Convert Forest to Airfield Managed Turf**

This alternative would include clearcutting; grubbing with heavy machinery to remove stumps; burning, piling, or transporting woody debris to landfills; cultivating the soil; planting of a grass monoculture; and managing turf grass by mowing to BASH specifications within the project area. The resulting grassland would require regular mowing to prevent woody plant regrowth. UFC 3-360-01 only requires managed turf clear of trees and other vertical obstructions in the designated airfield Clear Zone graded area and lateral clearance areas. The Clear Zone graded area extends 1,000 ft beyond the end of the runway wherein a consistent ground level is maintained to prevent damage to aircraft that may overrun the runway. Beyond the 1,000-ft graded area, trees and other vegetation are allowed as long as vegetation height does not encroach into airfield imaginary flight surfaces. Conversion of additional forest area beyond the current Clear Zone graded area to managed turf would be an expensive process that creates significant soil disturbance and poses numerous environmental concerns such as the conversion of forest wetlands in the project area to a cleared area. In addition to the potential negative effects on wetland ecology, a cleared wetland area creates an attraction for waterfowl that could increase BASH risk (FAA, USDA 2005). Therefore, this alternative does not meet the airfield safety compliance, environmental compliance, or economic and logistic feasibility selection criteria.

### **2.5 Alternatives Carried Forward for Analysis**

Based on an evaluation using the selection criteria, the DAF determined that only the Proposed Action meets the five selection standards listed in **Section 2.2** and will be carried forward for analysis. Tree Topping, Clearcut, and Convert Forest to Airfield Managed Turf alternatives were considered but eliminated from further consideration because they do not meet the airfield safety compliance, regulatory compliance, environmental compliance, economic and logistic feasibility, and aesthetics selection standards.

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### 3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Section 3 describes the environmental resources and conditions most likely to be affected by the Proposed Action and provides information to serve as a baseline from which to identify and evaluate potential environmental impacts. Baseline conditions represent current conditions. Section 3 also describes the potential environmental impacts of the Proposed Action on the baseline conditions of each environmental resource.

#### 3.1 Resources Dismissed from Detailed Analysis in the EA

Based on the scope of the Proposed Action, environmental resources with negligible to no impacts were identified and will not be carried forward for detailed analysis in the EA. The following describes those resource areas and why they were eliminated:

***Socioeconomics and Environmental Justice.*** Tree removal associated with the Proposed Action would likely be conducted through a contract to a private business and result in temporary increases in payroll tax revenue from hired workers and the purchase of materials and goods in the local area. Because these beneficial impacts would not cause appreciable changes in the local economy or affect the quality of life in local communities, socioeconomics and environmental justice are not carried forward for detailed analysis.

***Utilities and Infrastructure.*** The Proposed Action would have no effects on the existing runways, taxiways, utilities, and other built infrastructure at JB MDL. The Proposed Action would have no potential to interrupt or degrade utility service to existing facilities or customers. Because the Proposed Action does not affect built infrastructure, utilities and infrastructure are not carried forward for detailed analysis.

***Transportation.*** Tree removal associated with the Proposed Action would not change the JB MDL local or regional transportation network. Work crews required to cut down or remove trees would access the installation with licensed vehicles on the existing JB MDL local and regional roads system and airfield taxiways, and there would be no noticeable change in traffic volume on these roads. No heavy equipment would operate on existing pavements. No new roads would be required to access the areas in which trees are removed. Because the Proposed Action does not affect the existing transportation infrastructure, transportation is not carried forward for detailed analysis.

***Land Use.*** The Proposed Action would take place wholly within the JB MDL airfield area as indicated in **Figure 1.4**. Paved areas within the airfield consist of runways, taxiways, aircraft parking apron, and flightline facility access. Areas immediately adjacent airfield pavements are regularly mowed. Forest areas on the perimeter of the mowed areas would remain as forest. Because the Proposed Action does not change any of the current land use at JB MDL, land use is not carried forward for detailed analysis.

***Earth Resources.*** The Proposed Action would have no effects on geology, topography, and soils within the project area. The Proposed Action would not include stump removal or ground disturbance, and therefore would not disturb soils within the airfield or alter the existing airfield topography. The existing ground topography at Maxfield currently meets the requirements specified in UFC 3-260-01 and would not be altered by the Proposed Action. Because the Proposed Action would not affect earth resources, geology, topography, and soils are not carried forward for detailed analysis.

**Hazardous and Toxic Materials and Waste.** The Proposed Action would not involve the use of any toxic materials and would not result in the generation of any hazardous waste. Petroleum products, such as diesel fuel and gasoline, would be used in vehicles and equipment supporting tree removal but would be contained within the vehicles and not stored on site. The felling of trees that intrude into airfield imaginary flight surfaces would generate tree debris in the form of logs, treetops, limbs, and other leaf debris (slash). All slash from felled trees that are not visible from an existing paved roadway would be cut into pieces and distributed on the forest floor (lopping) to reduce fire hazard and to facilitate contact with the soil and soil organisms to hasten natural decomposition. Slash generated within sight of a paved roadway would either be pulled to a distance of more than 100 ft from the roadway or ground into mulch using a woodchipper or tub grinder. Any mulch created by chipping operations associated with the Proposed Action would either be left in place or used as ground cover within installation landscape grounds. Because the Proposed Action would not affect or generate hazardous or toxic materials and waste, these resources are not carried forward for detailed analysis.

## **3.2 Biological Resources**

### **3.2.1 Affected Environment**

The JB MDL Integrated Natural Resources Management Plan (INRMP) provides a detailed description of the natural resources on the installation and provides goals and objectives indicating how those resources are to be managed. This EA incorporates by reference the JB MDL INRMP, which was prepared in accordance with the requirements of the Sikes Act (16 U.S.C. § 670a) by the DAF in collaboration with the U.S. Fish and Wildlife Service (USFWS) and New Jersey Division of Fish and Wildlife, and was approved by signature from those agencies and the JB MDL command in December 2021.

#### **3.2.1.1 Vegetation**

A comprehensive survey of the vascular plant species growing on the installation was conducted in 2021 and 2022 and published in the document entitled “*Floral Survey 2021-2022, Joint Base McGuire-Dix-Lakehurst, New Jersey, Project # F21AC01063-00*,” which is herein incorporated by reference. The floristic survey covered all physically and biologically unique habitat types at Lakehurst with the intent of collecting all terrestrial and, when accessible, aquatic vascular taxa. Appendix E of the JB MDL INRMP lists the plant species known to occur on the installation.

Of the total of 41,776 acres on JB MDL, 29,311 are wooded, which includes 24,609 acres on Dix, 4,230 acres on Lakehurst, and 324 acres on McGuire. Within the project area shown in **Figure 1.4**, 477 acres are forested. The additional lands within the project area consist of airfield pavements, structures, and maintained grasslands surrounding the airfield pavements. Per UFC 3-260-01, the Clear Zone and Primary Surface areas must be maintained as open areas free of trees and unauthorized obstructions. These areas are maintained as grasslands that are regularly mowed in accordance with DAF Instruction 91-212.

JB MDL is within the New Jersey Pine Barrens ecological region. The Pine Barrens region represents the historically forested area of the southern and central New Jersey coastal plain characterized by sandy, acidic, nutrient-poor soil, and the ubiquitous pine tree cover. Historically, the landscape included some open “barrens” that were created by frequent fires that prevented the invasion of woody species. In the absence of fire, many barren areas have reverted to closed-canopy forest. Due to the historic frequency of fires, plant species within the Pine Barrens

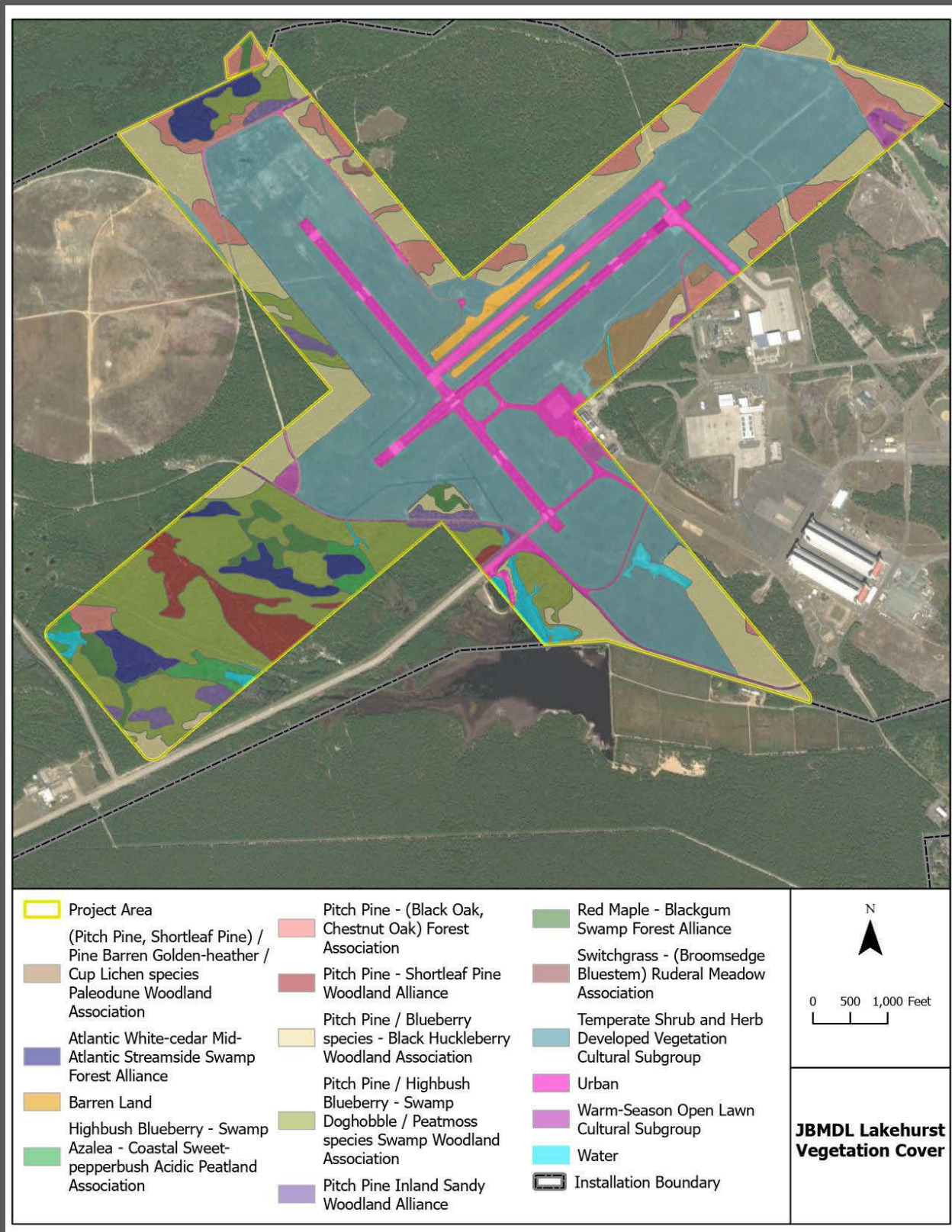
ecosystem include many species that have adaptations that permit them to survive or regenerate well after a fire.

**Figure 3.1** indicates the vegetation cover types found within the project area. **Table 3.1** lists the vegetation types within the project area classified in accordance with the U.S. National Vegetation Classification (USNVC) hierarchy for vegetation classification on federal lands. Pine forests on dry sandy upland sites in the project area are dominated by pitch pine (*Pinus rigida*) with some shortleaf pine (*Pinus echinata*). Trees within the project area that violate airfield criteria are primarily pitch pine and shortleaf pine. A variety of hardwood species including some low-stature oak species such as blackjack oak (*Quercus marilandica*), bear oak (*Quercus ilicifolia*) and dwarf chinaquapin oak (*Quercus prinoides*) are integrated throughout the pine stands.

Mixed pine-oak and hardwood forest types occur on soils with better moisture regimes. Dominant trees within these forest types include black oak (*Quercus velutina*), white oak (*Quercus alba*), scarlet oak (*Quercus coccinea*), chestnut oak (*Quercus prinus*), black cherry (*Prunus serotina*), and some hickories (*Carya* spp.). Red maple (*Acer rubrum*) and Atlantic white cedar (*Chamaecyparis thyoides*) can occur in forested wetland areas. Flowering dogwood (*Cornus florida*) and sassafras (*Sassafras albidum*) can occur as understory trees.

The forest understory within the project area is dominated by a variety of heath type shrubs including highbush blueberry (*Vaccinium corymbosum*), dangleberry (*Gaylussacia frondosa*), black huckleberry (*Gaylussacia baccata*), early lowbush blueberry (*Vaccinium pallidum*), sweet pepperbush (*Clethra alnifolia*), swamp azalea (*Rhododendron viscosum*), and mountain laurel (*Kalmia latifolia*). Leaf litter is the primary ground cover sporadic growth of lichens, mosses, forbs and graminoids.





**FIGURE 3.1. VEGETATION COVER TYPES AS PER THE U.S. NATIONAL VEGETATION CLASSIFICATION HIERARCHY FOUND WITHIN THE PROJECT AREA. SOURCE: JOINT BASE MCGUIRE-DIX-LAKEHURST INRMP (2018).**



**TABLE 3.1. ACRES OF USNVC VEGETATION COVER TYPES WITHIN THE PROPOSED ACTION PROJECT AREA. SOURCE: JOINT BASE MCGUIRE-DIX-LAKEHURST INRMP (2018).**

<b>USNVC Cover Type</b>	<b>Acres</b>
Pitch Pine, Shortleaf Pine / Pine Barren Golden-Heather / Cup Lichen species Paleodune Woodland Association	14.40
Pitch Pine - Shortleaf Pine Woodland Alliance	26.59
Pitch Pine / Blueberry species - Black Huckleberry Woodland Association	160.15
Pitch Pine / Highbush Blueberry - Swamp Doghobble / Peatmoss species Swamp Woodland Association	145.87
Pitch Pine Inland Sandy Woodland Alliance	15.51
Pitch Pine - (Black Oak, Chestnut Oak) Forest Association	65.30
Atlantic White-cedar Mid-Atlantic Streamside Swamp Forest Alliance	31.54
Red Maple - Blackgum Swamp Forest Alliance	17.45
Highbush Blueberry - Swamp Azalea - Coastal Sweet-pepperbush Acidic Peatland Association	13.32
Switchgrass - (Broomsedge Bluestem) Ruderal Meadow Association	1.11
Temperate Shrub and Herb Developed Vegetation Cultural Subgroup (mowed)	494.55
Warm-Season Open Lawn Cultural Subgroup (mowed)	8.82
<b>TOTAL VEGETATED ACRES</b>	<b>994.60</b>
Barren Land	12.87
Urban	86.92
Open Water	14.26
<b>PROJECT AREA TOTAL ACRES</b>	<b>1,108.66</b>

As indicated in the approved JB MDL INRMP, the installation has an active forest management program that conducts activities to maintain and enhance the ecological integrity of forested areas while supporting the military mission, to include manipulating the vegetation of the forest resource to meet management objectives. The objectives at JB MDL include: provide and improve training resources; reduce the risk of catastrophic wildfire; provide soil and watershed protection; provide wildlife habitat; protect rare and threatened and endangered species habitat; protect ecologically unique and sensitive natural areas; provide areas for outdoor recreation; and facilitate the sale and utilization of forest products where possible.

As indicated in Section 7.11 of the JB MDL INRMP, the prevention and control of invasive plant species is a significant component of the installation natural resources management program. EO 13112, *Invasive Species* defines an 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. Non-native invasive plant species in New Jersey include plants that have been used in agriculture or as ornamentals, or which were accidentally introduced, that have become problematic weed species that are now considered a leading threat to natural ecosystems and biodiversity. Invasive plants can displace native plants and may even change important natural processes. The NJDEP commissioned the report “*An Overview of Non-*

*indigenous Plant Species in New Jersey*” (Snyder and Kaufman 2004). This report lists, describes, and discusses controls for the 30 most invasive non-indigenous species. The *Overview of Non-indigenous Plant Species in New Jersey* publication and the *New Jersey Strategic Management Plan for Invasive Species* (2009) can be obtained from the New Jersey government website: <http://www.nj.gov/dep/njisc/>. A list of known problematic invasive, non-indigenous plant species identified by the NJDEP is provided in Appendix H of the JB MDL INRMP.

### 3.2.1.2 Wildlife

Fish and wildlife resources at JB MDL function as an integral part of the region's ecosystem. Existing populations are shaped by many environmental factors including vegetation, fire, moisture regimes, physical barriers, water quality, and human activity. Wildlife that may occur within the project area are those typically found within the New Jersey Pine Barrens. A primary goal of the JB MDL INRMP is to maintain and enhance habitats that support a full spectrum of native Pinelands wildlife species. Appendix E of the JB MDL INRMP lists the fish, birds, mammals, herpetofauna, and invertebrates known to occur on the installation.

Large mammals that may occur within the project area include white-tailed deer, coyotes, and possibly bobcats. White-tailed deer are plant-eaters that have proliferated in the Pine Barrens region due to fragmentation of forests which creates openings that produce edible plants for deer.

The Pine Barrens region provides breeding, feeding, and nesting habitat for many bird species that inhabit this region of New Jersey. Forest areas harbor many songbirds and four owl species. Seven raptor species, to include the bald eagle and osprey, are known to occur. A variety of waterfowl, such as ducks, geese, herons, and egrets, inhabit wetland areas within the Pine Barrens region.

Amphibians documented on the installation include 11 frog species, 1 toad species, and 1 salamander. The Pine Barrens region is host to the endemic Pine Barrens tree frog which uses mostly intermittent ponds for breeding. Carpenter frogs are another characteristic Pine Barrens species, the presence of which indicates a healthy aquatic habitat. Thirteen species of snakes, six turtle species, and the northern fence lizard are reptiles known to inhabit JB MDL. The northern pine snake is a New Jersey State threatened species known to occur on the installation.

Twenty-one native fish species are known to occur on JB MDL. No open water perennial streams or ponds occur within the project area, and fish species are not expected to occur within the wetlands of the project area. The limited presence of fish species within isolated wetlands is due to the natural acidity of the water and high iron concentration. A pH below 5 typically limits the reproduction in most fish species.

### 3.2.1.3 Special Status Species

Special status species relevant to the Proposed Action addressed in this EA include those protected under the federal ESA, the Bald and Golden Eagle Protection Act of 1940 (BGEPA), and Migratory Bird Treaty Act of 1918 (MBTA). Special status species also include species listed as threatened, endangered, or as species of concern under applicable state laws or regulations.

Species listed as threatened or endangered in accordance with the ESA (16 USC §§ 1531-1544) are present on the installation. The USFWS's Information for Planning and Consultation (IPaC) system identified five federally listed threatened or endangered species and one species proposed for listing that could potentially occur within the project area. **Table 3.2** lists the IPaC results indicating the listed species that may potentially occur in the project area.

**TABLE 3.2. SPECIES LISTED AS THREATENED AND ENDANGERED UNDER THE ESA, AND CANDIDATE AND PROPOSED SPECIES FOR LISTING, THAT POTENTIALLY MAY OCCUR WITHIN THE PROJECT AREA AS DETERMINED BY THE USFWS IPAC SYSTEM.**

Species Name	Listing Status
Northern Long-eared Bat ( <i>Myotis septentrionalis</i> )	Endangered
Tricolored Bat ( <i>Perimyotis subflavus</i> )	Proposed
Bog Turtle ( <i>Glyptemys muhlenbergii</i> )	Threatened
American Chaffseed ( <i>Schwalbea americana</i> )	Endangered
Knieskern's Beaked-rush ( <i>Rhynchospora knieskernii</i> )	Threatened
Swamp Pink ( <i>Helonias bullata</i> )	Threatened

**Northern Long-Eared Bat (*Myotis septentrionalis*; NLEB) and Tricolored Bat (*Perimyotis subflavus*; TCB).** NLEB and TCB populations have declined dramatically due to a disease known as white-nose syndrome. As a result, NLEB and TCB are listed as federally endangered or proposed endangered, respectfully, under the ESA. Although there are many threats to these species, the predominant threat is the white-nose syndrome disease. White-nose Syndrome is caused by the fungus (*Pseudogymnoascus destructans*), resulting in mortality rates that exceed 90% in infected caves and mines.

The NLEB is a wide-ranging, federally endangered bat species found in eastern North America. White-nose syndrome was the main reason for listing the species as threatened under the ESA in 2015. On November 29, 2022, the USFWS published a final rule to reclassify the NLEB from threatened to endangered status.

The USFWS published a *Programmatic Biological Opinion and Final 4(d) Rule for NLEB and Activities Excepted from Take Prohibitions* on January 5, 2016, which stated that NLEB typically hibernates in caves or mines and spends the remainder of the year in forested habitats. The estimated hibernation season for the bats in New Jersey is considered to occur between November 15 and April 1 each year. Based upon the information in the Programmatic Biological Opinion, the USFWS assumes a 325-acre home range for the NLEB and recommends that tree removal activities only occur outside of the NLEB pup season (June 1 to July 31) and outside the active foraging season (April 1 to October 31). This avoidance measure is intended to minimize impacts to pups at roosts and to summer foraging habitat.

On September 13, 2022, the USFWS announced a proposal to list the TCB as endangered under the ESA. This bat species also faces extinction due to the impacts of white-nose syndrome. Similar to the NLEB, the TCB mates in the fall, hibernates in the winter, and emerges in the spring. TCB are one of the first bat species to enter hibernation in the fall, and the last to emerge in the spring. Female TCB exhibit high site fidelity, returning year after year to the same summer roosting locations. TCB primarily roost among live and dead leaf clusters within live or recently dead deciduous hardwood trees, but have been observed roosting during summer among pine needles. The USFWS assumes a 585-acre home range for the TCB based on the average from reported studies (Helms 2010; Wisconsin DNR 2018).

JB MDL used acoustic monitoring survey equipment to detect the presence of bat species on the installation in 2012, 2014, and 2017 based upon recordings of nighttime bat calls. The acoustic monitoring surveys encompassed 63 miles of roadway and trails on the Lakehurst and Dix areas

of JB MDL. A research team analyzed and reported data regarding bat species detected by the acoustical monitoring equipment. The 2012, 2014, and 2017 acoustical surveys detected the presence of TCB and NLEB.

In 2017, bat acoustical monitoring equipment was stationed at various sites within JB MDL between May and August to detect the presence of bat species (Schwab 2018). At Lakehurst, nine acoustical bat detectors were stationed at selected locations for multiple nights representing 817 total detector nights. A total of 84,067 bat passes were detected on Lakehurst during this period. Eight different bat species were confirmed in the data analysis. Confirmed species include big brown bat, eastern red bat, eastern small-footed bat, hoary bat, little brown bat, NLEB, silver-haired bat, and TCB. The acoustical surveys identified the presence of calls generated by NLEB along the southern border of the Lakehurst portion of JB MDL and on the northern border of the Dix portion of JB MDL. In 2018, a NLEB was discovered roosting on the side of an engineering building on the Lakehurst side of JB MDL.

Mist net surveys to capture and detect resident bat species were conducted at JB MDL in 2015, 2018, 2019, 2021, and 2024. Mist net surveys showed that big brown bats (*Eptesicus fuscus*) were by far the most commonly caught species in all mist net surveys. Mist net surveys in 2015, 2018, 2019 did not capture any NLEB or TCB (JB MDL INRMP). Mist netting conducted in 2021 by USFWS personnel captured two NLEBs and two little brown bats (*Myotis lucifugus*). One juvenile male little brown bat was fitted with a transmitter and tracked to a housing development on the McGuire area of the installation. One juvenile female NLEB was fitted with a transmitter and tracked to a roost tree on an Ocean County Lands Trust parcel where an emergence survey counted a total of 15 NLEBs. The 2024 mist net survey did not capture or detect NLEB and TCB within the project area.

**Bog Turtle (*Glyptemys muhlenbergii*).** The federally threatened bog turtle was previously known to occur within a restricted location of the Lakehurst area of JB MDL, where JB MDL natural resources staff discovered a bog turtle in 1988 and in 1993. However, no bog turtle sightings have occurred since that time, and no bog turtle sightings have ever occurred within or near the project area.

In 2004 and 2005, extensive surveys were conducted for this species on the Dix area, but no bog turtles were found. A 2004 survey on McGuire concluded that habitats for the bog turtle exist in the forested wetlands along North Run and its tributaries in the northeastern part of the McGuire area of JB MDL. An extensive bog turtle survey was conducted by Herpetological Associates in 2011 next to the McGuire airfield prior to clearing of all woody vegetation on the east side of McGuire runway 06/24. During this survey, the survey team investigated approximately 194 acres of wetlands and transitional areas associated with the designated clear zone and transitional surface areas of the McGuire airfield, but no turtles were found.

Bog turtles become active in late March to late April, depending upon seasonal weather conditions. Klemens (1990, 1993a) found New England bog turtles active from April 26 through September 26, with 85 percent of all observations occurring in May and June. Bog turtles generally retreat back into more densely vegetated areas to hibernate.

Bog turtles usually occur in small, discrete populations, generally occupying open-canopy, herbaceous wet meadows and fens with standing or slow-moving water bordered by wooded areas. Bog turtles may also occur in emergent and scrub/shrub wetland habitat. Bog turtles prefer areas with good sunlight and perennial saturation of portions of the soil. These wetlands are a mosaic of

micro-habitats that include dry pockets, saturated areas, and areas that are periodically flooded. Bog turtles depend upon this diversity of micro-habitats for foraging, nesting, basking, hibernation, and shelter. Although bog turtles are dependent upon suitable open-canopy wetlands for many of their ecological requirements such as foraging, reproduction, and thermoregulation, they also utilize more densely vegetated areas for hibernation and may be incidentally found in a wide variety of habitats when making long-distance seasonal movements (Buhlmann et al. 1997; Carter et al. 1999, 2000; Morrow et al. 2001).

Bog turtles require unfragmented riparian systems that are sufficiently dynamic to allow the natural creation of open habitat and sunny areas for thermoregulation. Historic fire regimes may have been essential for maintaining open wetland sites and controlling shade from woody encroachment. Unless disrupted by fire, beaver activity, grazing, or periodic wet years, open-canopy wetlands are slowly invaded by woody vegetation and undergo a transition into closed-canopy, wooded swamp forests that are unsuitable for habitation by bog turtles (Tryon and Herman 1990, Klemens 1993a, 1993b).

**American Chaffseed (*Schwalbea americana*).** American chaffseed is a federally endangered plant that requires a high fire-return interval or similar type of disturbance to persist within a forest ecosystem. American chaffseed is dependent on factors like fire, mowing, or fluctuating water tables to maintain the open to partly open conditions that it requires (USFWS 1995). Historically, the species existed on savannas and pinelands throughout the coastal plain and on sandstone knobs and plains inland where frequent, naturally occurring fires maintained these forest communities with open space between trees. Most of the surviving populations of this plant are in areas that are still subject to frequent fire. American chaffseed is not tolerant of deep shade and is usually found along the margins of forest or woodlands where sufficient light is available. Due to a lack of fire or other recent disturbance, the forests within the project area are currently densely stocked with near full tree crown closure and understory shrubs. For this reason, American chaffseed is not expected to occur within the project area, and the Proposed Action may benefit the establishment of this species by creating an open to partly open forest condition.

**Knieskern's Beaked-Rush (*Rhynchospora knieskernii*).** Knieskern's beaked-rush is a semi-perennial grass-like plant that was federally listed as a threatened species in 1991. Knieskern's beaked-rush is an obligate wetland species found only in New Jersey. The plant is found in open early successional wetland habitats adjacent to slow-moving streams in the Pinelands region. In the past, fire may have played an important role in creating and maintaining suitable habitat for Knieskern's beaked-rush. This species is also found in human-disturbed wet areas that exhibit similar early successional stages due to periodic disturbance from vehicles, mowing, or fire. These human-influenced habitats include abandoned borrow pits, clay pits, ditches, rights-of-way, and unimproved roads. Fruiting typically occurs from July to September.

Knieskern's beaked-rush is intolerant of shade and competition, especially from woody species, and is sometimes found on relatively bare substrate (USFWS 1993). The plant has been identified at the Jump Circle on the Lakehurst side of JB MDL located to the west of the project area. The Jump Circle is a parachute drop zone that undergoes mowing and prescribed burning to control woody plant encroachment. The burn/mowing cycle is rotated every year to control woody species from colonizing this area. Threats to Knieskern's beaked-rush include habitat loss from development, hydrologic modification, and other wetland modifications such as encroachment of woody vegetation into the open, sparsely-vegetated substrate preferred by this species for reproduction. Due to a lack of fire or other recent disturbance, the forests within the project area

are currently densely stocked with near full tree crown closure and dense understory shrubs. For this reason, Knieskern's beaked-rush is not expected to occur within the project area.

**Swamp Pink (*Helonias bullata*).** Swamp pink is federally listed threatened and a State-listed endangered plant species. Considered an obligate wetland species, swamp pink occurs in a variety of forested and scrub/shrub wetlands in New Jersey including: forested wetlands bordering meandering streamlets, headwater wetlands, sphagnum Atlantic white cedar or red maple swamps, and spring seepage areas. Specific hydrologic requirements of swamp pink limit its occurrence to wetlands that are perennially saturated, but not inundated by floodwater. The specialized habitat requirement of the plant has contributed to its rare occurrence and consequent decline of the species.

Swamp pink typically flowers from March through the middle of May. All known swamp pink colonies on JB MDL are within the training ranges on the Dix area of JB MDL. In December 2015, a Swamp pink colony was discovered in a stream section of Gaunt's Brook located on the JB MDL Dix Ranges. The original site was visited in May 2016 and two more colonies in the same stream system were identified. The 2016 count survey identified a total of 271 swamp pink plants, and a 2024 survey recorded 527 plants along Gaunt's Brook. Yearly monitoring of the known swamp pink area is conducted during the April/May timeframe to assess the health and numbers of the plant. No swamp pink plants have been documented within the project area nor within the Lakehurst area of JB MDL. The USFWS approved survey protocol is included in the JB MDL INRMP as Appendix L.

**Bald Eagle (*Haliaeetus leucocephalus*).** The Bald and Golden Eagle Protection Act (16 USC § 668-668c) prohibits harm or harassment to bald and golden eagles. In accordance with the JB MDL INRMP, bald eagle nesting activity is managed in consultation with the USFWS and in accordance with BGEPA regulatory guidance. The bald eagle also remains a state-listed species under the New Jersey Endangered and Non-game Species Conservation Act (N.J.S.A 23:2 A et seq.), which carries protection under the State Land Use Regulation Program. The State of New Jersey is currently reviewing the listing status of this species.

The JB MDL airfields are regularly patrolled by a wildlife biologist to identify and address bird activity that may pose a strike hazard to aircraft. No bald eagle activity currently occurs near the Maxfield airfield. In 2018, a bald eagle nest was discovered approximately 1,400 feet from the southwest end of the Maxfield airfield Runway 6. Due to the close proximity of the nest to the runway, and the potential for a BASH incident that could affect the safety of flight crews and eagles (see **Section 3.6.1**), JB MDL natural resources staff obtained a USFWS nest depredation permit in accordance with 50 CFR § 22 to remove this nest by cutting down the host tree during the nesting off-season. A nesting pair of bald eagles existed between 2000 and 2017 within a range impact area on the Dix area of JB MDL. This pair had remained at Dix and successfully raised sixteen eaglets. In the winter of 2017, the nest tree fell down and the eagles have not since returned.

**Migratory Birds.** The JB MDL INRMP lists the DoD designated migratory nongame birds of management concern that may occur at JB MDL. In accordance with the Migratory Bird Treaty Act (16 USC §§ 703-712) and EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, installations must conserve migratory birds and their habitats. Any proposal to intentionally kill, wound, capture, or collect a migratory bird requires a migratory bird depredation permit issued by the USFWS in accordance with 50 CFR § 21.41.



In accordance with EO 13186, the DoD and the USFWS maintain an MOU to promote the conservation of migratory birds on military installations. This MOU describes specific actions that should be taken by JB MDL to advance migratory bird conservation; avoid or minimize the take of migratory birds; and ensure all DoD operations, other than military readiness activities, are consistent with the MBTA. This includes preventing or abating pollution or detrimental alteration of the environment and incorporating migratory bird conservation into the installation INRMP when consistent with the installation BASH Plan. Per the JB MDL INRMP, any project requiring the removal of trees will require an inspection for nesting activities. Large scale projects are recommended to not be scheduled during bird nesting season typically between April 1 through September 30.

### 3.2.2 Environmental Consequences

#### 3.2.2.1 Evaluation Criteria

An impact on biological resources would be significant if it would 1) substantially reduce regionally or locally important habitat; 2) substantially diminish a regionally or locally important plant or animal species; or 3) adversely affect recovery of a federally or state-listed species.

#### 3.2.2.2 Proposed Action - Vegetation

Tree removal would result in *short-term, minor, adverse impacts* on vegetation. JB MDL utilized Light Detection and Ranging remote sensing technology to identify areas where trees currently intruded into the airfield imaginary flight surfaces and would need to be removed, as shown in **Figure 3.2**. Dominant overstory trees that would be removed in the project area currently range between 55 and 80 ft in height above ground elevation. As indicated in **Table 1.1**, the number of overstory trees that would need to be cut down beneath the 40:1 approach-departure glide slope would diminish with increased distance from the runway thresholds, and few trees would be expected to intrude into the imaginary flight surface beyond a distance of 3,000 ft from the runway threshold. Within about 3,000 feet from the runway threshold, most mature pine trees would need to be removed beneath the approach-departure glide slope; only those trees that violate the imaginary flight surfaces criteria would be removed. As indicated in **Table 1.2**, the number of overstory trees that would need to be cut down beneath the 7:1 transitional surface would diminish with increased distance from the runway centerline, and few trees would be expected to intrude into the imaginary flight surface beyond a distance of 900 feet from the runway centerlines.

Short-term impacts on other vegetation in the project area during tree removal are not anticipated. Soil disturbance would be minimized by prohibiting tree cutting by wheeled or tracked mechanized equipment during periods when soil moisture would cause rutting.

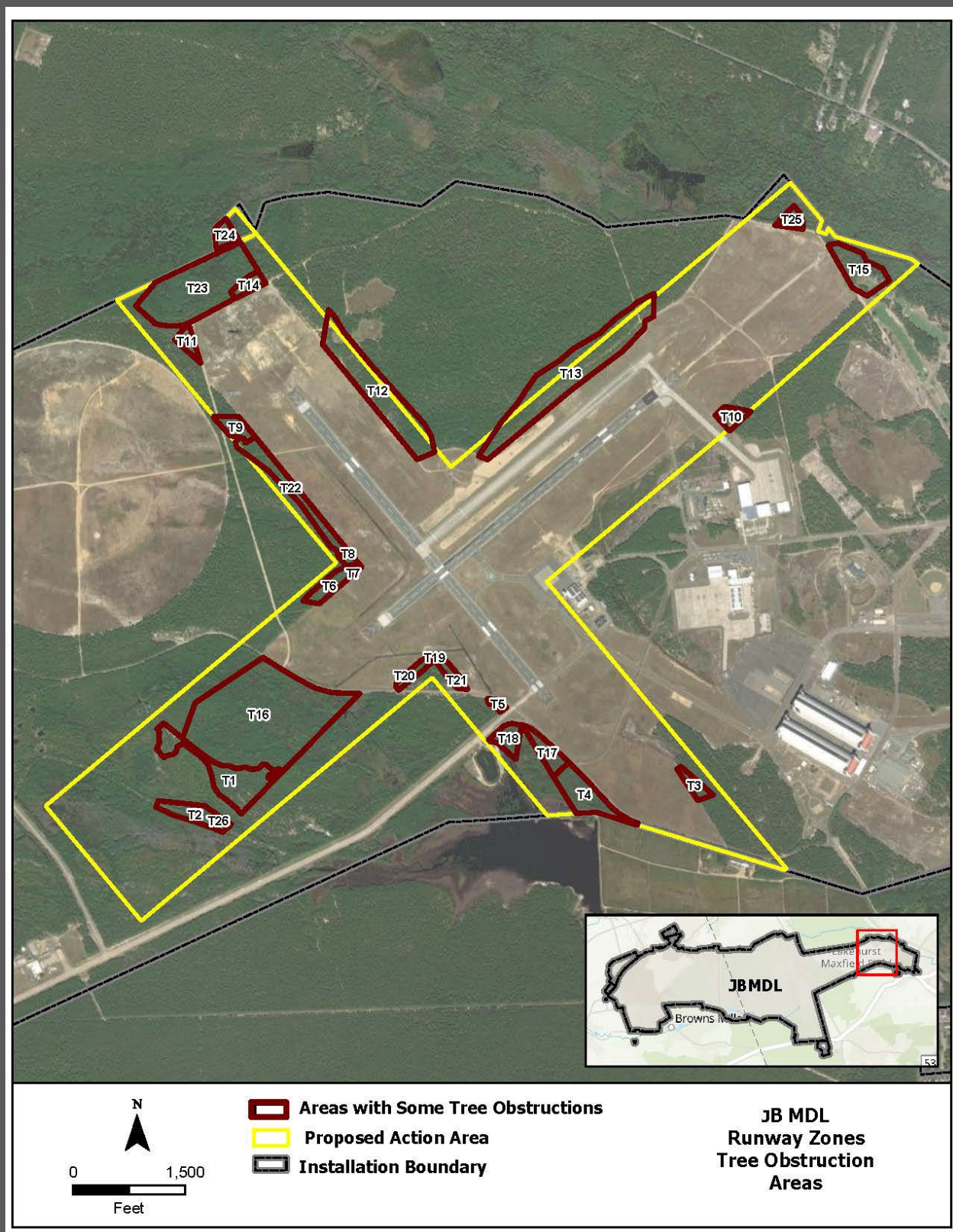
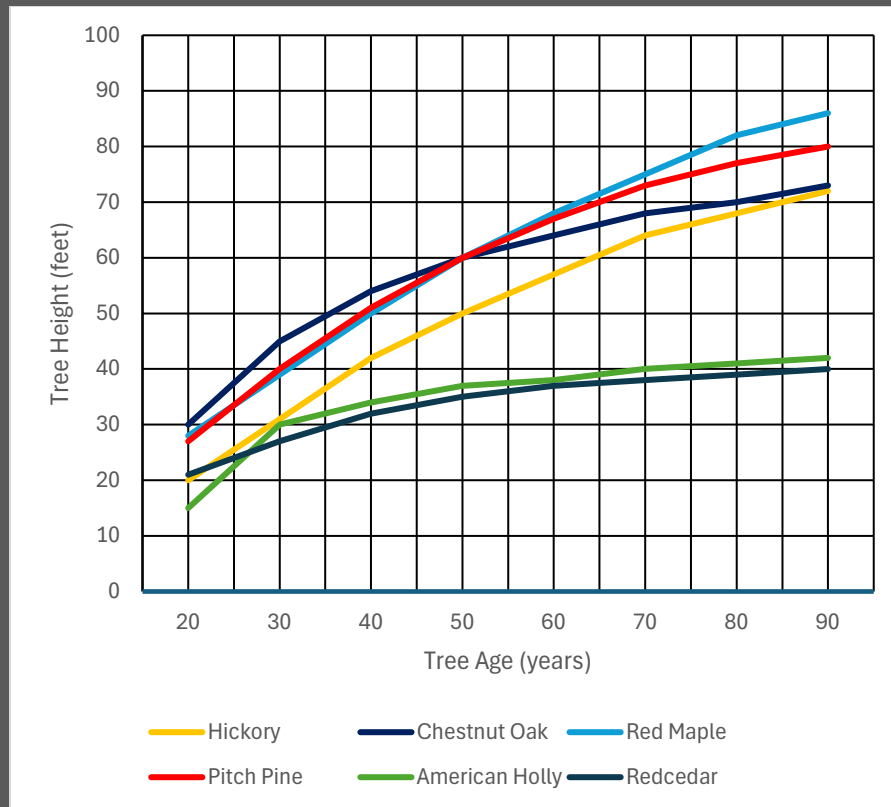


FIGURE 3.2. FORESTED AREAS WITH TREE OBSTRUCTIONS WITHIN THE PROJECT AREA WHERE SOME TREE HEIGHTS CURRENTLY (2024) INTRUDE INTO MAXFIELD IMAGINARY FLIGHT SURFACES AS DEFINED IN UFC 3-260-01.



In the long-term, the proposed tree removal would disfavor the dominance of tall-growing species, and a gradual progression of the forest ecosystem in the project area would occur. As a result, the project area would be dominated by low-growing, and slow-growing trees, shrubs, and herbaceous plants. For example, pitch pine and shortleaf pine would be disfavored in the future forest ecosystem because the species can grow to a height of 80 ft, while American holly or eastern redcedar would be favored for retention since those species grow at a slow rate and rarely reach heights over 50 ft. **Figure 3.3** shows the estimated growth patterns of some of the common forest trees in the Pinelands Region when growing in full sunlight conditions. Therefore, the Proposed Action would result in *long-term, negligible impacts on vegetation*, which would be controlled through compliance with applicable plans and policies indicated in the installation INRMP.



**FIGURE 3.3. TREE GROWTH CURVES FOR SOME COMMON NEW JERSEY PINELANDS TREE SPECIES.**

Under the Proposed Action, no conversion of forest land to non-forest conditions within the project area would occur. Once tree cutting is complete, the affected areas would most likely be dominated by the residual native shrubs and other native plant species that comprise the current forest midstory and understory.

### 3.2.2.3 Proposed Action - Wildlife

The Proposed Action would have *short- and long-term, negligible to minor* impacts on wildlife within the project area and would not significantly affect the population of any wildlife species. Wildlife species occurring in the project area where overstory trees are selectively cut down would be physically displaced by the increased human activity and noise for the tree-cutting operations that would occur sometime between the dates of October 1 and March 30. Mobile wildlife species such as birds and mammals would likely temporarily relocate to areas of similar habitat near the work site and would be expected to return to the site after work is completed. Some adverse effects on less mobile wildlife such as reptiles and amphibians could occur, but such effects are expected to be minor.

The Proposed Action would not substantially affect natural vegetative communities that comprise regionally or locally important wildlife habitat. The result of removing a portion of the overstory trees in the project area would constitute a reversion of the area to an earlier stage of forest succession. Areas affected by the selective removal of overstory trees would open the forest floor to more sunlight such that the area would take on the characteristics of early successional wildlife habitat. The new growth would provide food and shelter for a wide variety of wildlife species, such as pollinator insects like butterflies and bees, snakes, turtles, songbirds, skunks, opossums, rabbits, turkey, and white-tailed deer. Stems of cut trees left on the ground would eventually decay and could become suitable habitat features for native reptiles and amphibians.

Each stage of forest succession supports a variety of wildlife species. Some songbirds prefer mature forest, while others favor young forests, forest edge, or open areas. Songbirds that might not favor the removal of mature overstory trees include some species of vireos, tanagers, warblers, and thrushes. However, large tracts of mature forest would remain within the installation and on adjacent State Forest lands. Total clearing of forest in an area, especially in wetland areas, may attract birds such as waterfowl that could increase the potential strike hazard for aircraft upon approach and departure to the airfield (See **Section 3.6**). Future forest management that would be applied under the Proposed Action would favor the development and dominance of low-growing and slow-growing trees and shrubs to sustain airfield operational requirements.

### 3.2.2.4 Proposed Action - Special Status Species

Pursuant to Section 7 of the ESA, the DAF is conducting informal consultation with the USFWS for the project area and Proposed Action. **Table 3.3** documents the DAF effect determinations for federally listed species for which USFWS concurrence is requested.

For bird and bat species that utilize the forest area in summer for breeding and foraging, adverse effects would be avoided or minimized by prohibiting tree cutting activities between the dates of April 1 and September 30. In general, potential short-term impacts to any special status species during tree cutting operations between October 1 and March 30 would be displacement from the work site during active tree cutting operations. Mortality of special status species, if present, would not be expected. Habitat for special status species that are intolerant of shade or prefer more open sunny areas may be enhanced by the Proposed Action.

Potential impacts to special status species would be minimized by incorporating the following best management practices (BMPs) into the Proposed Action and associated contract specifications for tree removal:

JB MDL staff would visit each area prior to tree removal to flag any habitat area or feature that must be avoided during tree felling activities.

No tree felling or disturbance activity would occur between the dates of April 1 and September 30.

Mechanized equipment would not be allowed to operate in any area during wet soil conditions that could result in soil rutting.

Highly suitable bat roost trees, including snags (dead trees), shagbark hickories (*Carya ovata*), and other trees with shaggy or exfoliating bark would be retained if feasible. If a highly suitable roost tree exceeds the height requirements, JB MDL staff would consult with the USFWS to determine any appropriate action that might preserve the tree and meet airfield safety requirements.

JB MDL Natural Resources Specialists would inspect the work sites during tree cutting activities to ensure compliance with specified mitigation measures.

The above listed BMPs would be used to avoid or minimize potential impacts to special status species. By implementation of these BMPs, as well as adherence to measures identified in the JB MDL INRMP and DoD and DAF regulations, the Proposed Action *may affect, but would not be likely to adversely affect*, five federally listed species and one federally proposed species, and could have *short-term, negligible to insignificant adverse impacts* on all state-protected species within the project area. The Proposed Action would not adversely affect the recovery of a federally or state-listed species.

The Proposed Action would have *no adverse impacts* on the bald eagle since no nesting activity is present within the project area. Potential impacts to migratory birds would be *short-term and negligible to insignificant* due to prohibiting disturbance during the potential nesting season between April 1 and September 30. Effects on habitat quality for migratory birds would depend upon the habitat preferences for individual bird species. Habitat quality for birds that prefer closed canopy mature forest would be diminished, while habitat for birds that prefer more open forests and early successional vegetation conditions may be improved. During tree cutting activities, most winter resident birds would likely avoid the work site and/or relocate to nearby habitats in the area.

Future management and monitoring of the project area would be conducted by JB MDL staff as indicated by the goals and objectives within the JB MDL INRMP. If monitoring of the project area after tree cutting activities reveals any additional mitigation requirements, the installation INRMP would be updated in collaboration with all parties to facilitate implementation of any additional mitigation actions.

**TABLE 3.3. EFFECT DETERMINATIONS FOR THE PROPOSED ACTION FOR SPECIES LISTED AS THREATENED OR ENDANGERED UNDER THE AUSPICES OF THE ESA.**

Species Name	Listing Status	Effect Determination	Discussion
Northern Long-eared Bat ( <i>Myotis septentrionalis</i> )	Endangered	May Affect, Not Likely to Adversely Affect	Suitable summer foraging and roosting habitat exists within project area. Effect avoided/minimized by prohibiting tree cutting activities between April 1 and September 30.
Tricolored Bat ( <i>Perimyotis subflavus</i> )	Proposed	May Affect, Not Likely to Adversely Affect	Suitable summer foraging and roosting habitat exists within project area. Effect avoided/minimized by prohibiting tree cutting activities between April 1 and September 30.
Bog Turtle ( <i>Glyptemys muhlenbergii</i> )	Threatened	May Affect, Not Likely to Adversely Affect	Wetland habitat in project area is currently poor due to species preference for open sunny basking areas. Forest openings created by selective tree removal may favor species habitat conditions.
American Chaffseed ( <i>Schwalbea americana</i> )	Endangered	May Affect, Not Likely to Adversely Affect	Habitat in project area is poor due to species intolerance of shade. Forest openings created by selective tree removal may favor species establishment.
Knieskern's Beaked-rush ( <i>Rhynchospora knieskernii</i> )	Threatened	May Affect, Not Likely to Adversely Affect	Habitat in project area is poor due to species intolerance of shade. Forest openings created by selective tree removal may favor species establishment.
Swamp Pink ( <i>Helonias bullata</i> )	Threatened	May Affect, Not Likely to Adversely Affect	Currently not found in wetland habitats within the project area. Effect of selective tree removal is negligible.

### 3.2.2.5 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented, selective tree removal would not occur, and existing biological conditions would remain. Forest lands within the project area would continue to mature as a closed canopy forest. Tree heights would not be in compliance with the airfield design criteria identified in UFC 3-260-01. Forest trees beneath the approach-departure glide slope and transitional surfaces would eventually create additional tree intrusions into the imaginary flight surfaces.

If tree obstructions into the imaginary flight surfaces at Maxfield are not removed, the approach-departure glide slope at Maxfield would be considered a Hazards to Aircraft Flight Zone, under which the airfield could lose certification for Instrument Flight Rules landings. Under the No Action Alternative, JB MDL would continue to seek waivers to maintain normal airfield operations; waivers must be approved by the DAF Air Mobility Command and by the Air Force Flight Standards Agency Flight Directives Division.

### **3.3 Cultural Resources**

#### **3.3.1 Affected Environment**

Cultural resources is an umbrella term for many heritage-related resources defined in several federal laws and EOs. These include the NHPA, Archaeological and Historic Preservation Act (1974), American Indian Religious Freedom Act (1978), Archaeological Protection Act (1979), Native American Graves Protection and Repatriation Act (1990), and EO 13007, *Indian Sacred Sites*.

The NHPA focuses on cultural resources such as precontact and historic sites, buildings and structures, districts, or other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reason. Such resources can provide insight into the cultural practices of previous civilizations, or represent a cultural and religious significance to modern groups. Resources found significant under criteria established in the NHPA are considered eligible for listing in the National Register of Historic Places (NRHP); these are termed “historic properties” and are protected under the NHPA. The Native American Graves Protection and Repatriation Act requires consultation with culturally affiliated Native American Tribes for the disposition of Native American human remains, burial goods, and items of cultural patrimony recovered from federally owned or controlled lands.

Typically, cultural resources are subdivided into archaeological resources; architectural resources; and resources of traditional, cultural, or religious significance.

*Archaeological resources* include precontact or historic sites containing physical evidence of human activity, but no structures remain standing. These are areas where human activity has measurably altered the Earth or deposits of physical remains are found (e.g., projectile points, bottles).

*Architectural resources* include standing buildings, bridges, dams, other structures, groups of buildings or structures, or designed landscapes of historic or aesthetic significance. Architectural resources more than 50 years old must be evaluated for historical significance and potential for inclusion in the NRHP. Additionally, more recent buildings and structures might warrant protection if they are of exceptional historical importance, or if they have the potential to gain significance in the future.

*Resources of traditional, religious, or cultural significance* can include archaeological resources, sacred sites, structures, neighborhoods, prominent topographic features, habitat, plants, animals, and minerals considered essential for the preservation of traditional culture.

Under Section 306108 of the NHPA, federal agencies must take into account the effect of their undertakings on historic properties and allow the Advisory Council on Historic Preservation a reasonable opportunity to comment. Under this process, the federal agency evaluates the NRHP eligibility of resources within a proposed undertaking’s Area of Potential Effects (APE) and assesses the possible effects of the proposed undertaking on historic properties in consultation with

the State Historic Preservation Officer (SHPO) and other parties. The APE is defined as the geographic area(s) “within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.” The APE for the proposed project is defined as the expected area of direct effects from ground disturbance from foot, vehicle, or equipment traffic within the project area and indirect effects such as temporary noise and visual effects from changes to the visual landscape. The historic properties evaluated under this EA were identified previously pursuant to Section 306101 et seq. of the NHPA, which requires federal agencies to establish programs to inventory and nominate cultural resources under their purview to the NRHP.

### **3.3.1.1 Previous Surveys Conducted at Lakehurst**

Cultural resources on JB MDL are detailed in the JB MDL Integrated Cultural Resources Management Plan (ICRMP). The JB MDL approved ICRMP (USAF 2019) identifies installation cultural resources management goals and objectives through 2024. The ICRMP is reviewed annually, and any required updates are incorporated as needed; the JB MDL ICRMP was last updated in 2023. The ICRMP offers guidelines and procedures aimed at assisting JB MDL in fulfilling its legal obligations concerning historic preservation and cultural resources management at the installation. As of 2024, a total of ten cultural resource surveys have been completed at Lakehurst, including Phase I and Phase II Archaeological Surveys and Historical Architectural Surveys. An additional six Historic American Buildings Survey and Historic American Engineering Record recordation studies have been conducted at Lakehurst (USAF 2019).

*Archaeological Surveys.* An identification level cultural resources survey on Lakehurst was conducted in 1994 (Carranza et al. 1994) that included a reconnaissance of historic buildings greater than 50 years old, a literature review, and pedestrian survey to identify potential archaeological sites. Six areas are identified as archeological sensitivity areas, including an 18th century gun road; a 19th century rural homestead; a purported sawmill; the former proving grounds used by the Russian Imperial Army and the U.S. Army; the location of the former Camp Kendrick; and the location of the Hindenburg Crash site on Lakehurst’s Landing Mat #1. (USAF 2019:109-110). Although records of the Hindenburg crash investigation indicate that the impact area was meticulously cleaned, the crash site is considered significant as a contributing element of the Lighter-Than-Air (LTA) Historic District (HD) (Carranza et al. 1994; USAF 2019:59).

Three additional archaeological surveys were conducted on Lakehurst in 2008, 2013, and 2015. Subsurface testing along the alignment of a proposed station access road in 2008 produced no evidence of precontact or historic occupation (Leary and Rudolph 2009). In 2013, Phase I testing in areas of high and low archaeological sensitivity produced no evidence for precontact settlement within the Lakehurst portion of JB MDL. Test results also showed little evidence for historic period occupation, with the exception of one poorly preserved 19th century domestic site, the Knoll site (28OC177); and the NRHP-eligible Russian/Lakehurst Proving Grounds site (28OC178), which are discussed in detail in **Section 3.3.1.2**. Although the 2013 Phase I testing concluded that there is scant evidence for historic occupation, portions of Lakehurst are still considered to have the potential to contain historic archaeological remains (Sebestyn and Brann 2014; USAF 2019). In 2015, a Stage 1 Archaeological Survey conducted by AECOM produced no potentially significant archaeological resources (Walker et al. 2015; USAF 2019).

In 2022, site monitoring and a condition assessment of the Russian Proving Grounds/Lakehurst Proving Grounds (28OC178) were conducted by AECOM (Crowder and Dworsky 2022). A site



monitoring form was completed with photographs illustrating the condition of 28OC178, with a recommendation for a comprehensive survey of the landscape and surviving resources to fully document and understand what the site actually looks like, rather than relying on historical mapping alone. The use of Light Detection and Radar was recommended for documenting the ground surface to provide a clear map of the locations of structural remains that would enable comparison between what was planned for the site and what it actually became over its use-life.

On July 17, 2024, a site visit was conducted to view the project area in support of the development of a Phase I Archaeological Survey Report associated with the Proposed Action addressed in this EA. Because the Russian Proving Grounds/Lakehurst Proving Grounds site (28OC178) had recently undergone a detailed site condition assessment that also mapped visible features (Crowder and Dworsky 2022), the site visit consisted of taking overview photographs of the site and its features that lie within the APE. During the site visit, several mounds and surface depressions were observed that may represent either buried features or possible push piles from the construction of the runway and a perimeter fence. The runway and clear zone around it, located directly east of 28OC178, has been graded flat, effectively destroying a large portion of the original proving grounds location. Several of the remaining foundations were observed to have trees and vegetation of various sizes growing in them and were partially covered in leaf litter and pine duff.

*Architectural Surveys.* A total of five Historic Architecture Surveys have been conducted on Lakehurst in 1994, 2004, 2009, 2021, and 2022. As described under the *Archaeological Surveys* subsection, an identification level cultural resources survey on Lakehurst was conducted in 1994 (Carranza et al. 1994). This 1994 survey recommended the LTA HD as NRHP-eligible under Criteria A and C in the areas of military, transportation, and architecture with a period of significance from 1921 to 1962 (Carranza et al. 1994). In 2004, Gene Stout and Associates, Inc. conducted a condition assessment of the LTA HD contributing elements and produced the LTA HD National Registration Form and supporting photographs (Blythe 2004). In 2009, an Intensive Level Architectural Survey was conducted for the Aircraft Carrier Aviation Integrated Test and Aircraft Launch and Recovery Equipment Facility on Lakehurst, which identified no eligible resources (Hall et al. 2009; USAF 2019). In 2021, Argonne National Laboratory completed an LTA HD preservation plan and condition assessment (O'Rourke et al. 2022). These assessments documented facility conditions and provided recommendations for the continued preservation of HD resources (USAF 2019). In 2022, Oneida Total Integrated Enterprises and Cardno GS, Inc. conducted an Analysis of Management Alternatives for Hangars 5 and 6, that analyzed management alternatives for contributing elements of the LTA HD rated in poor structural condition (Lengel 2022; USAF 2019:76).

### 3.3.1.2 Archaeological Sites

A records review of the New Jersey Historic Preservation Office Cultural Resources Geographic Information System online map viewer and the JB MDL ICRMP identified two archaeological sites recorded within a 1-mile radius of the project area. No precontact sites have been identified at Lakehurst. The Knoll site (28OC177) and the Russian Proving Grounds/Lakehurst Proving Grounds site (28OC178) are both historic period sites located within the project area and APE, as shown in **Figure 3.4**.

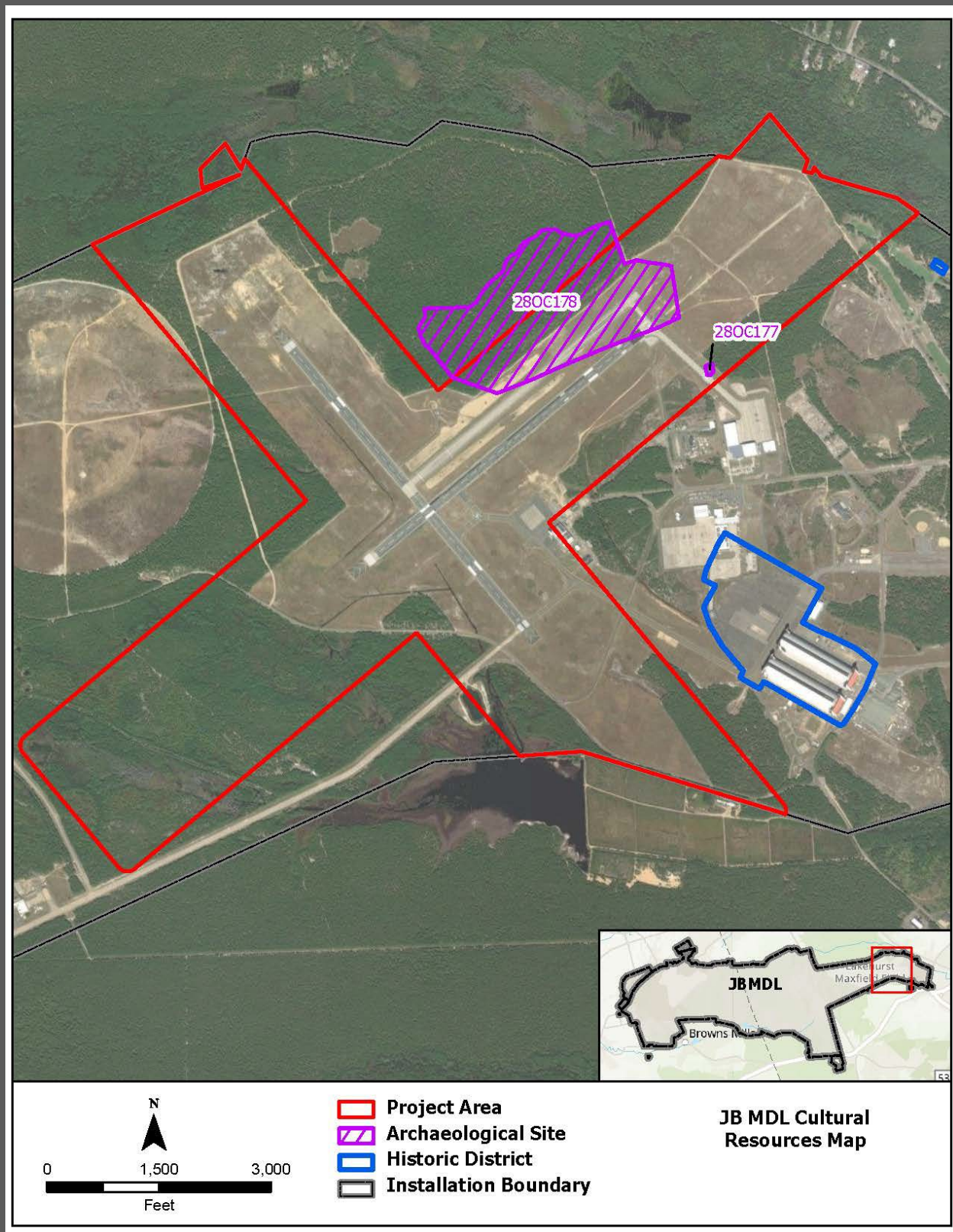


FIGURE 3.4. ARCHAEOLOGICAL SITES AND HISTORIC DISTRICT LOCATIONS IN THE VICINITY OF THE MAXFIELD AIRFIELD AT JOINT BASE MCGUIRE-DIX-LAKEHURST, NEW JERSEY.

The Knoll site (28OC177) was a poorly preserved scatter of domestic refuse containing 19th century ceramic fragments recommended as ineligible for NRHP listing under NHPA criteria. In 2015, site 28OC177 was paved over by a tenant organization for an airfield expansion project. The project was completed without coordination with JB MDL regarding cultural resources, and site 28OC177 was effectively destroyed (Sharon White, personal communication 2024).

The Russian Proving Grounds/Lakehurst Proving Grounds site (28OC178) site is NRHP-eligible and consists of three concentrations of ruins and remnants of trench systems associated with the proving grounds used for ordnance testing by the Russian Army prior to World War I. Site 28OC178 has a May 27, 2015 SHPO Opinion of eligibility. A detailed description of 28OC178 is provided below.

*The Russian Proving Grounds/Lakehurst Proving Grounds (28OC178).* The remains of the early 20th-century Russian and U.S. Army proving grounds site, known as the Russian Proving Grounds/Lakehurst Proving Grounds site (28OC178), consists of three concentrations of ruins that were identified during the 1994 identification level cultural resources survey conducted on Lakehurst. The main proving ground ruins were situated between Rockwell and Johnson roads; a smaller group of ruins were located near Hangars 5 and 6 and were associated with the Lakehurst Proving Grounds; and remnants associated with Proving Grounds trench systems were located near the Recovery Systems Test Site. The main proving ground ruins consist of several concrete building foundations ranging from 9 square feet (SF) to 2,178 SF, and also include a number of in-ground depressions and mounds that could represent additional buried foundations.

Site 28OC178 was first used for military purposes in 1915. The Eddystone Ammunition Corporation, a subsidiary of the Baldwin Locomotive Works of Philadelphia, won a contract to produce shells for the Imperial Russian government and negotiated with the British for the site to be used for making and testing artillery ammunitions (Althoff 1990:8; Carranza et al. 1994:60-61; Sebestyn and Brann 2014:275). The Imperial Russian Army departed the site in 1917 due to the outbreak of the Bolshevik Revolution in Russia, and the Proving Ground was abandoned.

During World War I, the U.S. began a chemical weapons program in response to the Germans and temporary proving grounds were set up across the U.S. to test chemical weapons. While some testing had already been conducted at Aberdeen Proving Ground, the need to separate chemical ordnance testing from regular ordnance testing led to the development of the Lakehurst Proving Ground by the U.S. Army in 1917. This location was specifically chosen because the land was unsuitable for agriculture, and the surrounding areas were sparsely populated. The site included an artillery range, magazines, rail sidings, laboratories, barracks, and additional support structures. In 1918, an additional 733 acres were acquired to serve as the home of the U.S. Army's Chemical Warfare Service. The small cantonment area, known as Camp Kendrick, was established and Lakehurst Proving Ground became the location of the first full-scale gas warfare experimental test facility in the U.S. (Chemical Warfare Service 1919; Pace, et al. 2003; Sebestyn and Brann 2014:278). It is currently unknown which, if any, of the existing ruins were originally used by the Russian Imperial Army, or if they were all constructed and used by the U.S. Army (Carranza et al. 1994:105-106; USAF 2019:47).

Site 28OC178 is NRHP-eligible for its association with military development of chemical weapons in World War I, and under Criterion D, for its ability to inform on international military relations and the development of chemical warfare as a technology in World War I (Sebestyn and Brann 2014; NJHPO Opinion: 27 MAY 2015, HPO-E2015-281). The two smaller sets of ruins associated



with Russian Imperial Army and U.S. Army Chemical Warfare Services proving ground operations, near Hangars 5 and 6 and near the Recovery Systems Test Site, are not included in the 28OC178 boundaries (USAF 2019:59).

### 3.3.1.3 Architectural Resources

The architectural history of JB MDL features utilitarian buildings and structures designed according to standardized plans for military training, administration, and housing. The architecture at JB MDL reflects four distinct periods in military history: the Interwar period (1918-1939), World War II (1940-1945), the Cold War (1945-1991), and the post-Cold War era (1992-present). Each period is characterized by changes in “vernacular,” or common design and composition. The majority of the pre-Cold War built environment of Lakehurst underwent inventory and evaluation for NRHP eligibility in 1993 under Criterion Consideration G for special significance; a few additional small pre-Cold War structures were evaluated in 2019 and 2020 (USAF 2019:78). The Cold War era buildings were evaluated in 2019 and 2020. The Lakehurst area of JB MDL includes one architectural HD, the LTA HD, and one built resource listed in the NRHP, Hangar No. 1, which is also designated as a National Historic Landmark (NHL) (USAF 2019:68-69).

*The Lighter-than-Air Historic District.* The LTA HD was created during the 1994 identification level cultural resources survey conducted on Lakehurst (Carranza et al. 1994) and was determined NRHP-eligible in 1996 (NJHPO Opinion Letter 14 FEB 1996, HPO-B96-70). The LTA HD is nationally significant under Criteria A and C in the areas of military, transportation, and architecture with a period of significance from 1921 to 1962. The LTA HD is significant for the unique role it played in pioneering and developing lighter-than-air aviation of both rigid and non-rigid airships in the Interwar period; in U.S. Naval defense and patrol operations during World War II; and in the development of an initial early warning system for nuclear attack in the early Cold War era.

Between 1994 and 2003, Lakehurst completed SHPO consultation and Historic American Buildings Survey and Historic American Engineering Record recordation for the demolition of 12 facilities identified as contributing elements of the LTA HD. In 2005, a draft NRHP nomination for the LTA HD was prepared that proposed boundary revisions and changes in the status of 20 buildings. As a result, the 12 facilities that were demolished between 1994 and 2003 were removed as contributing elements to the district, and the General Warehouse (Building 79), the Public Works Shop (Building 272), and the Hangar No. 1 water tower (Building 151) were added as contributing elements to the district. Additionally, the 2005 boundary revision excluded one former outlying area from the district. As a result, the 2005 NRHP nomination form redefined the LTA HD as consisting of four discontinuous areas, comprising 75 contributing and 10 non-contributing buildings and structures. A 2022 LTA HD management plan and condition assessment clarified the HD’s overall composition (USAF 2019:71). The LTA HD currently includes 70 contributing properties, with 16 being pivotal in conveying the district’s significance, along with 14 non-contributing properties.

The closest LTA HD building to the project area is Building 42, which is a contributing element of the HD. Additionally, Building 144 is approximately 0.85 miles east of Runway 24.

The district’s main section features Hangar No. 1, an industrial area, and two extensions: one that runs northwest along Lansdowne Road to a residential/administrative area and another that extends southwest along Saniuk Road to Landing Mat #1. A third extension reaches northeast to include Hangar 4. The industrial area along Hancock Road contains the primary concentration of

operational facilities. The residential/administrative area along Lansdowne Road features Colonial architecture, such as Quarters A and B (Building 120), and Bungalow/Craftsman-style officers' housing (Quarters C-F). This area also includes a vernacular Art Deco General Service Building (Building 150) and the maritime-themed Aerological Building (Building 38). The district's aviation support section includes Hangars 5 and 6, Landing Mat #3, and various support facilities.

*National Historical Landmark, Hangar No.1.* Hangar No.1 is listed in the NRHP and was designated an NHL on May 23, 1968. It is a steel-frame structure constructed in 1921 and was the largest single room in the world when completed. Hangar No. 1 is significant under Criterion A for its "pivotal operational role in the development of U.S. military and commercial airship operations, and under Criterion C for its complex structural-steel engineering" (O'Rourke et al. 2022; Greenwood 1975; USAF 2019:72). Hangar No.1 holds historical significance due to its association with the U.S. Navy's first two rigid airships, the USS Shenandoah and the USS Los Angeles. The Shenandoah's historic flights, including its first transcontinental flight in October 1924, originated from Hangar No. 1. Additionally, the crash of the German rigid airship Hindenburg on May 6, 1937, took place on Landing Mat #1, adjacent to Hangar No. 1, which was the Hindenburg's intended destination (USAF 2019:73).

There are no architectural resources directly within the project area or the APE. As shown in **Figure 3.4**, the closest historic architectural resource, Building 42 which is a contributing element of the LTA HD, is approximately 0.85 miles east of Runway 24, and the western boundary of the LTA HD is approximately 0.4 miles from the eastern boundary of the project area.

### **3.3.1.4 Resources of Traditional, Religious, or Cultural Significance to Native American Tribes**

Two federally recognized Tribes, the Delaware Tribe of Indians, and the Delaware Nation, have historical affiliations with the land occupied by JB MDL. At present, no known traditional cultural properties or Native American sacred sites are known to occur within or near the project area or APE (USAF 2019:78).

## **3.3.2 Environmental Consequences**

### **3.3.2.1 Evaluation Criteria**

Adverse effects on cultural resources can include physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's significance; introducing visual or audible elements that are out of character with the property or that alter its setting; neglecting the resource to the extent that it deteriorates or is destroyed; or selling, transferring, or leasing the property out of agency ownership (or control) without adequate legally enforceable restrictions or conditions to ensure preservation of the property's historic significance. Both temporary and long-term project effects on cultural resources were considered and evaluated for their potential effects.

### **3.3.3.2 Proposed Action**

There is currently one identified cultural resource, site 28OC178, within or near the project area and APE. Avoidance measures would be employed to ensure that site 28OC178 is not disturbed by tree removal; measures would include hand-cutting of trees to avoid the use of heavy equipment within site boundaries, to include a 50-ft buffer around the site; and avoidance of allowing cut portions of trees to fall on standing features. If trees must be cut within site 28OC178, tree removal would be supervised by a certified Arborist and consist of cutting and felling the tree stem in



portions, and then lowering tree segments to the ground, with ropes when necessary, to avoid damage to historical features. By following these avoidance measures, the Proposed Action would have *no adverse effect* on historic properties. The DAF is consulting under Section 306108 of the NHPA with SHPO and Tribes regarding this finding of effect.

### 3.3.3 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented, selective tree removal would not occur, and existing cultural resources conditions would remain. No archaeological; architectural; or traditional, religious, or culturally significant resources would be disturbed. Therefore, no impacts on cultural resources would be expected.

## 3.4 Water Quality

### 3.4.1 Affected Environment

Water resources include groundwater, surface water, floodplains, and wetlands.

**Groundwater.** The Kirkwood-Cohansey Aquifer underlies JB MDL and is made up of the Kirkwood and Cohansey formations, which are extremely permeable and are at or near the existing ground level, feeding the area’s abundant bogs, marshes, and swamps (JB MDL 2015). There are four major hydrogeologic units within the vicinity of the project area, including three shallow units (Cohansey Sand, Kirkwood Formation, and Vincentown Formation) and one deep, regional unit (Potomac-Raritan-Magothy [PRM] System). The PRM system supplies potable water to JB MDL. Depth to the seasonal high-water table on JB MDL ranges from 6 inches to over 72 inches; contamination of this aquifer is a concern due to the shallowness. Additionally, there are several Well Head Protection Areas located on Lakehurst. USEPA defines a well head protection area as “the surface and subsurface area surrounding a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield.”

**Surface Water.** JB MDL spans the Barnegat Bay, Crosswicks, and Rancocas watersheds. All streams originating on Lakehurst flow to the Atlantic Ocean via the Toms River and Barnegat Bay. On Lakehurst, the surface water drainage runs southeast and is primarily in the Toms River Basin, which drains southeast into Barnegat Bay. The Barnegat Bay watershed has seen significant development over the last 10 years and has suffered negative impacts from contaminated run-off from suburban areas, to include from fertilizer run-off.

Lakehurst, Dix, and McGuire each have their own stormwater permits. JB MDL performs water quality monitoring at the industrial outfall on Lakehurst and at the stormwater outfalls associated with the stormwater permit on McGuire. The outfalls from Lakehurst, Dix, and McGuire flow into the Toms River, Rancocas Creek, and Crosswicks Creek watersheds, respectively. All outfalls have been in full compliance with permit limits for decades. There are no pavements located within the project area. Stormwater runoff generated within the forested project area would drain into existing wetlands, and any excess stormwater flow would drain through natural flow channels in a southeasterly direction.

**Wetlands and Floodplains.** Wetlands and floodplains exist within the project area. JB MDL developed a baseline inventory of installation wetlands using data provided by the NJDEP Watershed and Land Management Program. In July 2024, a team of Certified Wetlands Delineators conducted an on-site review of the wetlands within the project area to verify the current extent of wetlands and wetland classifications. **Figure 3.5** shows the location of wetlands within

the project area delineated in 2024 and indicates the areas where selective tree cutting would occur to eliminate trees that intrude into airfield imaginary flight surfaces as defined in UFC 3-260-01. **Table 3.4** shows the current acreage and classification of wetlands within the project area. Wetland areas within the project area amounted to 175.85 acres.

Surface waters on the JB MDL airfields have been modified over time due to the existing stormwater management system, resulting in very little natural floodplain at the installation. However, the project area does contain floodplains at the north end of both Maxfield runways, as indicated by Federal Emergency Management Agency (FEMA) floodplain mapping. The FEMA mapped floodplains are used for reference and for determination of potential impacts, and do not hold any regulatory authority over potential floodplain development on military installations; however, other regulations such as EO 11988, *Floodplain Management*, do apply.

Primary statutes that regulate activities in wetlands at JB MDL include the Clean Water Act (CWA) (33 USC § 1251) and the 1987 New Jersey Freshwater Wetlands Protection Act. Section 404 of the Clean Water Act establishes a program to regulate the discharge of dredged or fill material into jurisdictional waters and wetlands of the U.S. Activities that may impact waters and wetlands of the United States, as defined in 40 CFR § 110.1, require evaluation for compliance with CWA regulations. Dredging, filling, and other activities that may displace soil or other materials into a wetland in New Jersey, may require a Section 404 permit by the NJDEP, which has been delegated primacy for wetland regulatory compliance for the State. The State of New Jersey has multiple general permits which are available for use by JB MDL to accomplish its mission for activities within wetlands. These permits and requirements for wetlands in New Jersey can be found at NJAC 7:7A Clean Water Act Section 404 Compliance.

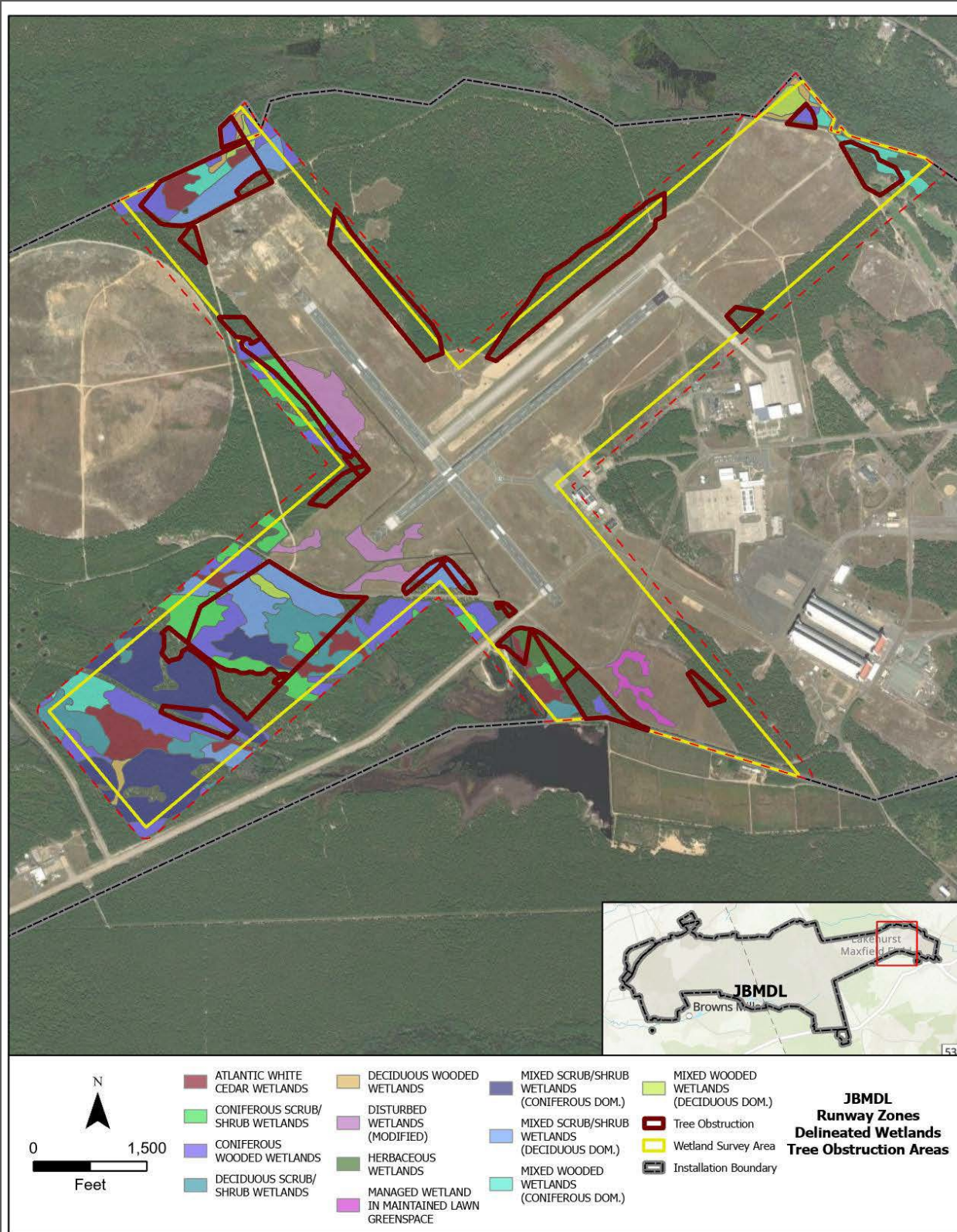


FIGURE 3.5. MAP SHOWING WETLAND AREAS WITHIN THE PROJECT AREA WITH OVERLAY INDICATING FOREST AREAS WHERE TREE HEIGHTS VIOLATE HEIGHT CRITERIA SPECIFIED IN UFC 3-260-01 (2024).

TABLE 3.4. WETLANDS AREAS WITHIN THE PROJECT AREA.

Wetland Type	Cowardin Classification	Acreage
Unconsolidated Bottom, Upper Perennial Riverine Wetland	R3UB	6.63
Persistent Emergent Palustrine Wetland	PEM1	14.49
Broad-Leaved Deciduous, Scrub-Shrub, Palustrine Wetland	PSS1	60.33
Needle-Leaved Evergreen, Scrub-Shrub, Palustrine Wetland	PSS4	48.00
Needle-Leaved Evergreen, Forested, Palustrine Wetland	PF04	42.50
Streambed, Intermittent, Riverine Wetland	R4SB	1,050 SF (0.02-acres)
Palustrine Perennial Scrub/Shrub Wetland	PSS	3.16
Nonpersistent, Emergent, Palustrine Wetland	PEM2	23,590 SF (0.54-acres)
Unconsolidated Bottom, Palustrine, Permanently Flooded Wetland	PUBH	3,888 SF (0.10 - acres)
<b>TOTAL WETLANDS ACREAGE</b>		<b>175.85</b>

Wetland classifications derived from Cowardin et al. (1979), and include information identifying the water regime, class, and subclass of the wetland.

EO 11990, *Protection of Wetlands* requires each federal agency to provide leadership and take action to minimize the destruction, loss, or degradation of wetlands. The EO also encourages preservation and enhancement of the natural and beneficial values of wetlands. EO 11988, *Floodplain Management*, requires federal activities to avoid impacts to floodplains and to avoid direct and indirect support of floodplain development to the extent practicable. Provisions of EO 11990 and EO 11988 require that a Finding of No Practicable Alternative (FONPA) be prepared for actions that involve activity in a floodplain or new construction in a wetland. For the Proposed Action presented in this EA, the DAF has determined that, due to flight safety concerns, there is no practicable alternative to the requirement to remove trees that violate UFC 3-260-01 standards for imaginary flight surfaces at Maxfield airfield. In accordance with EO 11990, EO 11988, 32 CFR § 989.14(l), and 32 CFR § 989.24(c), an early public notice was prepared and made available to the public announcing the intent to prepare an EA, and that the Proposed Action would occur in a floodplain and wetlands. The early notices solicited public and agency comment on the Proposed Action and any practicable alternatives and were published in the Asbury Park Press and Burlington County Times on January 14 and 15, 2024.

### 3.4.2 Environmental Consequences

#### 3.4.2.1 Evaluation Criteria

The significance of impacts on water resources is based on 1) the importance (i.e., legal, commercial, recreational, or ecological) of the resource, 2) the proportion of the resource that would be affected relative to its occurrence in the region, 3) the sensitivity of the resource to proposed activities, and 4) the duration of potential effects. Quantitative and qualitative analyses



have been used, as appropriate, in determining the severity of impacts. Below is a list of thresholds of concern and significance based on regulatory requirements:

Filling of wetlands and watercourses within the footprint of disturbance or surface waters downstream of project areas based on above criteria. Thresholds are specific to the size of the impact, quality of the resource, and whether the impacts are temporary or permanent

Reduction of floodplain storage, based on the location and quality of the floodplain.

Degradation of water quality (chemical, physical, or biological effects) as a result of construction impacts.

In compliance with EO 11990, the DAF seeks to preserve the natural values of wetlands while carrying out its mission on both DAF lands and non-DAF lands. To the maximum extent practicable, the DAF avoids actions which would either destroy or adversely modify wetlands. DAFMAN 32-7003, Section 3C, provides the DAF policy and procedures for installations for compliance with wetland laws and regulations.

#### **3.4.2.2 Proposed Action**

Tree removal activities in wetlands and floodplains within the project area would result in *short-term, negligible, impacts* on surface water, wetlands, and floodplains from foot and vehicle traffic in the project area during tree removal; no impacts on groundwater are anticipated. The JB MDL INRMP provides for the control and elimination of pollution and sedimentation from forestry activities into surface water or groundwater systems. All applicable forestry and wetlands BMPs would be implemented during tree cutting activities associated with the Proposed Action. Per the JB MDL INRMP, all tree cutting activities would conform to the standards provided in the “*New Jersey Forestry and Wetlands Best Management Practices Manual*” published by the New Jersey Bureau of Forest Management (1995) and would follow the guidelines defined in “*Timber Harvesting Guidelines for New Jersey*” published by the New Jersey Chapter of the Society of American Foresters, New Jersey Forestry Association, and approved by the New Jersey Forest Service. Tree cutting activities within freshwater wetlands of the project area would be conducted by chainsaw only and tree stumps would be left in place. No new road construction or heavy equipment access within wetlands would take place during implementation of the Proposed Action. Equipment access within the project area would only be allowed in upland areas and under dry weather conditions. Soil disturbance from tree cutting operations would be minimal and would not result in the discharge of fill material into surface waters, wetlands, or floodplains.

The New Jersey Department of Land Resource Protection has regulatory jurisdiction over the wetlands and floodplains within the area of the Proposed Action. In a letter of reply for comments on the Proposed Action from the NJDEP Division of Land Resource Protection dated June 11, 2024, the agency correspondence stated:

*All tree cutting located within freshwater wetlands, which doesn’t create a discharge of fill material, will not require a permit from NJDEP Division of Land Resource Protection....see our Freshwater Wetland Rules at 7:7A-2.5 (b).”*

The NJDEP Division of Land Resource Protection affirmed that tree cutting located within freshwater wetlands, which does not create a discharge of fill material, would not require a permit from NJDEP Division of Land Resource Protection. Additionally, the correspondence stated that the New Jersey Flood Hazard Control Act regulations do not apply to federal property.

By utilizing the applicable BMPs to reduce or eliminate the discharge of sediment or pollutants in runoff from tree cutting activities, the Proposed Action would have *less than significant impact* on water quality.

### 3.4.2.3 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented, selective tree removal would not occur, and existing water conditions would remain. No changes in groundwater, surface water, wetlands, floodplains, or water flow within the project area would occur. Therefore, no impacts on water quality would be expected.

## 3.5 Air Quality

### 3.5.1 Affected Environment

The USEPA has established National Ambient Air Quality Standards for six criteria pollutants: carbon monoxide (CO), sulfur dioxide, nitrogen dioxide, ozone (O<sub>3</sub>), suspended particulate matter (measured less than or equal to 10 microns in diameter [PM<sub>10</sub>] and less than or equal to 2.5 microns in diameter [PM<sub>2.5</sub>]), and lead). CO, sulfur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), lead, and some particulates are emitted directly into the atmosphere from emissions sources. NO<sub>x</sub>, O<sub>3</sub>, and some particulates are formed through atmospheric chemical reactions that are influenced by weather, ultraviolet light, and other atmospheric processes. Volatile organic compound (VOC) and NO<sub>x</sub> emissions are precursors of O<sub>3</sub> and are used to represent O<sub>3</sub> generation. Areas that are and have historically been in compliance with the NAAQS or have not been evaluated for NAAQS compliance are designated as attainment areas. Areas that violate a federal air quality standard are designated as nonattainment areas. Areas that have transitioned from nonattainment to attainment are designated as maintenance areas. Nonattainment and maintenance areas are required to adhere to a State Implementation Plan to reach attainment or ensure continued attainment.

USEPA Region 2 and the NJDEP regulate air quality in New Jersey. Maxfield is within Ocean County, which is within the Philadelphia-Wilmington-Atlantic City air quality control area (40 CFR § 81.331). The entire state of New Jersey is within the O<sub>3</sub> transport region that includes 11 states and Washington D.C. (40 CFR § 81.457). USEPA has designated Ocean County as marginal nonattainment for the 2008 8-hour O<sub>3</sub> NAAQS and moderate nonattainment for the 2015 8-hour O<sub>3</sub> NAAQS (USEPA 2024). As such, the USEPA General Conformity Rule, which applies to federal actions occurring in nonattainment or maintenance areas, is potentially applicable to emissions of VOC and NO<sub>x</sub> (because they are precursors of O<sub>3</sub>) for actions occurring in Ocean County. A general conformity determination would be required if the total emissions of such pollutants exceeded specified thresholds, called *de minimis* level thresholds (in tons per year [tpy]), as identified in 40 CFR § 93.153(b). The applicable *de minimis* level thresholds for nonattainment pollutants in Ocean County are 50 tpy for VOC and 100 tpy for NO<sub>x</sub>.

The Lakehurst area of JB MDL has a Title V operating permit issued by NJDEP. Permitted sources of air emissions within 0.5 mile of the Maxfield airfield include 3 diesel emergency generators at Building 282, one diesel emergency generator at Building 433, one diesel emergency generator at Building 346, natural gas-fired boilers at Buildings 307, 608, and 342, a diesel fire pump at Building 308, and a paint booth at Building 706. Other stationary and mobile sources of air emissions present near Maxfield include aircraft operations and other internal combustion engines such as those in maintenance equipment and vehicles.

Actions occurring in nonattainment or maintenance areas in New Jersey are required to comply with SIPs that include the *State Implementation Plan (SIP) for the Attainment and Maintenance of the Ozone National Ambient Air Quality Standards* and the *State Implementation Plan for Maintenance of Fine Particulate Matter (PM<sub>2.5</sub>) 2006 24-hour 35 µg/m<sup>3</sup> National Ambient Air Quality Standards*. The 2007 New Jersey State Implementation Plan revisions for attainment and maintenance of O<sub>3</sub> established general conformity budgets for the McGuire and Lakehurst areas of JB MDL for VOCs and NO<sub>x</sub>. These budgets were established by USEPA under 40 CFR § 52.1582(m)(5) to provide the installation areas with operational flexibility to meet their current and future missions. The general conformity budget for the Lakehurst area of JB MDL is 129 tpy for VOC and 793 tpy for NO<sub>x</sub> as of 2011. The actual potential to emit from significant and insignificant stationary sources at the Lakehurst area is 19.21 tpy for VOC and 62.7 tpy for NO<sub>x</sub>.

**Climate Change and Greenhouse Gases (GHGs).** Global climate change refers to long-term fluctuations in temperature, precipitation, wind, sea level, and other elements of Earth's climate. Of particular interest, GHGs are gas emissions that trap heat in the atmosphere. Carbon dioxide (CO<sub>2</sub>), methane, and nitrous oxide account for 99.5 percent of all GHG emissions in the U.S., while the single most dominant GHG emitted is CO<sub>2</sub>, accounting for 91.9 percent of all reported U.S. GHG emissions as of 2022. To estimate global warming potential, all GHGs are expressed relative to a reference gas, CO<sub>2</sub>, which is assigned a global warming potential of one (1). All GHGs are multiplied by their global warming potential, and the results are added to calculate the total equivalent emissions of CO<sub>2</sub> (CO<sub>2</sub>e).

The climate of JB MDL is affected by its proximity to Delaware Bay and the Atlantic Ocean. Between 1991 and 2020, the Maxfield area has had an average temperature of 74.8 degrees Fahrenheit (°F) in the hottest month of July, with high temperatures that exceeded 85 °F, and an average temperature of 31.6 °F in the coldest month of January, with low temperatures that reached 21 °F. The average annual temperature was 52.6 °F. The average annual precipitation was 52.04 inches. The wettest month of the year was December with an average precipitation of 5.81 inches (NOAA 2021).

Ongoing global climate change in the northeastern U.S., including Ocean County, has contributed to increased average temperatures, increased rainfall intensity, increased frequency and severity of flood and drought events, sea level rise, and disruption of natural ecosystems including terrestrial, freshwater, and marine systems. Higher air temperatures can cause adverse health effects such as heat stroke and dehydration and can affect cardiovascular and nervous systems, especially in vulnerable populations (i.e., children, elderly, sick, and low-income populations). Warmer air also can increase the formation of ground-level O<sub>3</sub>, which has a variety of health effects including aggravation of lung diseases and increased risk of death from heart or lung disease. JB MDL is considered at risk from future increases in extreme heat and is predicted to face from six to more than 10 times more extreme heat days (days where temperatures exceed 100 °F) by the end of the century, which may affect training and operations.

A warmer atmosphere can lead to more intense storms and severe weather, which, in combination with anticipated sea-level rise and increased precipitation, will result in more frequent flooding events. Climate trends predict that the intensity of weather events (extreme high temperatures and heavy rainfall) will continue along with periods of intermittent drought. New Jersey has experienced a 3.5 °F increase in average temperature since the 1890s, which is faster than the rest of the northeastern U.S. (2 °F) and the world (1.5 °F). This warming trend is expected to continue and, by 2050, temperatures in New Jersey are expected to increase by 4.1 °F to 5.7 °F. New Jersey

also is experiencing a greater increase in precipitation than any other part of the U.S., including higher overall amounts of rainfall and a greater number of extreme weather events with heavy rainfall. The impacts on the environment from the predicted changes may include drier growing seasons, increasing the need for irrigation and, in some cases, decreasing agricultural yields; however, the fertilizing effect caused by a higher concentration of atmospheric CO<sub>2</sub> could offset effects on agriculture.

In 2020, Ocean County produced 3,112,539 tons of CO<sub>2</sub>e, while New Jersey produced approximately 65.9 million tons of CO<sub>2</sub>e. New Jersey is ranked the nineteenth highest state producer of CO<sub>2</sub> in the U.S. The Lakehurst area has the potential to emit 74,655 tpy of CO<sub>2</sub>e per year. As reported to USEPA, actual CO<sub>2</sub> emissions from the Lakehurst area were 13,560 tpy.

The DAF *Climate Action Plan* recognizes the Department's role in contributing to climate change and aims to address the challenges and risks posed by climate change through identifying climate priorities that include modernizing infrastructure and facilities, making climate-informed decisions, optimizing energy use, and pursuing alternative energy sources. The DAF *Climate Campaign Plan* implements the *Climate Action Plan* by breaking down the strategies the DAF implements to attain specific and measurable objectives in accordance with climate priorities.

### 3.5.2 Environmental Consequences

#### 3.5.2.1 Significance Criteria

Effects on air quality are evaluated by comparing the annual net change in emissions for each criteria pollutant against the General Conformity Rule *de minimis* level thresholds for nonattainment or maintenance pollutants, or against insignificance indicators as defined by the *Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II – Advanced Assessments*. Insignificance indicators are applied to emissions of pollutants designated as attainment or unclassified to provide an indication of the significance of potential impacts on air quality. The insignificance indicator is the 250 tpy Prevention of Significant Deterioration (PSD) major source threshold, as identified by USEPA, and is applied to emissions of all criteria pollutants, except lead, occurring in attainment/unclassified areas. The PSD insignificance indicator for lead is 25 tpy. The PSD thresholds do not denote a significant impact; however, they do provide a threshold to identify actions that have insignificant impacts on air quality. Any action with net criteria pollutant emissions below the insignificance indicators is considered so insignificant that the action will not cause or contribute to an exceedance of one or more NAAQS.

Consistent with EO 13990, *Protecting the Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, GHGs are analyzed as a category of air emissions. Consistent with EO 13990, the Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews (2016), and the CEQ National Environmental Policy Act Interim Guidance on Consideration of Greenhouse Gas Emissions and Climate Change (2023), estimated CO<sub>2</sub>e emissions and social cost of GHGs associated with the Proposed Action are provided in this EA for informative purposes. The “social cost of GHGs” is an estimate of the monetized damages associated with incremental increases in GHG emissions, such as reduced agricultural productivity, human health effects, property damage from increased flood risk, and the value of ecosystem services.

Impacts from GHG emissions are assessed on a global scale, as sources of GHGs worldwide contribute to climate change globally. The DAF applies the PSD threshold for GHG emissions of 75,000 tpy (68,039 metric tpy) of CO<sub>2</sub>e as an insignificance indicator for impacts on global climate change. Any action with net GHG emissions below the insignificance indicator is considered too insignificant on a global scale to warrant any further analysis. The GHG emissions analysis includes a relative significance assessment to provide context for the Proposed Action's climate change impacts on a global, national, and regional scale. Per CEQ and DAF guidance, the climate change analysis includes social cost of GHG estimates and qualitatively assesses the Proposed Action's impacts on potential future climate scenarios and whether elements of the Proposed Action would be affected by climate change. This analysis does not attempt to measure the actual incremental impacts of GHG emissions from the Proposed Action, as there is a lack of consensus on how to measure such impacts.

The DAF Air Conformity Applicability Model, version 5.0.23a, was used to estimate the annual air emissions from the installation development projects. The potential for air quality impacts was assessed in accordance with DAFMAN 32-7002, *Environmental Compliance and Pollution Prevention*; the EIAP (32 CFR 989); and the General Conformity Rule (40 CFR 93 Subpart B). The Air Conformity Applicability Model reports with detailed emissions calculations are included in **Appendix D**.

### 3.5.2.2 Proposed Action

Air emissions from tree removal activities would result in a *short-term, negligible, adverse impact* on air quality. Emissions of criteria pollutants and GHGs would be directly produced from operation of tree removal equipment, transport of equipment to and from tree removal areas, and workers commuting to and from the tree removal areas daily. All such emissions would be temporary in nature and would cease after tree removal period. **Table 3.5** summarizes the estimated air emissions from tree removal activities. Emissions from the Proposed Action would not exceed the applicable General Conformity Rule *de minimis* level thresholds for VOCs and NO<sub>x</sub>; therefore, conformity is achieved, and a general conformity determination is not required. Emissions also would not exceed the PSD thresholds for attainment pollutants and CO<sub>2</sub>e; therefore, the Proposed Action would not result in significant impacts on air quality. A permanent (i.e., long-term) increase in emissions would not occur because no new sources of air emissions are included in the Proposed Action.

**TABLE 3.5. ESTIMATED EMISSIONS FROM TREE REMOVAL ACTIVITIES.**

	<b>NO<sub>x</sub> (tpy)</b>	<b>VOC (tpy)</b>	<b>CO (tpy)</b>	<b>SO<sub>x</sub> (tpy)</b>	<b>PM<sub>10</sub> (tpy)</b>	<b>PM<sub>2.5</sub> (tpy)</b>	<b>Lead (tpy)</b>	<b>CO<sub>2</sub>e (tpy)</b>
<b>Proposed Action</b>	0.073	0.010	0.113	<0.001	0.003	0.002	<0.001	21.017
<b>Applicable <i>de minimis</i> Level or PSD Threshold</b>	100	50	250	250	250	250	25	75,000
<b>Exceeds Threshold?</b>	No	No	No	No	No	No	No	No

**Climate Change and GHGs.** Tree removal activities would produce an estimated 21.017 tons of CO<sub>2</sub>e, representing less than 0.0007 percent of annual CO<sub>2</sub>e emissions in Ocean County. As such, air emissions produced from the Proposed Action would not meaningfully contribute to the



potential effects of global climate change and would not considerably increase the total CO<sub>2</sub>e emissions produced in the region. Operational GHG emissions would not occur. Therefore, adverse impacts from GHGs would be short-term and negligible.

The net change of GHG emissions from the Proposed Action would not exceed the 75,000 tpy PSD threshold for CO<sub>2</sub>e. Therefore, net GHG emissions are considered insignificant on a global scale and would not result in significant impacts on global climate change. To provide real-world context of the GHG and climate change impacts on a national, state, and regional scale, **Table 3.6** provides a relative comparison of the Proposed Action's net GHG emissions versus U.S. state, and county project emissions for the same time period. From a global context, the Proposed Action's GHG emissions would represent 0.00000004 percent of global GHG emissions.

**TABLE 3.6. RELATIVE SIGNIFICANCE OF THE PROPOSED ACTION'S ESTIMATED GHG EMISSIONS.<sup>1</sup>**

Reference Scale	CO <sub>2</sub> (tons)	CH <sub>4</sub> (tons)	N <sub>2</sub> O (tons)	CO <sub>2</sub> e (tons) <sub>2</sub>	Comparison to Reference Scale <sup>3</sup>
<b>Proposed Action</b>	20.94391	0.000838043	0.000175642	21.017	N/A
<b>Ocean County</b>	2,988,713	4,512	37	3,112,539	0.00068%
<b>New Jersey</b>	64,359,009	52,708	714	65,889,481	0.000032%
<b>U.S.</b>	4,849,797,273	6,040,675	119,777	5,036,507,69 <sub>4</sub>	0.00000042 %

Source: USEPA 2023

Notes: <sup>1</sup> Values represent emissions over a 1-year period.

<sup>2</sup> To calculate the total CO<sub>2</sub>e, all GHGs are multiplied by their global warming potential and the results are added together. The global warming potentials used to calculate CO<sub>2</sub>e are as follows: CO<sub>2</sub> = 1; CH<sub>4</sub> = 25; N<sub>2</sub>O = 298.

<sup>3</sup> CO<sub>2</sub>e emissions from the Proposed Action were compared to the annual county, state, and U.S. CO<sub>2</sub>e emissions as reported for 2020.

Key: CH<sub>4</sub> – methane; N<sub>2</sub>O – nitrous oxide; N/A = not applicable

Ongoing changes to climate patterns in New Jersey are described in **Section 3.1.1**. These climate changes are unlikely to affect DAF's ability to implement the Proposed Action. Embodied carbon stored in trees targeted for removal would slowly be released over time in the form of CO<sub>2</sub> as decomposition occurs. These CO<sub>2</sub> emissions occur naturally as part of the carbon cycle and would not be considered in the installation's emissions inventory or be counted towards the installation's potential to emit. After removal and cutting of trees, carbon would remain sequestered in materials remaining on the forest floor, soils, and in underground biomass. A net decrease of forested area also would increase the potential for runoff in the short-term, as there would be less vegetation to absorb rainfall. Coupled with increased rainfall intensity and increased frequency and severity of flood events from climate change, faster runoff rates and more frequent surges in water volume may occur around Maxfield; however, these effects would not be significant. Drainage and stormwater management features are maintained around the airfield to manage the flow of

stormwater and the potential for increased runoff would not affect airfield operations. Additionally, as described in **Section 3.2.2.2.**, the proposed tree removal would cause a gradual progression of the forest ecosystem in the project area, which would be dominated by low-growing, and slow-growing trees, shrubs, and herbaceous plants in the long-term and would contribute to rainfall absorption. Therefore, no future climate scenario or potential future climate stressor would have significant effects on the Proposed Action, nor would the Proposed Action meaningfully contribute to the occurrence of such events.

The estimated social cost of GHGs from tree removal activities would be approximately \$2,477.58. **Table 3.7** summarizes the annual social cost of GHGs from the Proposed Action.

**TABLE 3.7. THEORETICAL SOCIAL COST OF GHGs FOR THE PROPOSED ACTION (IN 2020 DOLLARS).**<sup>1,2,3</sup>

	Social Cost - CO <sub>2</sub>	Social Cost - CH <sub>4</sub>	Social Cost - N <sub>2</sub> O	Social Cost - GHGs
<b>Proposed Action</b>	\$2,470.00	\$1.21	\$6.37	\$2,477.58

Source: USEPA 2023

Notes: <sup>1</sup> Social costs were calculated using a 2.5 percent discount rate in 2020 dollars.

<sup>2</sup> Social costs calculated for the year 2025.

Key: CH<sub>4</sub> – methane; N<sub>2</sub>O – nitrous oxide

### 3.5.2.3 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented, selective tree removal would not occur, and associated air emissions would not occur. Therefore, no impacts on air quality would be expected.

## 3.6 Safety and Occupational Health

### 3.6.1 Affected Environment

*Airfield Safety.* As described throughout **Section 1**, UFC 3-260-01 *Airfield and Heliport Planning and Design* dictates safe tree heights for airfield imaginary flight surfaces for Class A airfields. Per UFC 3-260-01, trees must be at least 10 ft below the elevation of the 40:1 approach-departure glide slope and 7:1 lateral transitional surfaces for safe aircraft flight operations at Maxfield.

JB MDL has notable BASH issues that can result from birds or other wildlife present at or on the airfields, potentially impacting aircraft on the approach or departure from Maxfield runways. DAF policy found in AFI 91-202, *USAF Mishap Prevention Program* and AFI 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program* requires that habitat in the vicinity of an airfield be managed so that it is not an attractant for wildlife. For this reason, DAF policy requires wildlife hazing, dispersal, control, depredation activities, or habitat manipulations under the auspices of a BASH Plan administered by the Wing Flight Safety office. The 305 Air Mobility Wing actively implements a BASH Plan to reduce the potential for bird and other wildlife strikes to occur at the base.

*Contractor Safety.* The Occupational Safety and Health Administration (OSHA) Occupational Safety and Health Standards for Logging Operations (29 CFR § 1910.266) establishes safety practices, means, methods, and operations for tree felling operations, and would apply regardless of whether the felled trees are left in the woods or harvested for wood products. Many of the hazards found in tree felling and tree removal operations are also addressed within the OSHA General Industry standards in 29 CFR § 1910, which includes *Protection from Falls and Falling*

*Objects* (29 CFR § 1910 Subparts D and I). Other OSHA Standards applicable to tree felling operations include: the *Walking-Working Surfaces* standard (29 CFR § 1910 Subpart D); the *Personal Protective Equipment* standard (29 CFR § 1910 Subpart I); the *Vehicle-Mounted Elevating and Rotating Work Platform* standard (29 CFR § 1910.67); the *Machinery and Machine Guarding* standard (29 CFR § 1910 Subpart O); the *Flammable Liquids* standard (29 CFR § 1910.106); and the *Occupational Noise Exposure* standard (29 CFR § 1910.95(b)(1)).

The American National Standards Institute (ANSI) publication *Z133 Safety Requirements for Arboricultural Operations Manual* establishes safety standards for tree care operations such as pruning, trimming, repairing, maintaining, and removing trees. The purpose of the Z133 standard is to provide safety criteria for both workers and the public.

In addition to OSHA regulations, workers on JB MDL are required to follow applicable safety protocols when working within or adjacent to sites addressed under the Defense Environmental Restoration Program (ERP). The ERP was established in 1986 to provide for the cleanup of DoD property at active installations, Base Realignment and Closure installations, and formerly used defense sites throughout the U.S. and its territories. The Environmental Restoration Program at JB MDL consists of the Installation Restoration Program, the Military Munitions Response Program, and the Building Demolition and Debris Removal Program. The IRP addresses contaminated sites, while the MMRP addresses nonoperational military ranges and other sites suspected or known to contain unexploded ordnance (UXO), discarded military munitions, or munitions constituents. The project area is located within potential Munitions and Explosives of Concern areas that are monitored under the Military Munitions Response Program.

### **3.6.2 Environmental Consequences**

#### **3.6.2.1 Significance Criteria**

The criteria considered to determine whether an alternative would result in risks to health and safety from construction includes the extent or degree to which an alternative would result in the following:

Noticeable increase in risks associated with the safety of contractors, military personnel, or the public

Introduction of a new risk for which DAF is not prepared or does not have adequate management and response plans in place

Inability to meet health and safety standards or adhere to OSHA/DAF regulations.

#### **3.6.2.2 Proposed Action**

Under the Proposed Action, *short and long-term, negligible, adverse and long-term, moderate, beneficial* impacts on health and safety would occur from the Proposed Action.

*Airfield Safety.* Long-term, beneficial impacts on airfield safety would be anticipated from the removal of trees that violate vertical clearance criteria specified in UFC 3-260-01 *Airfield and Heliport Planning and Design*. Tree removal would ensure safe flight operations for aircraft using the Maxfield runways, especially at night or during poor visibility conditions when pilots must rely on instruments for navigation.

Long-term, negligible, adverse impacts on airfield safety could occur from the generation of forest openings caused by tree cutting, which could be an attractant for wildlife, such as deer, adjacent to the airfield. Additionally, open wetland areas that may be created by tree cutting could be an attractant for waterfowl and other birds. Following tree removal activities, JB MDL would monitor wildlife populations within the project area and implement the measures prescribed in the installation INRMP and BASH Plan to reduce any resultant BASH risk and comply with the requirements in AFI 91-202, *USAF Mishap Prevention Program* and AFI 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program*. If additional wildlife control actions are required, JB MDL would utilize the services of the USDA-Wildlife Services agency to implement necessary control measures.

*Contractor Safety.* Short-term, negligible, adverse impacts on contractor safety would occur during tree removal due to the inherent risks to contractors associated with such activities. The Proposed Action would entail use of a hand-held chain saw, specialized tree felling equipment (e.g. feller-buncher), and woodchipper or other mulching equipment. Tree removal operations, such as tree felling, limbing, and removal, expose workers to a number of hazards, such as falling trees/branches, use of dangerous equipment, and proximity to vehicles and heavy machinery. These hazards present in tree removal operations can result in fatalities and serious injuries. Common risk factors considered when manual felling with a chainsaw include:

- leaning, stressed, rotten cores, unpredictable trees
- difficult ground conditions and slope
- undefined or not clearly identifiable escape routes
- chainsaw recoil or kickback
- objects or branches falling from the tree you are working on and other trees in the vicinity
- nearby structures and powerlines
- other trees in the intended fall direction
- inclement weather conditions such as strong winds.

To minimize risk to contractors conducting tree removal activities, the Proposed Action would be conducted in accordance with applicable federal, state, DAF, and local worker safety and regulatory requirements and guidelines, including those established by OSHA. For the Proposed Action, contract specifications for tree work would require adherence to OSHA and DAF safety regulations as well as the ANSI Standard *Z133 Safety Requirements for Arboricultural Operations Manual*. Contracts to implement the Proposed Action would also specify that the activity requires experienced tree workers working under the oversight and supervision of a professional Arborist and/or logger.

As the project area is located within potential Munitions and Explosives of Concern areas, tree removal contractors would be accompanied by an appropriately trained and qualified UXO technician that would conduct a sweep of the tree removal areas prior to entering. No ground disturbance would occur under the Proposed Action, and sweep of the project area by the UXO technician would be conducted to confirm no ground-level UXO is present.

### **3.6.2.3 No Action Alternative**

Under the No Action Alternative, the Proposed Action would not be implemented, and selective tree removal would not occur. Therefore, no impacts on contractor safety would be anticipated. However, no action would perpetuate and potentially increase the hazards to safe aircraft operations due to continued and increased intrusion of tree crowns into the airfield imaginary flight



surfaces, in violation of UFC 3-260-01 *Airfield and Heliport Planning and Design*. Therefore, short- and long-term, moderate, adverse impacts on airfield safety are anticipated under the No Action Alternative.

### 3.7 Noise

#### 3.7.1 Affected Environment

Noise is defined as undesirable sound that interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Human response to noise varies depending on the type and characteristics of the noise, distance between the noise source and the receptor, receptor sensitivity, and time of day. Sensitive noise receptors could include specific locations (e.g., churches, schools, hospitals) or an expansive area (e.g., nature preserves, conservation areas) in which occasional or persistent sensitivity to noise above ambient levels exist.

Sound intensity is quantified using a measure of sound pressure level called decibels (dB). The A-weighted decibel (dBA) is a measurement in which “A-weighting” is applied to the dB to deemphasize the higher and lower frequencies that the human ear does not perceive well to approximate the frequency response representing the human perception of sound. The range of audible sound for humans is considered to be 1 to 130 dBA and the threshold of audibility is generally within the range of 5 to 25 dBA (USEPA 1981a, USEPA 1981b). The threshold for perception of a noise change is 5 dBA. A sound level that increases by 10 dBA is perceived as being twice as loud, and a sound level that decreases by 10 dBA is perceived as being half as loud (USEPA 1971).

Day-night sound level (DNL) is used to describe the average sound energy in a 24-hour period. Due to their potential to be particularly intrusive, noise events occurring between 10 p.m. and 7 a.m. are assessed a 10 dB adjustment when calculating DNL. DNL is a useful descriptor for aircraft noise because it averages ongoing yet intermittent noise.

The Noise Control Act of 1972 (42 USC § 4901 et seq.) directs federal agencies to comply with federal, state, and local noise control regulations. NJDEP sound level standards are codified in New Jersey Administrative Code §§ 7:29-1.1 – 7:29-1.8, which restricts continuous noise from stationary commercial and industrial properties, when measured at residential properties, to 65 dBA or less during daytime hours (7 a.m. to 10 p.m.) and to 50 dBA or less during nighttime hours (10 p.m. to 7 a.m.); and restricts all impulsive sound to 80 dBA or less. According to the USEPA, continuous and long-term noise exposure to levels in excess of 65 dB is normally incompatible with noise-sensitive land uses such as residences, schools, churches, and hospitals (USEPA 1974). According to the U.S. Department of Housing and Urban Development, residential units and other noise-sensitive land uses are “clearly unacceptable” in areas where noise exposure exceeds 65 dBA, and “normally acceptable” in areas where noise exposure is 65 dBA or less (24 CFR § 51).

Existing sources of noise at JB MDL include military aircraft overflights, airfield operations, munitions use, vehicular traffic, and ground maintenance activities. The ambient noise environment within the project area is affected mainly by aircraft operations at Maxfield airfield. Noise from aircraft operations decreases with increasing distance from the airfield and attenuates to 75 dB DNL and below within the forested areas surrounding the airfield (JB MDL 2013). Some aircraft noise is attenuated by the trees and broad forest cover surrounding the airfield, providing partial year-round noise abatement for off-installation areas. Land uses of the airfield and

surrounding areas are designated as Airfield, Operations/Airfield, Operations: Training, and Open Space. Noise from aircraft operations is considered compatible with these land uses.

The nearest on-installation noise sensitive receptors to the Maxfield airfield include the LTA HD, approximately 0.4 miles east of the project area, and the family housing area on Lansdowne Road approximately 1 mile east of the project area. Ambient daytime noise from aircraft operations at the LTA HD is below 70 dB DNL, while noise at the family housing area is below 65 dB DNL. The closest off-installation noise sensitive receptors to the airfield include residential homes along County Route 571, approximately 0.8 miles northeast, where daytime ambient noise from aircraft operations is between 65 and 70 dB DNL (JB MDL 2013).

### 3.7.2 Environmental Consequences

#### 3.7.2.1 Significance Criteria

Analysis of noise impacts is based on changes to the ambient noise environment or potential changes to land compatibility due to the Proposed Action. Noise impacts would be considered significant if the Proposed Action were to result in the violation of applicable federal, state, or local noise regulations; create appreciable areas of incompatible land use outside the installation boundary; or result in noise that would negatively affect the health of the community.

#### 3.7.2.2 Proposed Action

Noise from tree removal activities under the Proposed Action would result in *short-term, negligible, adverse impacts* on the ambient noise environment. Tree removal would require the use of equipment such as skidders, loaders, mulchers, chippers, and chainsaws that would generate temporary increased noise levels. Noise levels for similar equipment are listed in **Table 3.8**. Individual pieces of equipment could produce noise levels between 71 and 95 dBA at a distance of 50 ft. Noise generated by the Proposed Action would decrease with increasing distance from the project area, and these noise levels would attenuate to below 65 dBA between approximately 100 and 1,400 ft from the source (TRS Audio 2025). The Proposed Action would occur within the context of the Maxfield airfield, where aircraft operations are common and where noise levels can be 65 dBA and above. Any additive noise levels from equipment, which combined with the typical noise from existing activities, would be short-term and negligible.

**TABLE 3.8. AVERAGE NOISE LEVELS FOR COMMON CONSTRUCTION EQUIPMENT.**

Equipment	Predicted Noise Level at 50 ft (dBA)	Predicted Noise Level at 250 ft (dBA)	Predicted Noise Level at 500 ft (dBA)	Predicted Noise Level at 1,000 ft (dBA)
Truck	83 to 94	69 to 80	63 to 74	57 to 68
Backhoe	71 to 93	57 to 79	51 to 73	45 to 67
Loader	72 to 82	58 to 68	52 to 62	46 to 56
Tractor	75 to 95	61 to 81	55 to 75	49 to 69
Chainsaw	72 to 81	58 to 67	52 to 61	46 to 55

Sources: USEPA 1971, TRS Audio 2024

Tree removal may also require several pieces of equipment to be used simultaneously. In general, the addition of a piece of equipment with identical noise levels to another piece of equipment would add approximately 3 dB to the overall noise environment (USEPA 1971). Additive noise from multiple pieces of equipment operating simultaneously would increase the overall noise environment by a few dB over the noisiest equipment, depending on the noise levels. Equipment noise would be limited to the immediate vicinity of the project area where the primary receptors would be project workers. Adherence to appropriate OSHA standards, see **Section 3.6.2.1**, would protect the workforce from excessive noise. In addition, workers would be required to use proper personal hearing protection in accordance with Air Force Occupational Safety and Health Standard 48-20, *Operational Noise and Hearing Conservation Program*, to limit exposure to high noise levels.

Cutting and removal of trees would negligibly impact the broad forest cover around the Maxfield and would not impact the forest areas outside of the installation boundary. The remaining tree cover would continue to provide partial year-round noise abatement for off-installation areas from aircraft noise from the Maxfield.

The LTA HD, the family housing area on Lansdowne Road, and the residential homes along County Route 571 are more than 2,000 ft from the Maxfield airfield and any noise from tree removal would attenuate to below 65 dBA before reaching these noise sensitive receptors. Therefore, impacts on noise sensitive receptors would not occur. Noise from the Proposed Action would only occur for the duration of the tree removal activities and would be confined to normal workdays and working hours (i.e., 7 a.m. to 5 p.m.). The Proposed Action would not violate New Jersey noise regulations or U.S. Department of Housing and Urban Development noise guidelines. All applicable noise laws and guidelines would be followed to reduce the effects from noise produced by tree management activities.

### **3.7.2.3 No Action Alternative**

Under the No Action Alternative, the Proposed Action would not be implemented, selective tree removal would not occur, and therefore associated temporary increases in noise levels also would not occur. No impacts on the ambient noise environment would be expected.

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## 4.0 CUMULATIVE IMPACTS

A cumulative impact is defined under 40 CFR § 1508.1(i)(3) as the impact on the environment that results from the incremental impact of an action when added to the impacts of other past, present, and reasonably foreseeable future actions regardless of what agency (federal, nonfederal) or person undertakes such other actions. Cumulative impacts are most likely to arise when a relationship or synergism exists between a proposed action and other actions expected to occur in a similar location or during a similar time. Actions overlapping with or in proximity to the proposed action have more potential for a relationship than those more geographically separated. Similarly, relatively concurrent actions would tend to offer a higher potential for cumulative impacts.

### 4.1 Past, Present, and Reasonably Foreseeable Actions

Past actions are those actions, and their associated impacts, that have shaped the current environmental conditions of the project area. Therefore, the impacts of past actions are now part of the existing environment and are included in the affected environment described in **Sections 3.2 through 3.7**.

Reasonably foreseeable actions that could have a causal relationship to the Proposed Action and contribute to cumulative impacts on the human environment are described in **Table 4.1**. Although additional projects are proposed on JB MDL which could occur within the same temporal span as the Proposed Action, only reasonably foreseeable actions that occur in a similar location to the Proposed Action, to include within the same watershed, and with the potential to contribute to cumulative effects when combined with the Proposed Action are included in **Table 4.1**. Other reasonably foreseeable projects that could occur on JB MDL but would not be expected to contribute to cumulative effects when combined with the Proposed Action include a) construction of a new dormitory on McGuire; b) installation of aerators in ponds on JB MDL; c) demolition and construction of wells on Dix within the cantonment area; d) installation of a septic system on Dix; e) removal of berms south of the McGuire runways; f) construction of a McGuire perimeter road; and g) construction of an addition to the McGuire Combat Arms Training and Maintenance Facility.

The potential impacts of the reasonably foreseeable actions, when combined with the effects of the Proposed Action, are presented in **Section 4.2**. Environmental trends of the reasonably foreseeable future actions in **Table 4.1** indicate increased facility construction and demolition at JB MDL based upon a more efficient use of currently developed areas, and economic growth from temporary and permanent employment opportunities.

**TABLE 4.1. REASONABLY FORESEEABLE ACTIONS.**

	<b>Project Name and Location</b>	<b>FY Planned</b>	<b>Impacted Project Area (square feet)</b>	<b>Description of Action</b>
1	Demolish and Construct Lakehurst Air Traffic Control Tower (Lakehurst airfield east of runway intersection)	Anticipated FY24-28	6,495-9,200	Demolition of the existing facility and construction of a new facility. The project will include multiple stories and a laydown yard.
2	Commercial Gate Security Improvements (Lakehurst Area)	Anticipated FY24	Approx. 130,000	Renovation of the existing main gate to meet security requirements. Includes construction of a new guardhouse, new configuration of driving lanes, and demolition of the old guardhouse and driving lanes.
3	Hangar Demolition (Lakehurst Area)	To be determined	Approx. 1,104,000	Demolition of Hangars 5 and 6 within fully developed, disturbed lands. Hangars and the concrete pad would be removed to increase infiltration of rainwater.
4	Airfield Tree Removal within Maxfield Airfield Boundary	To be determined	Not available	Per the JB MDL INRMP, trees violating airfield safety criteria would be removed within the airfield boundary fence.

## 4.2 Assessment of Cumulative Impacts by Resource

Based upon the scope of the Proposed Action, negligible to no impacts were identified for the following resources: Socioeconomics and Environmental Justice, Utilities and Infrastructure, Transportation, Land Use, Earth Resources, and Hazardous and Toxic Materials and Waste. Therefore, it was determined that the Proposed Action would not interact with reasonably foreseeable actions potentially resulting in cumulative impacts on these resources, and they are not carried forward for detailed cumulative effects analysis in this EA.

### 4.2.1 Biological Resources

*Short- and long-term, negligible, adverse, cumulative impacts* would be expected from the Proposed Action when combined with other reasonably foreseeable projects at JB MDL. Impacts to forests on JB MDL from reasonably foreseeable actions specified in **Table 4.1** would be insignificant due to a limited number of forest acres affected. The Proposed Action would selectively remove trees that violate the UFC 3-260-01 - *Airfield and Heliport Planning and Design* standards within approximately 477 acres of the project area. JB MDL currently has approximately 4,230 acres of native forests that are representative of the forests of the New Jersey Pine Barrens region. Other large forest tracks are present adjacent to the installation boundary, including a State Forest Reserve. Reasonably foreseeable projects that include construction and

the Airfield Tree Removal project identified in **Table 4.1** would also require tree removal, reducing overall tree numbers on JB MDL. However, the Airfield Tree Removal project would occur within areas that are regularly maintained to meet airfield safety criteria and current forested land area would not be converted to non-forested land under the Proposed Action.

Most of the JB MDL forest lands are even-aged stands greater than 45 years in age. Removal of trees under reasonably foreseeable projects and the Proposed Action would create an uneven-aged forest on JB MDL by removing some of the older trees and creating forest openings wherein other trees, shrubs, and plant species would have the opportunity to grow.

Selective tree cutting would convert a closed-canopy forest to a more open-canopy forest that would result in the creation of additional early-successional wildlife habitat. The new growth would provide an increase in preferred habitat for a variety of wildlife species, such as snakes, turtles, songbirds, skunks, opossums, rabbits, turkey, white-tailed deer, and pollinator insects like butterflies and bees. These new habitat areas could be utilized by wildlife species displaced by construction in other areas of the installation. Large tracts of mature late-successional forest habitat would remain within the installation and on adjacent State Forest lands.

Construction of the new facilities indicated in **Table 4.1** would mostly occur in previously disturbed areas of high-volume human activity and would not result in significant impacts on terrestrial wildlife related to habitat loss. In general, wildlife in the project area are already exposed to high levels of aircraft operations and other human disturbances, and the Proposed Action and reasonably foreseeable projects would result in some additional sensory disturbance impacts. For MBTA-protected species, the cumulative impacts from stressors from the Proposed Action and actions identified in **Table 4.1** would not result in a significant adverse effect on migratory bird populations.

#### **4.2.2 Cultural Resources**

The Proposed Action would have no adverse effect on JB MDL cultural resources. There would be *no cumulative impacts* to historical or archaeological resources from the Proposed Action and the reasonably foreseeable actions.

#### **4.2.3 Water Quality**

*Short and long-term minor, adverse, cumulative impacts* on water resources would be expected from implementation of the Proposed Action when combined with reasonably foreseeable actions at JB MDL. For reasonably foreseeable actions, short-term impacts on water resources, such as stormwater runoff, erosion, and sedimentation could occur during construction and demolition. These impacts would be avoided and minimized by adhering to the JB MDL Stormwater Pollution Prevention Plan and installation of BMPs. Similarly, the Proposed Action and reasonably foreseeable Airfield Tree Removal project could result in short-term impacts on water resources from vehicle foot disturbance during tree removal; however, the USFWS and NJDEP approved INRMP would be followed, which provides for the control and elimination of pollution and sedimentation from forestry activities into surface water or groundwater systems.

Long-term impacts could occur from the reasonably foreseeable construction projects due to an increase in stormwater runoff and erosion and sedimentation associated with the potential net increase in impervious surfaces; however, the reasonably foreseeable demolition project would decrease impervious surfaces on the installation, resulting in decreased stormwater runoff. Because the nature of the wetlands within the project area could be altered due to the removal of shade from

some overstory trees, the Proposed Action would contribute to long-term cumulative adverse impacts on water resources. Increased sunlight could have an effect on the prevalence and distribution of wetland plants and associated wildlife habitat type. However, the amount of wetlands affected by the Proposed Action and reasonably foreseeable projects would be limited in consideration of the surface water and wetland acreage on JB MDL and in the region.

#### 4.2.4 Air Quality and Climate

The Proposed Action would have *short-term, negligible, adverse cumulative impacts* on air quality and climate in the region when considered with the reasonably foreseeable actions listed in **Table 4.1**. Reasonably foreseeable construction, demolition, and tree removal actions that coincide with the Proposed Action tree removal would contribute additional air emissions within Ocean County; however, occurrences of additive emissions would be temporary in nature and would cease upon completion of reasonably foreseeable construction activities. Because emissions from the Proposed Actions would not be considered significant for the region, cumulative impacts on air quality from the proposed actions, when combined with other reasonably foreseeable actions, would not be significant.

#### 4.2.5 Safety and Occupational Health

*Short-term, minor, adverse and long-term, moderate, beneficial cumulative impacts* on health and safety at JB MDL would occur from the Proposed Action when considered with the reasonably foreseeable actions listed in **Table 4.1**. Short-term, adverse, cumulative impacts would be expected from increased hazards to contractor workers during implementation of the reasonably foreseeable actions with the Proposed Action. Adherence to established safety procedures, including the use of personal protective equipment, fencing project areas, posting signs, and compliance with all federal, state, and DoD OSHA standards would reduce or eliminate health and safety impacts on contractors. The creation of additional early successional wildlife habitat by the Proposed Action would result in an increase in habitat that may constitute an attractant to wildlife species that may increase the BASH risk around Maxfield; however, none of the reasonably foreseeable actions would also contribute increased potential for BASH risk, and the reasonably foreseeable Airfield Tree Removal project within the airfield boundary fence would reduce wildlife habitat directly adjacent to the airfield.

#### 4.2.6 Noise

The noise from the Proposed Action, when combined with the noise produced by projects listed in **Table 4.1**, would result in *intermittent, short-term, adverse impacts on the noise environment* from the potential for additive noise. This additive noise would be concentrated where the Proposed Action is near reasonably foreseeable projects, such as the Lakehurst Air Traffic Control Tower project and the Airfield Tree Removal project.



## 5.0 REFERENCES

Air Force Instruction 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program*, 31 May 2018.

Carranza, Carlos, James Walsh, Leslie Donovan, Joyce Clements, Elena Decima, and Chris Edens/Baystate Environmental Consultants. 1994. *Cultural Resources Survey for Naval Engineering Station Lakehurst, New Jersey*. Prepared for: Northern Division Naval Facilities Engineering Command, Lester, Pennsylvania. On file at the New Jersey Historic Preservation Office.

Buhlmann, K.A., J.C. Mitchell, and M.G. Rollins. 1997. *New approaches for the conservation of bog turtles, Clemmys muhlenbergii, in Virginia*. Pp. 359-363 in J. Van Abbema (ed.). Proceedings: Conservation, Restoration, and Management of Tortoises and Turtles – an International Conference, July 1993, State University of New York at Purchase. New York Turtle and Tortoise Society, New York.

Sebestyn, Kimberly M. and Steven W. Brann/Cardno TEC. 2014. *Phase I Archaeological Survey at Joint Base McGuire-Dix-Lakehurst, New Jersey*. Prepared for Joint Base McGuire-Dix-Lakehurst. On file at New Jersey Historic Preservation Office.

Carter, S.L., C.A. Haas, and J.C. Mitchell. 1999. Home range and habitat selection of bog turtles in southwestern Virginia. *Journal of Wildlife Management* 63(3): 853-860.

Carter, S.L., C.A. Haas, and J.C. Mitchell. 2000. *Movement and activity of bog turtles (Clemmys muhlenbergii) in southwestern Virginia*. *Journal of Herpetology* 34( 1): 75-80.

Crowder, Alexandra and Joel Dworsky (AECOM). 2022. *Cultural Resources Site Monitoring Form, Joint Base McGuire-Dix-Lakehurst. NJSM Site # 28OC178*. Prepared by AECOM. Form on file, Joint Base McGuire-Dix-Lakehurst, Civil Engineer Environmental Element, New Jersey.

Dahl, K., E. Spanger-Siegfried, R. Licker, A. Caldas, J. Abatzoglou, N. Mailloux, R. Cleetus, S. Udvardy, J. Declet-Barreto, and P. Worth. 2019. *Military Bases at Risk from Extreme Heat GIS Interactive Map*. July 2, 2019. Available online: <https://ucsusa.maps.arcgis.com/apps/MapSeries/index.html?appid=e4e9082a1ec343c794d27f3e12dd006d>.

Dahl, K., E. Spanger-Siegfried, R. Licker, A. Caldas, J. Abatzoglou, N. Mailloux, R. Cleetus, S. Udvardy, J. Declet-Barreto, and P. Worth. 2019. *Killer Heat in the United States, Climate Choices and the Future of Dangerously Hot Days*. July 2, 2019. Available online: <https://www.ucsusa.org/resources/killer-heat-united-states-0>.

Department of the Air Force (DAF), 2018. *U.S. Air Force Integrated Cultural Resources Management Plan, Joint Base McGuire-Dix-Lakehurst*.

DAF. 2022 *Department of the Air Force Climate Action Plan*. Office of the Assistant Secretary for Energy, Installations, and Environment (DAF SAF/IE). October 2022.

DAF. 2023. *Department of the Air Force Climate Campaign Plan*. SAF/IE. July 2023.

Department of Defense Unified Facilities Criteria 3-260-01 *Airfield and Heliport Planning and Design*, 4 February 2019. USEPA. 2019

Department of the Navy. 2009. *Intensive-Level Architectural Survey for the Aircraft Carrier Aviation Integrated Test and Aircraft Launch and Recovery Equipment Facility at Naval Air Engineering Station Lakehurst, Ocean County, New Jersey*. July 2009. Prepared for Department of the Navy, Engineering Field Activity Northeast, Naval Facilities Engineering Command. October 2004.

FAA, USDA. 2005. *Wildlife Hazard Management at Airports, A Manual for Airport Personnel*, Second Edition. July, 2005.

FGDC. 2008. *National Vegetation Classification Standard, Version 2*. Federal Geographic Data Committee, U.S. Geological Survey. Reston, VA.

Helms, J. 2010. Thesis: *A Little Bat and a Big City: Nocturnal Behavior of the Tricolored Bat (Perimyotis subflavus) Near Indianapolis Airport*. Indiana State University. Terre Haute, Indiana.

Joint Base McGuire-Dix-Lakehurst (JB MDL). 2006. *A Survey of Rare, Threatened and Endangered Plant Species on NAES, Lakehurst, 2006*, Geo-Marine (Meegan Wallace)

Joint Base McGuire-Dix-Lakehurst (JB MDL). 2012. *Floral Survey, Joint Base McGuire-Dix-Lakehurst, Dix Training Area, New Jersey*, Center for Environmental Management of Military Lands, Colorado State University, 2011-2012

Joint Base McGuire-Dix-Lakehurst (JB MDL). 2016. *Swamp Pink Survey*, Jennifer Armento, Center for Environmental Management of Military Lands, Colorado State University, 2015-2016

Joint Base McGuire-Dix-Lakehurst (JB MDL). 2019. *Swamp Pink Survey*, Paul Mahon and Don Swaysland, JB MDL Natural Resources, 2019

Klemens, M.W. 1990. *The herpetofauna of southwestern New England*. Ph.D. dissertation, University of Kent, Canterbury, United Kingdom.

Klemens, M.W. 1993a. *The amphibians and reptiles of Connecticut and adjacent regions*. State Geological and Natural History Survey of Connecticut, Bull. I 12: 1-3 18.

Klemens, M.W. 1993b. *Standardized bog turtle site-quality analysis*. Unpublished report to USFWS (State College, PA) December 3 1, 1993.

Leary and Rudolph. 2009. *Phase I Archaeological Survey at Joint Base McGuire-Dix-Lakehurst, New Jersey*. Prepared for Joint Base McGuire-Dix-Lakehurst. On file at New Jersey Historic Preservation Office.

Lee, D. S. and A. W. Norden. 1996. *The distribution, ecology, and conservation needs of bog turtles, with special emphasis on Maryland*. The Maryland Naturalist 40( 1-4):7-46.

Morrow, J.L., J.H. Howard, S.A. Smith, and D. Poppel. 2001. *Home range and movements of the bog turtle (Clemmys muhlenbergii) in Maryland*. Journal of Herpetology 35( 1): 68-73.

New Jersey Department of Environmental Protection (NJDEP). 2007. *State Implementation Plan (SIP) Revision for the Attainment and Maintenance of the Ozone National Ambient Air Quality Standard: 8-Hour Ozone Attainment Demonstration. Final*. October 29, 2007. Available online: <https://dep.nj.gov/airplanning/state-implementation-plans-sips/>.

New Jersey Invasive Species Council. 2009. *New Jersey Strategic Management Plan for Invasive Species*. Trenton, NJ

NJDEP. 2020. *2020 New Jersey Scientific Report on Climate Change*. June 30, 2020. Available online: <https://www.nj.gov/dep/climatechange/data.html>.

NJDEP. 2021. *State Implementation Plan (SIP) Revision for the Attainment and Maintenance of the Ozone National Ambient Air Quality Standards: 2008 75 ppb 8-Hour Ozone Attainment Demonstration Northern New Jersey-New York-Connecticut Nonattainment Area, 2008 75 ppb and 2015 70 ppb 8-Hour Ozone Reasonably Available Control Technology (RACT) Determinations and Nonattainment New Source Review (NNSR) Program Compliance Certifications and 2017 Periodic Emissions Inventory*. November 8, 2021. Available online: <https://dep.nj.gov/airplanning/state-implementation-plans-sips/oa/>.

NJDEP. 2023. *State Implementation Plan (SIP) Revision for Maintenance of the Fine Particulate Matter (PM<sub>2.5</sub>) 2006 24-hour 35 µg/m<sup>3</sup> National Ambient Air Quality Standards, Limited Maintenance Plan Proposal*. July 6, 2023. Available online: <https://dep.nj.gov/airplanning/state-implementation-plans-sips/fine-pm-lmp/>.

NJDEP. 2023. *Air Pollution Control Operating Permit – Joint Base McGuire-Dix-Lakehurst (Lakehurst)*. September 21, 2023.

NOAA. 2021. *Summary of Monthly Normals 1991-2020, Toms River, NJ*. May 2021. Available online: <https://www.ncei.noaa.gov/access/us-climate-normals/>.

Snyder, D., Kaufman, S. 2004. *An Overview of Non-indigenous Plant Species in New Jersey*. New Jersey Department of Environmental Protection, Division of Parks and Forestry, Office of Natural Lands Management, Natural Heritage. Trenton, NJ.

Schwab, N. 2018. *U.S. Air Force Bat Acoustic Survey, Natural Resource Program (Project AFCE50979317)*. U.S. Army Corps of Engineers, Environmental Remediation Branch, Northwestern Division, Omaha District.

Title 32 Code of Federal Regulations Part 989, *Environmental Impact Analysis Process*.

Tontechnik-Rechner-SengPiel Audio (TRS Audio). 2024. *Damping of Sound Level (decibel dB) vs. Distance*. Available online: <http://www.sengpielaudio.com/calculator-distance.htm>.

United States Energy Information Administration (USEIA). 2023. *State Energy-Related Carbon Dioxide Emissions by Year*. July 12, 2023. Available online: <https://www.eia.gov/environment/emissions/state/>.

U.S. Environmental Protection Agency (USEPA). 1971. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. December 31, 1971.

USEPA. 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with and Adequate Margin of Safety*. March 1974.

USEPA. 1981a. *Noise and its Measurement*. January 1981. Noise and its Measurement. January 1981.

USEPA. 1981b. *Noise Effects Handbook*. July 1981.

USEPA. 2016. *What Climate Change Means for New Jersey*. August 2016. Available online: [https://19january2017snapshot.epa.gov/climate-impacts/climate-change-impacts-state\\_.html](https://19january2017snapshot.epa.gov/climate-impacts/climate-change-impacts-state_.html).

USEPA. 2023. *2020 National Emissions Inventory (NEI) Data for New Jersey*. January 2023. Available online: <https://www.epa.gov/air-emissions-inventories/2020-nei-supporting-data-and-summaries>.

USEPA. 2023. *Greenhouse Gas Reporting Program (GHGRP) Emissions by GHG*. October 5, 2023. Available online: <https://www.epa.gov/ghgreporting/ghgrp-emissions-ghg>.

USEPA. 2023. *Report on the Social Cost of Greenhouse Gases: Estimates Incorporating Recent Scientific Advances*. November 2023.

USEPA. 2024. *Facility Level Information on Green House Gases Tool (FLIGHT)*. Available online: <http://ghgdata.epa.gov/ghgp/main.do>.

USEPA. 2024. *New Jersey Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants*. March 31, 2024. Available online: [https://www3.epa.gov/airquality/greenbook/anayo\\_nj.html](https://www3.epa.gov/airquality/greenbook/anayo_nj.html).

United States, Executive Office of the President, Executive Order 11988, *Floodplain Management*. 24 May 1977.

United States, Executive Office of the President, Executive Order 11990, *Protection of Wetlands*. 24 May 1977.

United States, Executive Office of the President, Executive Order 13112 *Invasive Species*. 3 Feb. 1999.

U.S. Fish and Wildlife Service (USFWS). *USFWS Northern Long-Eared Bat Conservation Measures*. Provided in the Programmatic Biological Opinion on Final 4(d) Rule for NLEB and Activities Excepted from Take Prohibitions dated January 5, 2016.

USFWS. 1993. *Knieskern's Beaked-Rush (Rhynchospora knieskernii) Recovery Plan*. Hadley, Massachusetts.

USFWS. 1995. *American Chaffseed (Schwalbea americana) Recovery Plan*. Hadley, Massachusetts.

USFWS. 2001. *Bog Turtle (Clemmys muhlenbergii) Northern Population Recovery Plan*. USFWS Region 5, Hadley, Massachusetts.

Whitehead, J.C., E.L. Mearns, E.D. Lane, L. Kerr, M.L. Finucane, D.R. Reidmiller, M.C. Bove, F.A. Montalto, S. O'Rourke, D.A. Zarrilli, P. Chigbu, C.C. Thornbrugh, E.N. Curchitser, J.G. Hunter, and K. Law, 2023: Ch. 21. Northeast. In: *Fifth National Climate Assessment*. November 14, 2023. Available online: <https://doi.org/10.7930/NCA5.2023.CH21>.

Wisconsin DNR. 2018. *Use of Wisconsin Forests by Bats: Final WDNR Report for the Lake States Forest Management Bat HCP Grant Year 3*.

## 6.0 LIST OF PREPARERS

This EA has been prepared by the Tehama-HDR Joint Venture under the direction of the DAF and JB MD. The individual contractors that contributed to the preparation of this document are listed in **Table 6.1.:**

**Table 6.1 Tehama-HDR Joint Venture Preparers**

Preparers	Degree(s)	Years of Experience
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Timothy Didlake, HDR	B.S. Earth Sciences	16
Carolyn Hein, HDR	B.S. Environmental Science	5
Jones LaFae, Tehama	B.A. Anthropology M.A. Anthropology	8
Matt Held, Tehama	B.S. Geography	23
Adam Majzoub, Tehama	B.S. Geography	7



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## APPENDIX A – AGENCY CORRESPONDENCE

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United States Fish and Wildlife Service  
New Jersey Field Office, Ecological Services  
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609-646-9310 or 609-383-3938  
FOR NEW REVIEWS ONLY:  
[NJFO\\_ProjectReview@fws.gov](mailto:NJFO_ProjectReview@fws.gov)



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 22, 2024

Ms. Catherine Brunson  
NEPA/EIAP Project Manager  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

United States Environmental Protection Agency  
EPA Region 2, Environmental Review Section  
290 Broadway  
New York, NY 10007-1866

SUBJECT: Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey

Attn: Environmental Review Section

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Department of the Air Force (DAF) NEPA regulations at 32 CFR Part 989, DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the removal of trees that encroach into flight surfaces associated with Maxfield runways 15/33 and 06/24 at Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. Trees with heights that encroach into into airfield approach-departure flight surfaces associated with Maxfield runways pose a hazard to safe airfield operations. Many of the trees marked for removal are located within wetlands or near suspected cultural resources sites and unexploded ordnance concerns exist at several of the sites.

The attached map indicates the project area for the Proposed Action. The purpose of the Proposed Action is to maintain the required runway approach-departure glide slopes and lateral clearance zones, and ensure the safety of airfield operations at Maxfield runways. The EA will analyze the potential environmental impacts associated with the selective cutting and removal of trees with heights that violate the criteria specified in UFC 3-260-01.

In preparation for development of the Environmental Assessment, JB MDL is seeking your feedback regarding the Proposed Action. If you have information regarding potential impacts of the Proposed Action on the human environment, which includes the natural and physical environment or other environmental aspects of which we are unaware, we would appreciate receiving such information for inclusion and consideration during the NEPA compliance process.

LET'S GO!

We look forward to and welcome your participation in this process. Please respond within 30 days of receipt of this letter to ensure your concerns are adequately addressed in the Environmental Assessment. Please send your written responses to me via email at [catherine.brunson@us.af.mil](mailto:catherine.brunson@us.af.mil). Thank you in advance for your participation.

Sincerely,

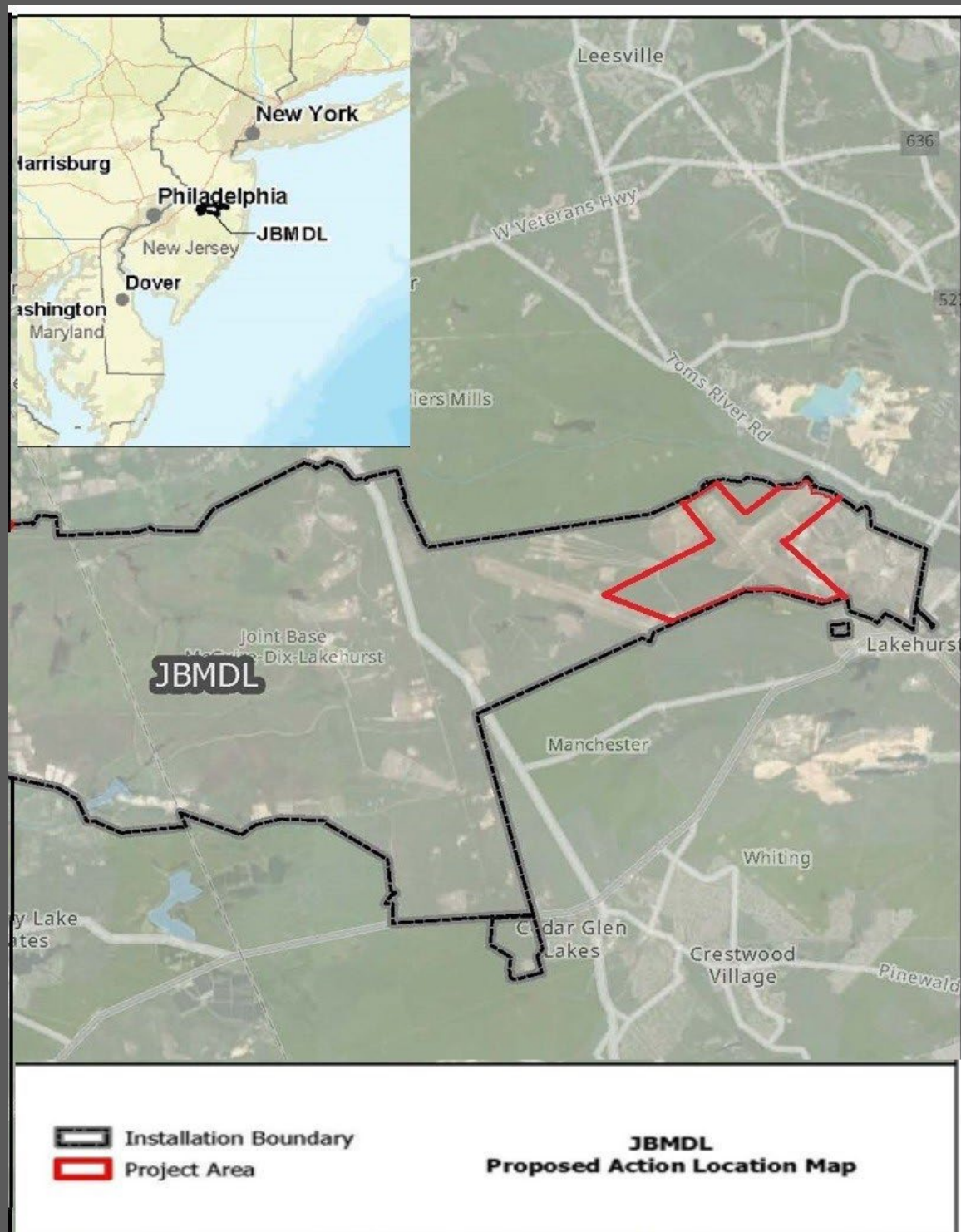
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ATHERINE.E.  
1091059890  
CATHERINE BRUNSON, DAF  
JB MDL, NEPA/EIAP Project Manager

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Attachment:  
Map of the Proposed Action Project Area



**Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey**





DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 22, 2024

Ms. Catherine Brunson  
NEPA/EIAP Project Manager  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

United States Fish and Wildlife Service  
New Jersey Field Office, Ecological  
Services 4 East Jimmie Leeds Road, Unit 4  
Galloway, NJ 08205

SUBJECT: Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey

Attn: Endangered Species Act Section 7 Consultation,

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Department of the Air Force (DAF) NEPA regulations at 32 CFR Part 989, DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the removal of trees that encroach into flight surfaces associated with Maxfield runways 15/33 and 06/24 at Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. Trees with heights that encroach into into airfield approach-departure flight surfaces associated with Maxfield runways pose a hazard to safe airfield operations. Many of the trees marked for removal are located within wetlands or near suspected cultural resources sites and unexploded ordnance concerns exist at several of the sites.

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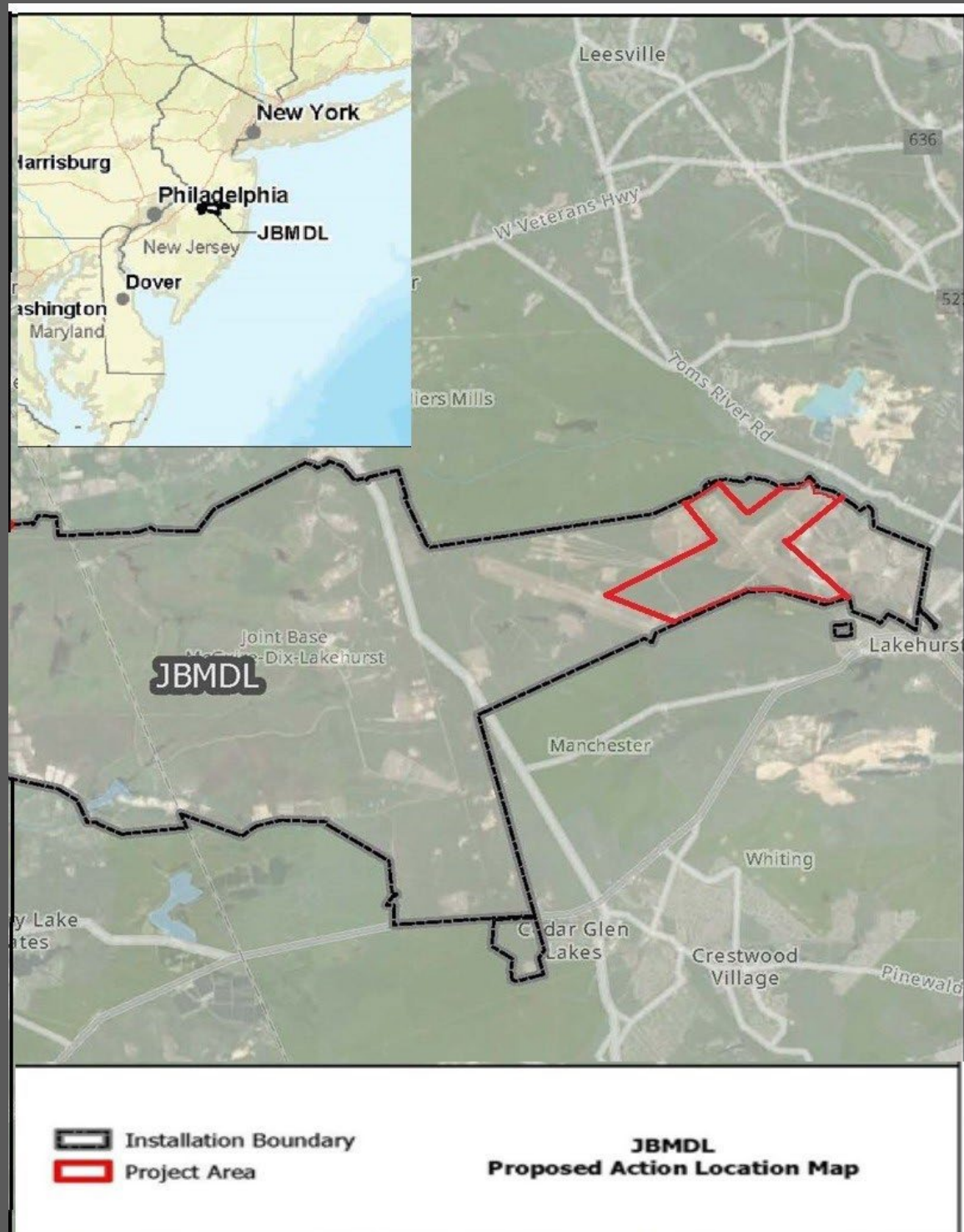
Sincerely,

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ATHERINE.E.  
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CATHERINE BRUNSON, DAF  
JB MDL, NEPA/EIAP Project Manager

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Attachment:  
Map of the Proposed Action Project Area

**Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey**







DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 22, 2024

Ms. Catherine Brunson  
NEPA/EIAP Project Manager  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

Edwin Muniz, Supervisory Soil Scientist  
USDA – Natural Resources Conservation Service  
200 Clocktower Drive, Suite 101  
Hamilton Square, NJ 08690

SUBJECT: Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey

Dear Mr. Muniz,

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Department of the Air Force (DAF) NEPA regulations at 32 CFR Part 989, DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the removal of trees that encroach into flight surfaces associated with Maxfield runways 15/33 and 06/24 at Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. Trees with heights that encroach into into airfield approach-departure flight surfaces associated with Maxfield runways pose a hazard to safe airfield operations. Many of the trees marked for removal are located within wetlands or near suspected cultural resources sites and unexploded ordnance concerns exist at several of the sites.

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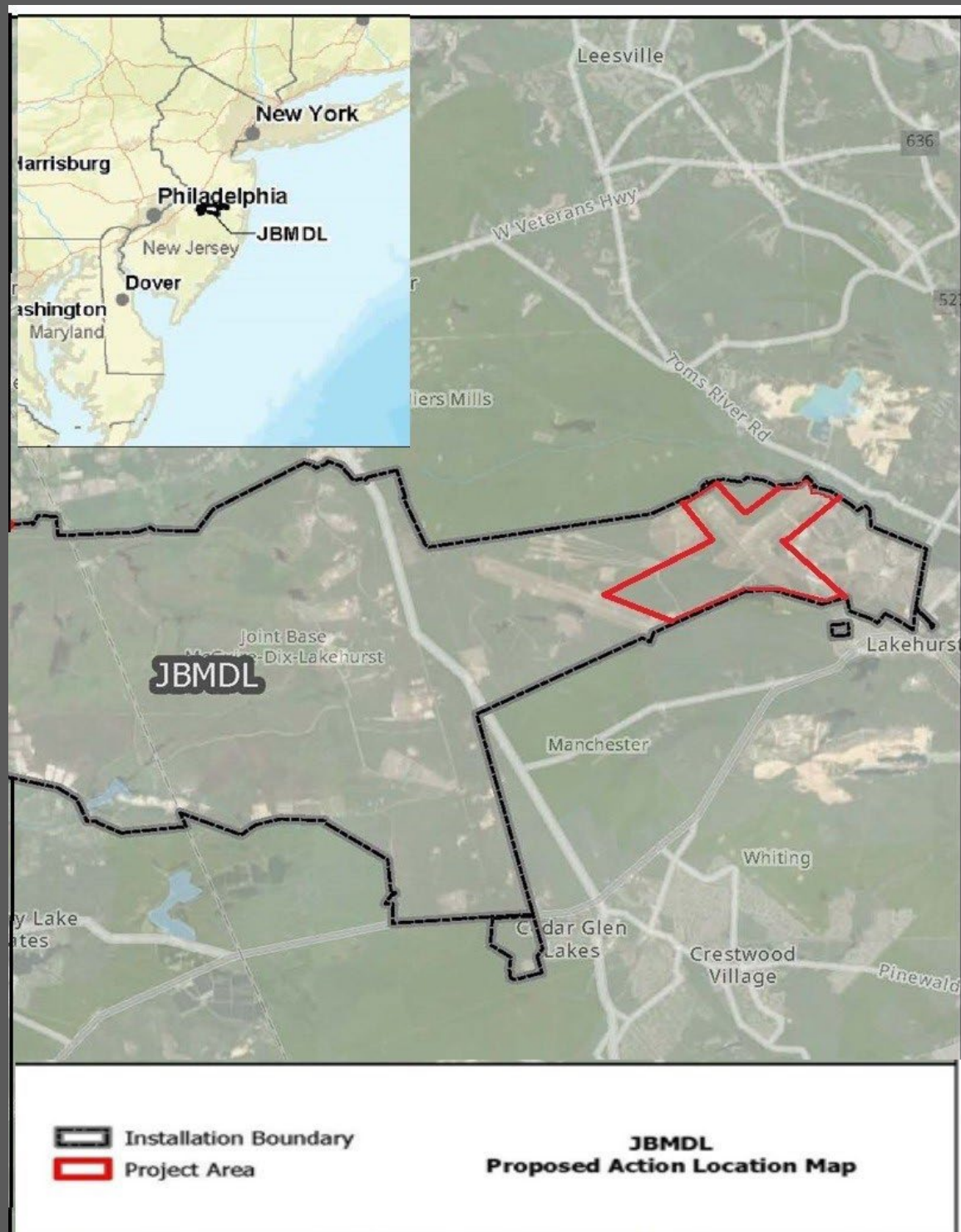
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CATHERINE BRUNSON, DAF  
JB MDL, NEPA/EIAP Project Manager

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Attachment:  
Map of the Proposed Action Project Area

**Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey**





DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 16, 2024

Dr. Sharon D. White  
JB MDL Cultural Resources Manager  
787 CES/CEIEA  
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Joint Base McGuire-Dix-Lakehurst, NJ 08641

Katherine Marcopul, Administrator  
New Jersey Department of Environmental Protection  
Historic Preservation Office  
PO Box 420  
Trenton, NJ 08625-0420

SUBJECT: Removal of Trees Beneath Airfield Flight Surfaces at Maxfield  
Runways, Joint Base McGuire-Dix-Lakehurst, Ocean County, New Jersey

Dear Dr. Marcopul,

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Department of the Air Force (DAF) NEPA regulations at 32 CFR Part 989, DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the removal of trees that encroach into flight surfaces associated with Maxfield runways 15/33 and 06/24 at Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. Trees with heights that encroach into airfield approach-departure flight surfaces associated with Maxfield runways pose a hazard to safe airfield operations. Some of the trees marked for removal are located near an identified cultural resource.

Additionally, unexploded ordnance concerns exist within the project area.

The attached map indicates the project area for the Proposed Action. The purpose of the Proposed Action is to maintain the required runway approach-departure glide slopes and lateral clearance zones, and ensure the safety of airfield operations at Maxfield runways. The EA will analyze the potential environmental impacts associated with the selective cutting and removal of trees with heights that violate the criteria specified in UFC 3-260-01.

Pursuant to 54 United States Code § 306108 of the National Historic Preservation Act, and in accordance with 36 Code of Federal Regulations Part 800 (Protection of Historic Properties), the DAF would like to initiate consultation concerning the Proposed Action and the proposed archaeological and architectural Areas of Potential Effect to allow you the opportunity to provide comments, concerns, and/or suggestions you might have. The Areas of Potential Effect include the aforementioned airfield approach-departure glide slope and runway lateral clearance areas as described in UFC 3-260-01 and as indicated on the attached map. The Preferred Alternative will be to cut and remove violating trees within 100' of roadways, and to cut and leave violating trees further from the

road. Mechanical equipment may be used to cut and remove trees, with the expectation that minimal soil disturbance will occur.

JB MDL intends to conduct a Phase 1A cultural resources sensitivity assessment along with a field inspection of the affected area by a cultural resources specialist. Information received will be used to determine the potential for the presence of cultural resources that are eligible for listing in the National Register of Historic Places, and if so, whether the Proposed Action would cause adverse effects that must be addressed.

In preparation for development of the Environmental Assessment, JB MDL is seeking your feedback regarding the Proposed Action. If you have information regarding potential impacts of the Proposed Action on the human environment, which includes the natural and physical environment or other environmental aspects of which we are unaware, we would appreciate receiving such information for inclusion and consideration during the NEPA compliance process.

Your feedback is important and a response within 30 days of receipt of this letter would enable us to ensure that your concerns are fully considered in our evaluation. Please be assured that, in accordance with confidentiality and disclosure stipulations in 54 United States Code § 307103, we will maintain strict confidentiality about certain types of information regarding historic properties.

If we can provide any assistance or additional information that would aid in your review, please feel free to contact me via email at [sharon.white.7@us.af.mil](mailto:sharon.white.7@us.af.mil). Thank you in advance for your participation.

Sincerely,

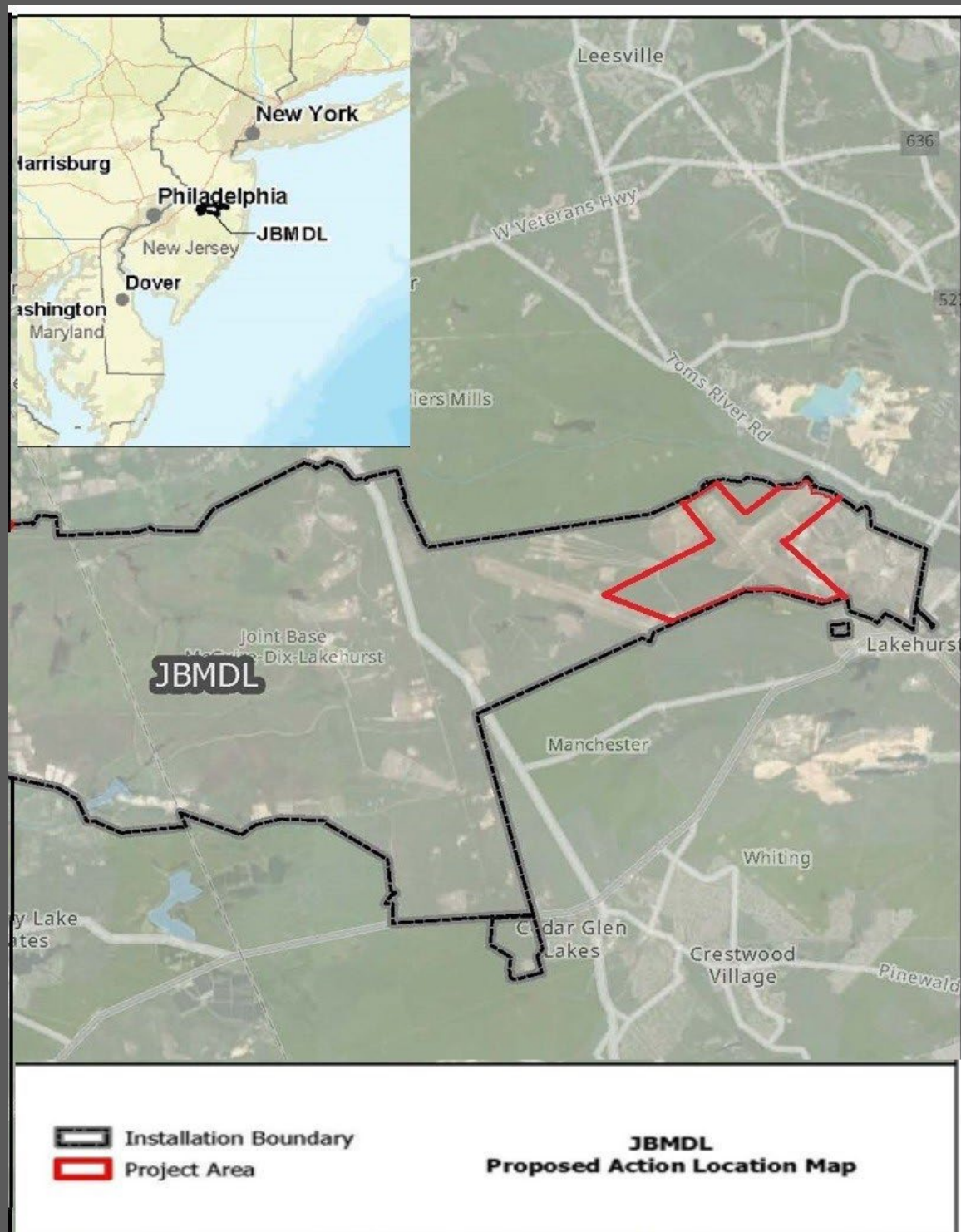
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**.D.1567708388**  
**DR. SHARON D. WHITE, DAF**  
**JB MDL, Cultural Resources Manager**

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Attachment:  
Map of the Proposed Action Project Area



**Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey**







DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 16, 2024

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SUBJECT: Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire- Dix-Lakehurst, Ocean County, New Jersey

Dear Ms. Cureton,

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Department of the Air Force (DAF) NEPA regulations at 32 CFR Part 989, DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the removal of trees that encroach into flight surfaces associated with Maxfield runways 15/33 and 06/24 at Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. Trees with heights that encroach into airfield approach-departure flight surfaces associated with Maxfield runways pose a hazard to safe airfield operations. Some of the trees marked for removal are located near an identified cultural resource.

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JB MDL intends to conduct a Phase 1A cultural resources sensitivity assessment along with a field inspection of the affected area by a cultural resources specialist. Information received will be used to determine the potential for the presence of cultural resources that are eligible for listing in the National Register of Historic Places, and if so, whether the Proposed Action would cause adverse effects that must be addressed.

In preparation for development of the Environmental Assessment, JB MDL is seeking your feedback regarding the Proposed Action. If you have information regarding potential impacts of the Proposed Action on the human environment, which includes the natural and physical environment or other environmental aspects of which we are unaware, we would appreciate receiving such information for inclusion and consideration during the NEPA compliance process.

Your feedback is important and a response within 30 days of receipt of this letter would enable us to ensure that your concerns are fully considered in our evaluation. Please be assured that, in accordance with confidentiality and disclosure stipulations in 54 United States Code § 307103, we will maintain strict confidentiality about certain types of information regarding historic properties.

If we can provide any assistance or additional information that would aid in your review, please feel free to contact me via email at [sharon.white.7@us.af.mil](mailto:sharon.white.7@us.af.mil). Thank you in advance for your participation.

Sincerely,

**WHITE.SHARON**  
**.D.1567708388**  
**DR. SHARON D. WHITE, DAF**  
**JB MDL, Cultural Resources Manager**

Digitally signed by  
WHITE.SHARON.D.1567708388  
Date: 2024.01.18 09:30:46  
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Attachment:

Map of the Proposed Action Project Area

**Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey**





DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 22, 2024

Ms. Catherine Brunson  
NEPA/EIAP Project Manager  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

New Jersey Department of Environmental Protection  
Division of Fish and Wildlife  
Endangered and Nongame Species Office  
Mail Code 501-03  
PO Box 420  
Trenton, NJ 08625-0420

SUBJECT: Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey

Attn: Endangered and Nongame Species Program Manager,

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Department of the Air Force (DAF) NEPA regulations at 32 CFR Part 989, DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the removal of trees that encroach into flight surfaces associated with Maxfield runways 15/33 and 06/24 at Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. Trees with heights that encroach into airfield approach-departure flight surfaces associated with Maxfield runways pose a hazard to safe airfield operations. Many of the trees marked for removal are located within wetlands or near suspected cultural resources sites and unexploded ordnance concerns exist at several of the sites.

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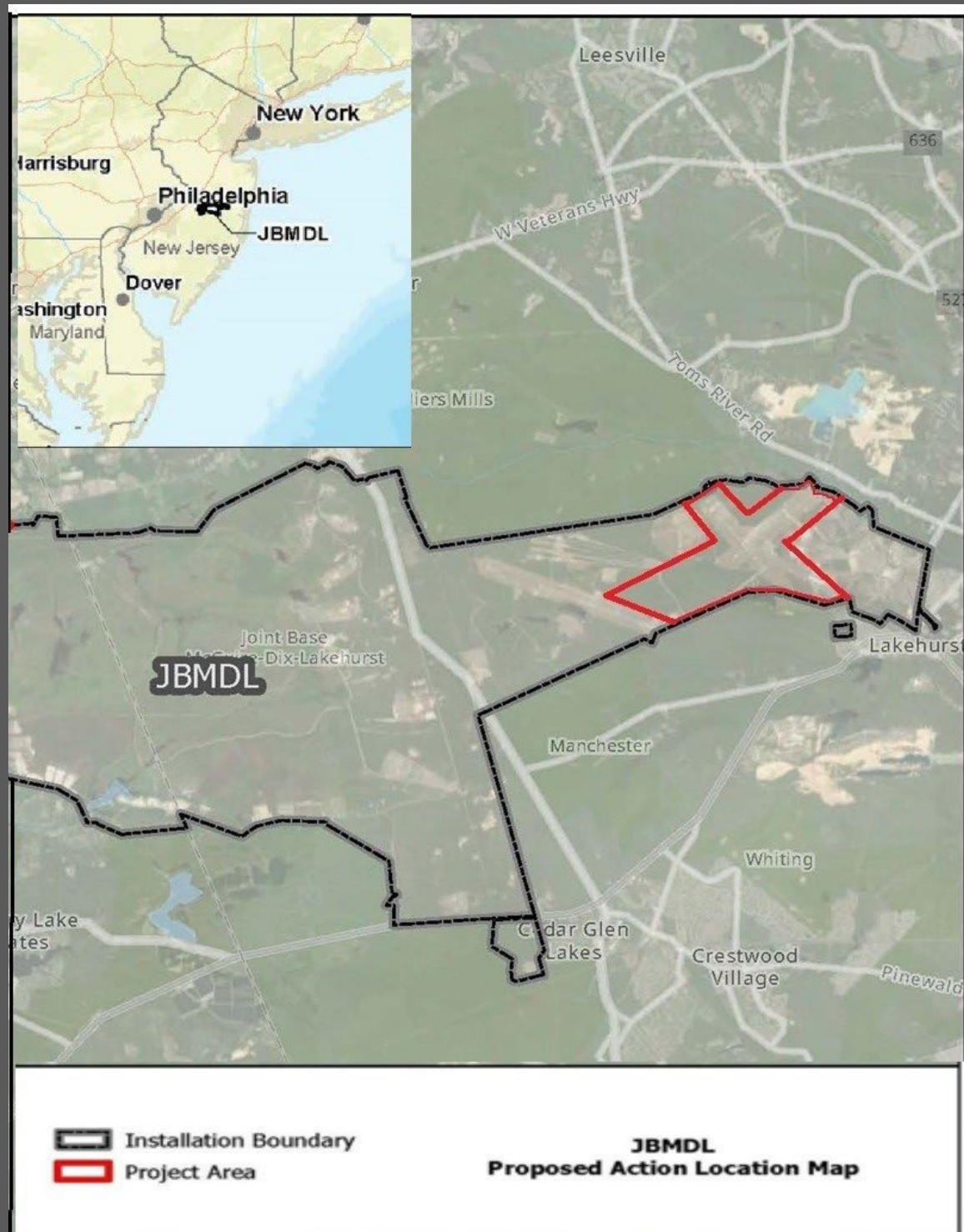
Sincerely,

BRUNSON.C	Digitally signed by
ATHERINE.E.	BRUNSON.CATHERIN
1091059890	E.E.1091059890
	Date: 2024.01.25
	10:51:11 -05'00'
CATHERINE BRUNSON, DAF	
JB MDL, NEPA/EIAP Project Manager	

Attachment:  
Map of the Proposed Action Project Area



**Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey**





DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 23, 2024

Ms. Catherine Brunson  
NEPA/EIAP Project Manager  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

New Jersey Department of Environmental Protection  
Office of Natural Lands Management  
Mail Code 501-04  
PO Box 420  
501 E. State Street, Station Plaza #5, 4th Floor  
Trenton, NJ 08625-0420

SUBJECT: Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey

Attn: Natural Heritage Program,

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Department of the Air Force (DAF) NEPA regulations at 32 CFR Part 989, DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the removal of trees that encroach into flight surfaces associated with Maxfield runways 15/33 and 06/24 at Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. Trees with heights that encroach into airfield approach-departure flight surfaces associated with Maxfield runways pose a hazard to safe airfield operations. Many of the trees marked for removal are located within wetlands or near suspected cultural resources sites and unexploded ordnance concerns exist at several of the sites.

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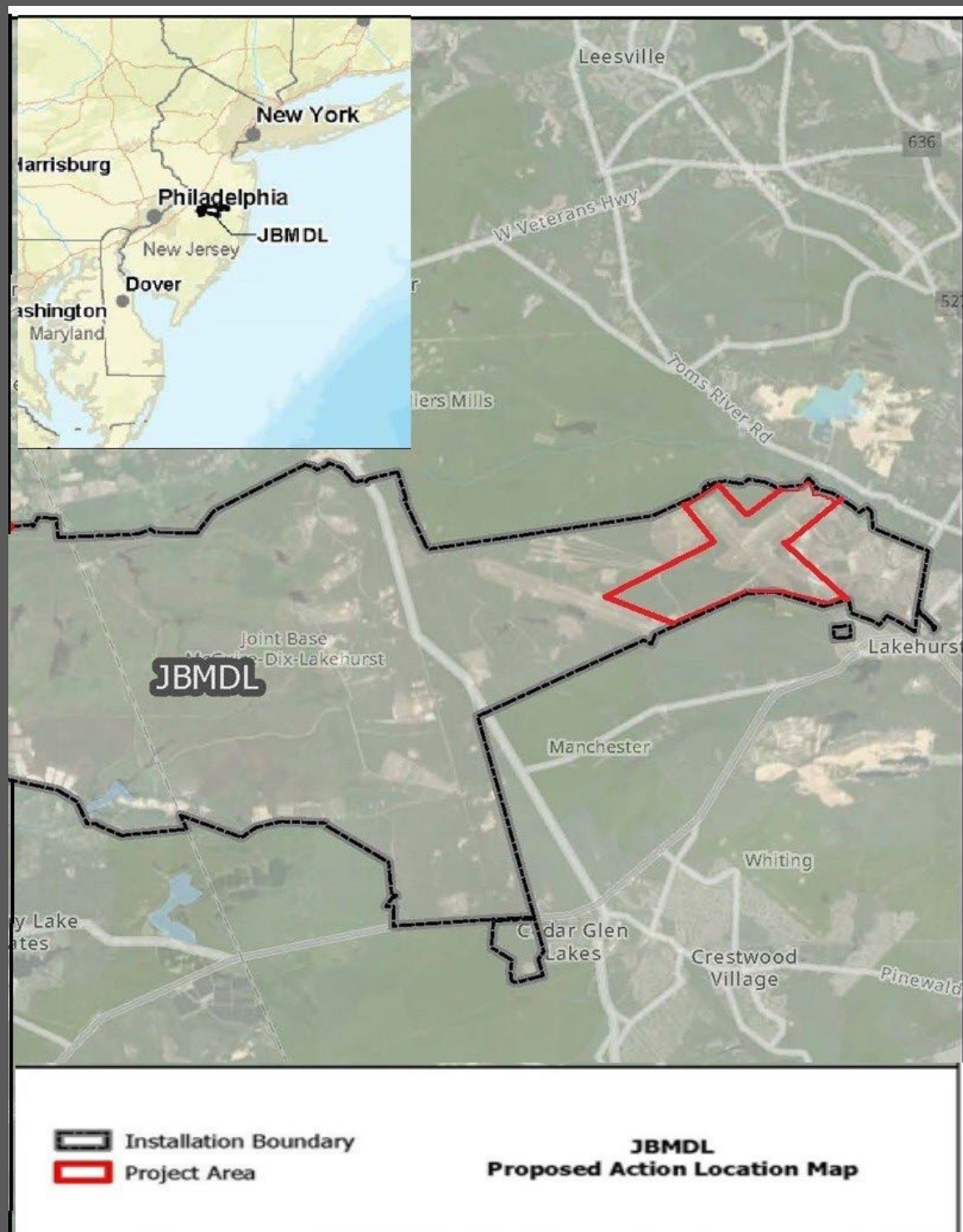
Sincerely,

BRUNSON.C  
ATHERINE.E.  
1091059890  
CATHERINE BRUNSON, DAF  
JB MDL, NEPA/EIAP Project Manager

Digitally signed by  
BRUNSON.CATHERIN  
E.E.1091059890  
Date: 2024.01.25  
10:51:11 -05'00'

Attachment:  
Map of the Proposed Action Project Area

## Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight



Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey





DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 25, 2024

Ms. Catherine Brunson  
NEPA/EIAP Project Manager  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

Mr. Dave Pepe and Ms. Katie Nolan  
New Jersey Office of Permitting and Project Navigation  
401 East State Street  
Mail Code 401-071  
PO Box 420  
Trenton, NJ 08625

SUBJECT: Environmental Assessment for Removal of Trees Beneath Airfield  
Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey

Dear Ms. Nolan and Mr. Pepe,

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Department of the Air Force (DAF) NEPA regulations at 32 CFR Part 989, DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the removal of trees that encroach into flight surfaces associated with Maxfield runways 15/33 and 06/24 at Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. Trees with heights that encroach into into airfield approach-departure flight surfaces associated with Maxfield runways pose a hazard to safe airfield operations. Many of the trees marked for removal are located within wetlands or near suspected cultural resources sites and unexploded ordnance concerns exist at several of the sites.

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LET'S GO!



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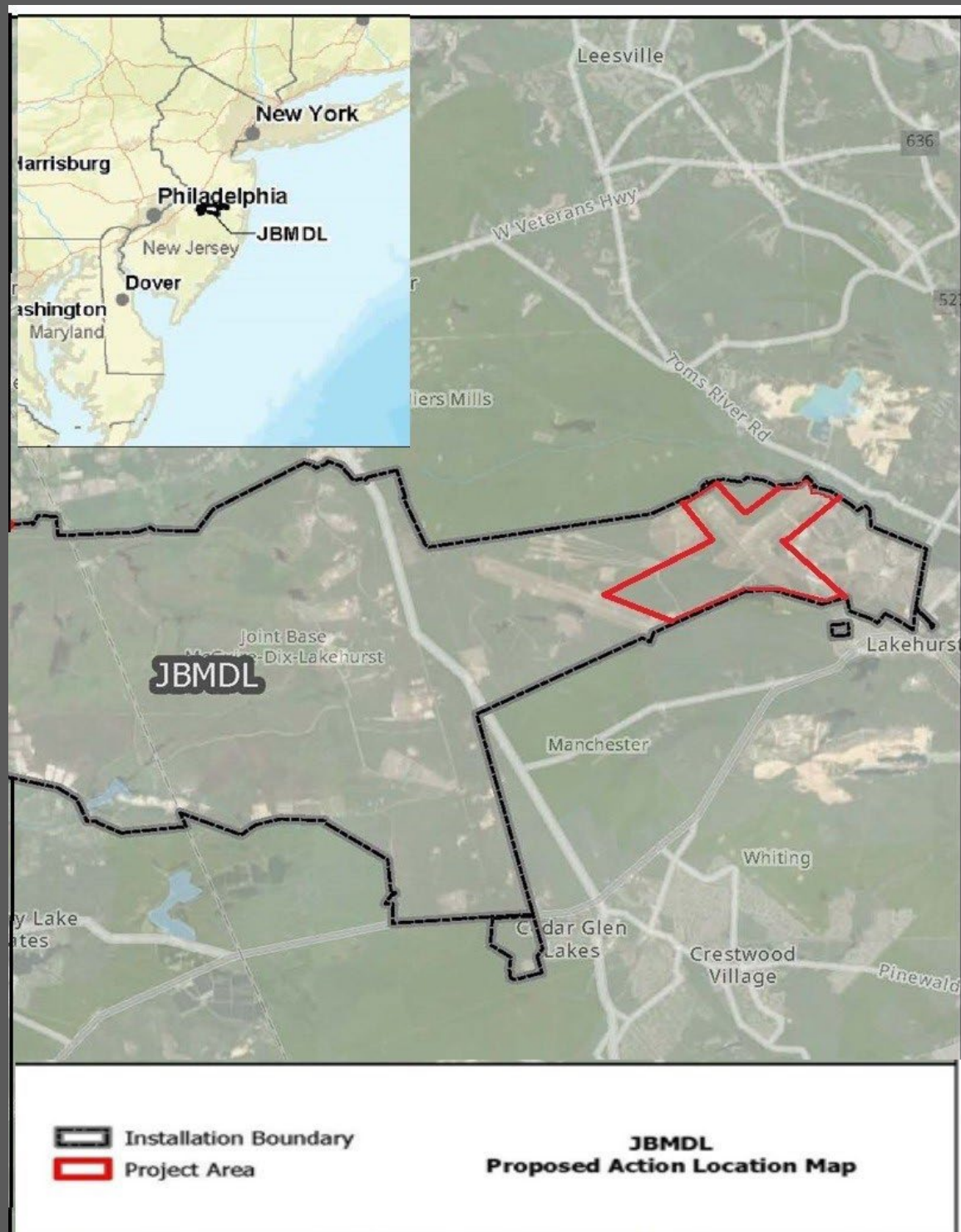
Sincerely,

BRUNSON.C  
ATHERINE.E.  
1091059890  
CATHERINE BRUNSON, DAF  
JB MDL, NEPA/EIAP Project Manager

Digitally signed by  
BRUNSON.CATHERIN  
E.E.1091059890  
Date: 2024.01.25  
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Attachment:  
Map of the Proposed Action Project Area

**Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey**





DEPARTMENT OF THE AIR FORCE HEADQUARTERS  
AIR MOBILITY COMMAND JOINT BASE  
MCGUIRE-DIX-LAKEHURST

January 23, 2024

Ms. Catherine Brunson  
NEPA/EIAP Project Manager 787  
CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

New Jersey Department of Environmental Protection Office of  
Natural Lands Management  
Mail Code 501-04 POBox420  
501 E. State Street, Station Plaza #5, 4th Floor  
Trenton, NJ 08625-0420

SUBJECT: Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey

Attn: Natural Heritage Program,

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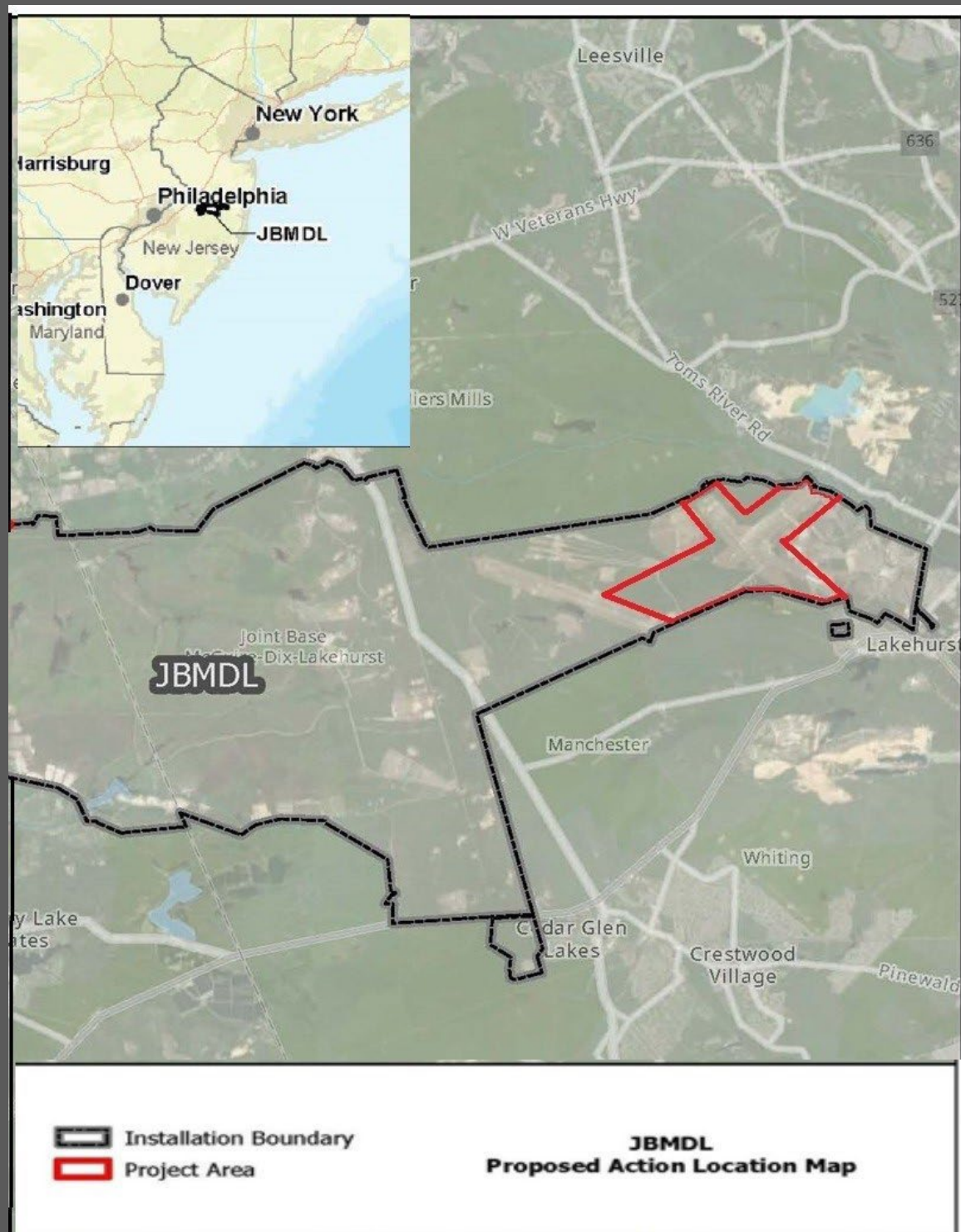
Sincerely,

BRUNSON.C  
ATHERINE.E.  
1091059890  
CATHERINE BRUNSON, DAF  
JB MDL, NEPA/EIAP Project Manager

Digitally signed by  
BRUNSON.CATHERIN  
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Attachment:  
Map of the Proposed Action Project Area

**Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey**







DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 22, 2024

Ms. Catherine Brunson  
NEPA/EIAP Project Manager  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

Susan Grogan, Executive Director  
New Jersey Pinelands Commission  
PO Box 359  
15 Springfield Road  
New Lisbon, NJ 08064

SUBJECT: Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey

Dear Ms. Grogan,

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Department of the Air Force (DAF) NEPA regulations at 32 CFR Part 989, DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the removal of trees that encroach into flight surfaces associated with Maxfield runways 15/33 and 06/24 at Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. Trees with heights that encroach into into airfield approach-departure flight surfaces associated with Maxfield runways pose a hazard to safe airfield operations. Many of the trees marked for removal are located within wetlands or near suspected cultural resources sites and unexploded ordnance concerns exist at several of the sites.

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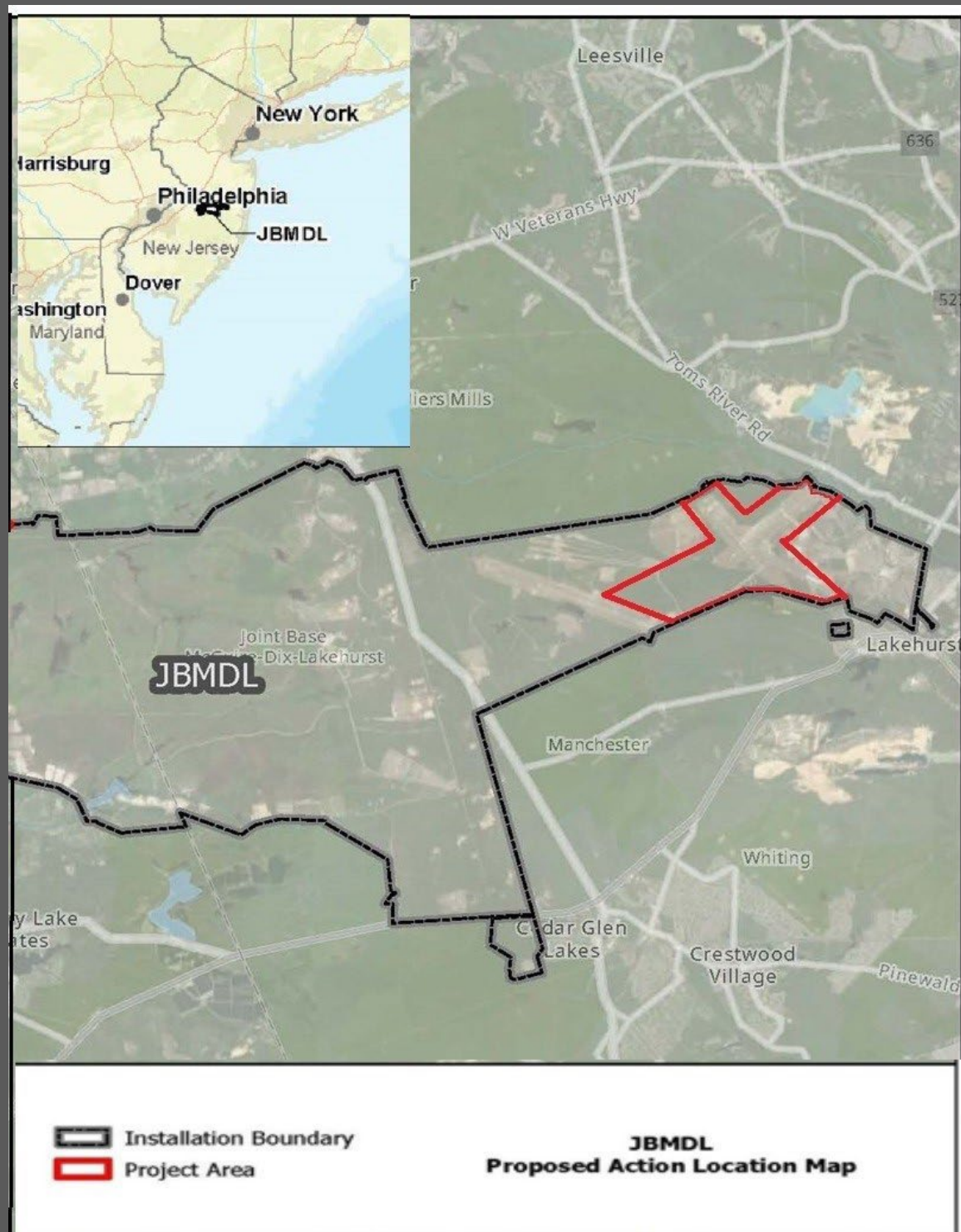
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Sincerely,

BRUNSON.C	Digitally signed by
ATHERINE.E.	BRUNSON.CATHERIN
1091059890	E.E.1091059890
	Date: 2024.01.25
	10:51:11 -05'00'
CATHERINE BRUNSON, DAF	
JB MDL, NEPA/EIAP Project Manager	

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Map of the Proposed Action Project Area

**Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey**





DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 22, 2024

Ms. Catherine Brunson  
NEPA/EIAP Project Manager  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

Anthony Agliata, Planning Director  
Ocean County Department of Planning  
129 Hooper Avenue  
PO Box 2191  
Toms River, NJ 08754-2191

SUBJECT: Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey

Dear Mr. Agliata,

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Department of the Air Force (DAF) NEPA regulations at 32 CFR Part 989, DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the removal of trees that encroach into flight surfaces associated with Maxfield runways 15/33 and 06/24 at Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. Trees with heights that encroach into into airfield approach-departure flight surfaces associated with Maxfield runways pose a hazard to safe airfield operations. Many of the trees marked for removal are located within wetlands or near suspected cultural resources sites and unexploded ordnance concerns exist at several of the sites.

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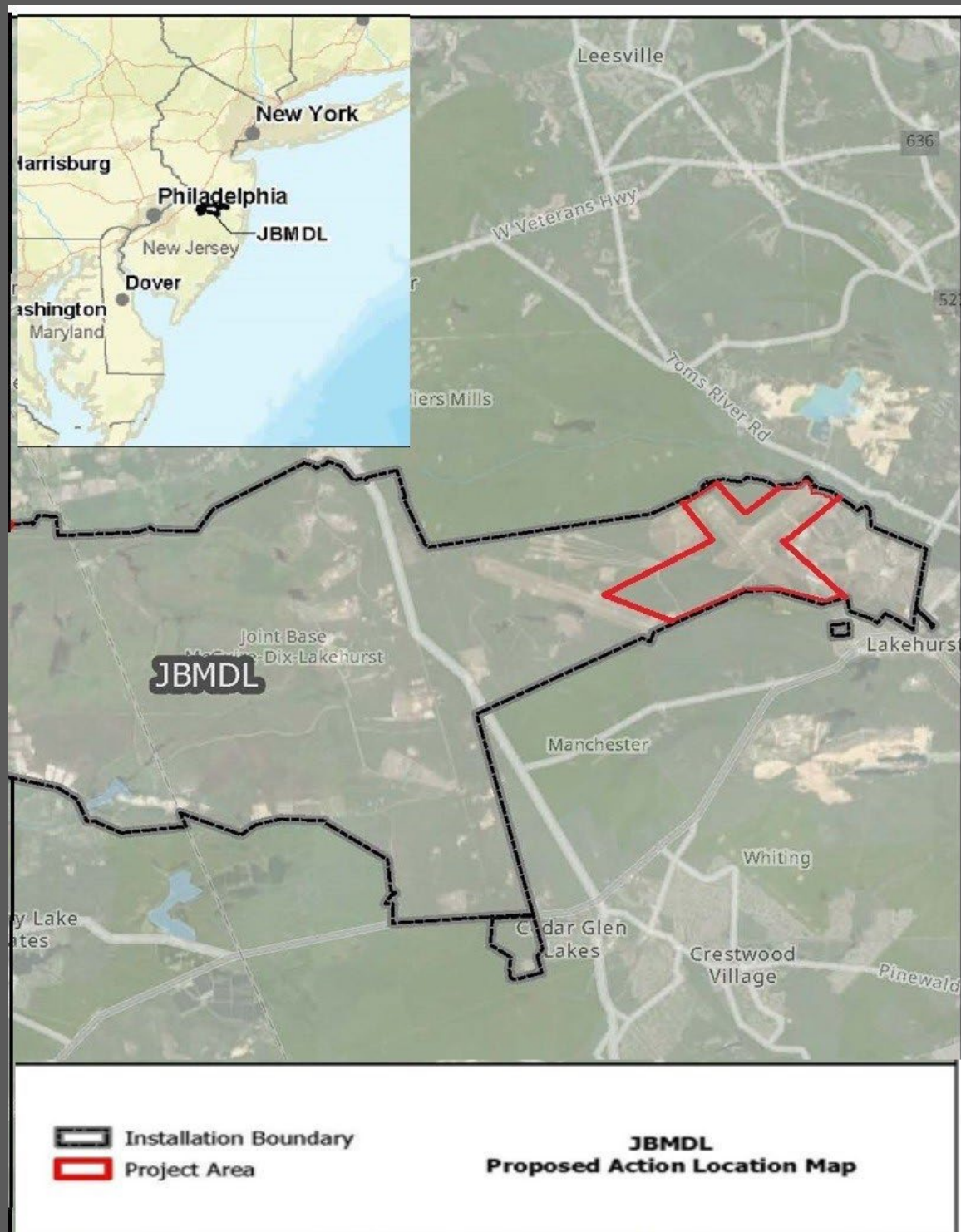
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CATHERINE BRUNSON, DAF  
JB MDL, NEPA/EIAP Project Manager

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E.E.1091059890  
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10:51:11 -05'00'

Attachment:  
Map of the Proposed Action Project Area



**Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey**





DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 22, 2024

Christine Raabe, Director  
Ocean County Soil Conservation District  
714 Lacey Road  
Forked River, NJ 08641

Ms. Catherine Brunson  
NEPA/EIAP Project Manager  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

SUBJECT: Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey

Dear Ms. Raabe,

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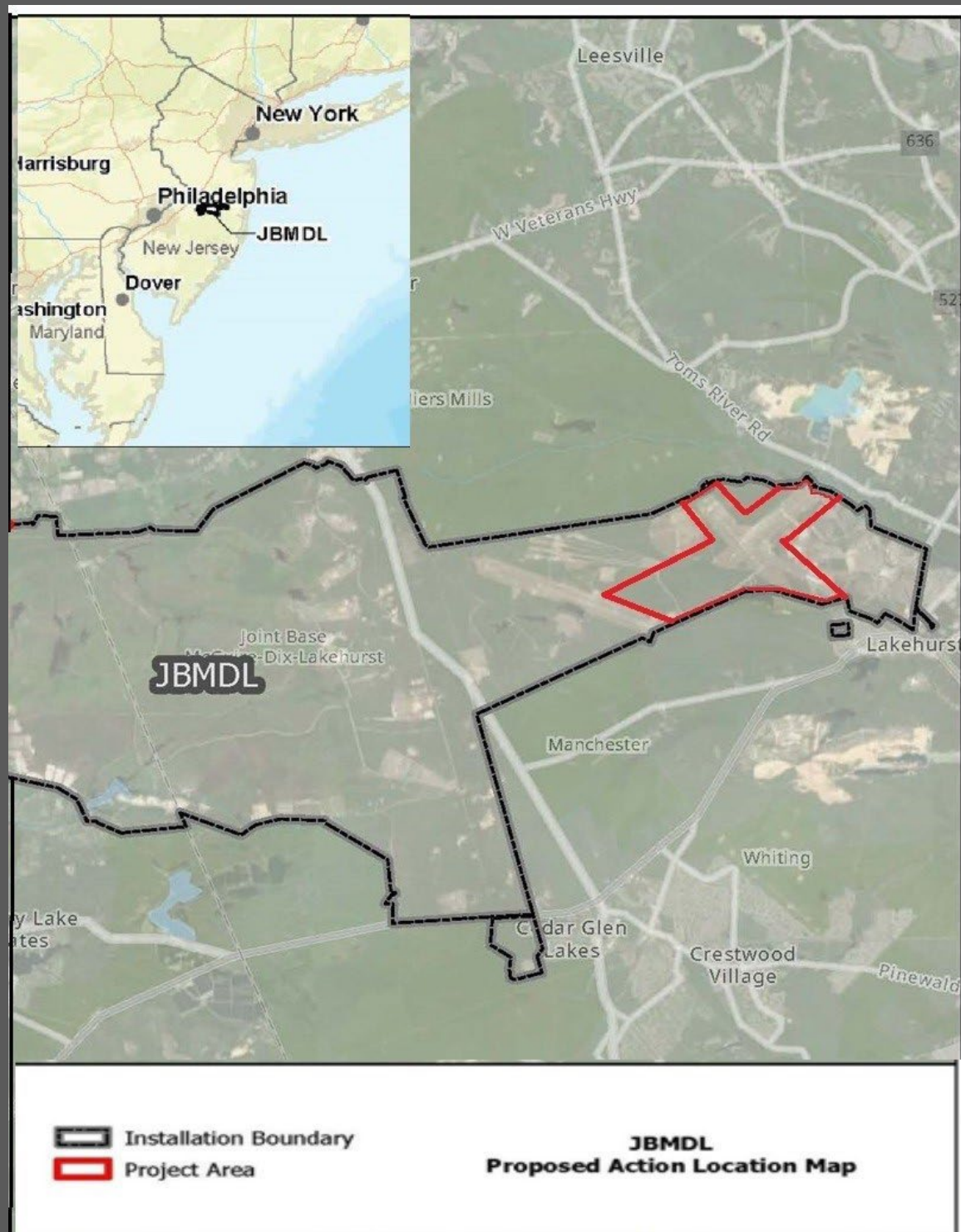
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1091059890  
CATHERINE BRUNSON, DAF  
JB MDL, NEPA/EIAP Project Manager

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**Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey**







DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 22, 2024

Ms. Catherine Brunson  
NEPA/EIAP Project Manager  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

Mr. Joseph Brickley, Director of Public Works  
Burlington Department of Planning  
1900 Briggs Road  
Mount Laurel, NJ  
08054

SUBJECT: Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey

Dear Mr. Brickley,

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Department of the Air Force (DAF) NEPA regulations at 32 CFR Part 989, DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the removal of trees that encroach into flight surfaces associated with Maxfield runways 15/33 and 06/24 at Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. Trees with heights that encroach into into airfield approach-departure flight surfaces associated with Maxfield runways pose a hazard to safe airfield operations. Many of the trees marked for removal are located within wetlands or near suspected cultural resources sites and unexploded ordnance concerns exist at several of the sites.

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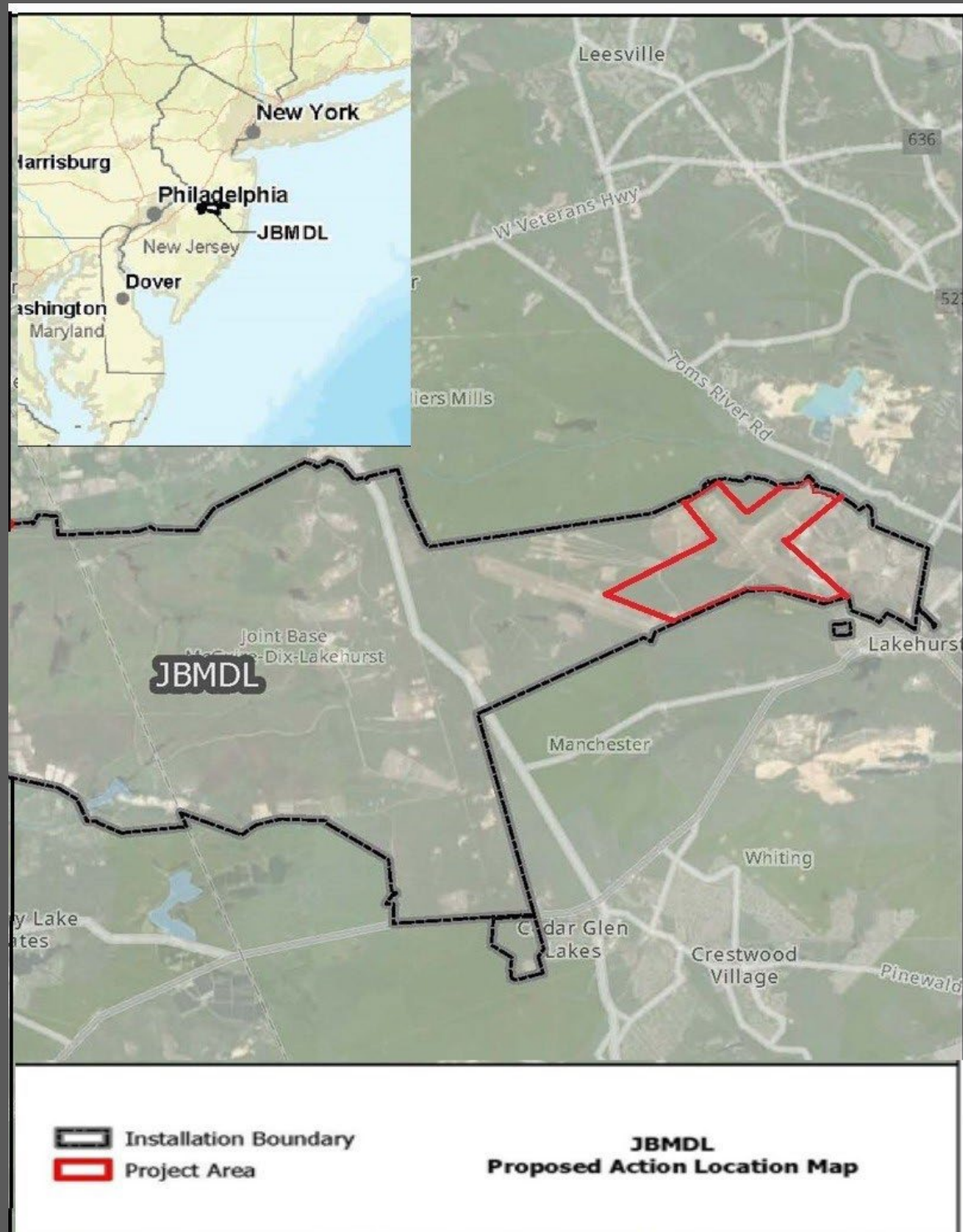
Sincerely,

BRUNSON.C  
ATHERINE.E.  
1091059890  
CATHERINE BRUNSON, DAF  
JB MDL, NEPA/EIAP Project Manager

Digitally signed by  
BRUNSON.CATHERINE  
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Attachment:  
Map of the Proposed Action Project Area

**Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey**





DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 22, 2024

Ms. Catherine Brunson  
NEPA/EIAP Project Manager  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

Mary Pat Robbie, Director  
Burlington County Department of Resource Conservation  
50 Rancocas Road  
PO Box 6000  
Mount Holly, NJ 08

SUBJECT: Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey

Dear Ms. Robbie,

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Department of the Air Force (DAF) NEPA regulations at 32 CFR Part 989, DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the removal of trees that encroach into flight surfaces associated with Maxfield runways 15/33 and 06/24 at Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. Trees with heights that encroach into into airfield approach-departure flight surfaces associated with Maxfield runways pose a hazard to safe airfield operations. Many of the trees marked for removal are located within wetlands or near suspected cultural resources sites and unexploded ordnance concerns exist at several of the sites.

The attached map indicates the project area for the Proposed Action. The purpose of the Proposed Action is to maintain the required runway approach-departure glide slopes and lateral clearance zones, and ensure the safety of airfield operations at Maxfield runways. The EA will analyze the potential environmental impacts associated with the selective cutting and removal of trees with heights that violate the criteria specified in UFC 3-260-01.

In preparation for development of the Environmental Assessment, JB MDL is seeking your feedback regarding the Proposed Action. If you have information regarding potential impacts of the Proposed Action on the human environment, which includes the natural and physical environment or other environmental aspects of which we are unaware, we would appreciate receiving such information for inclusion and consideration during the NEPA compliance process.

LET'S GO!

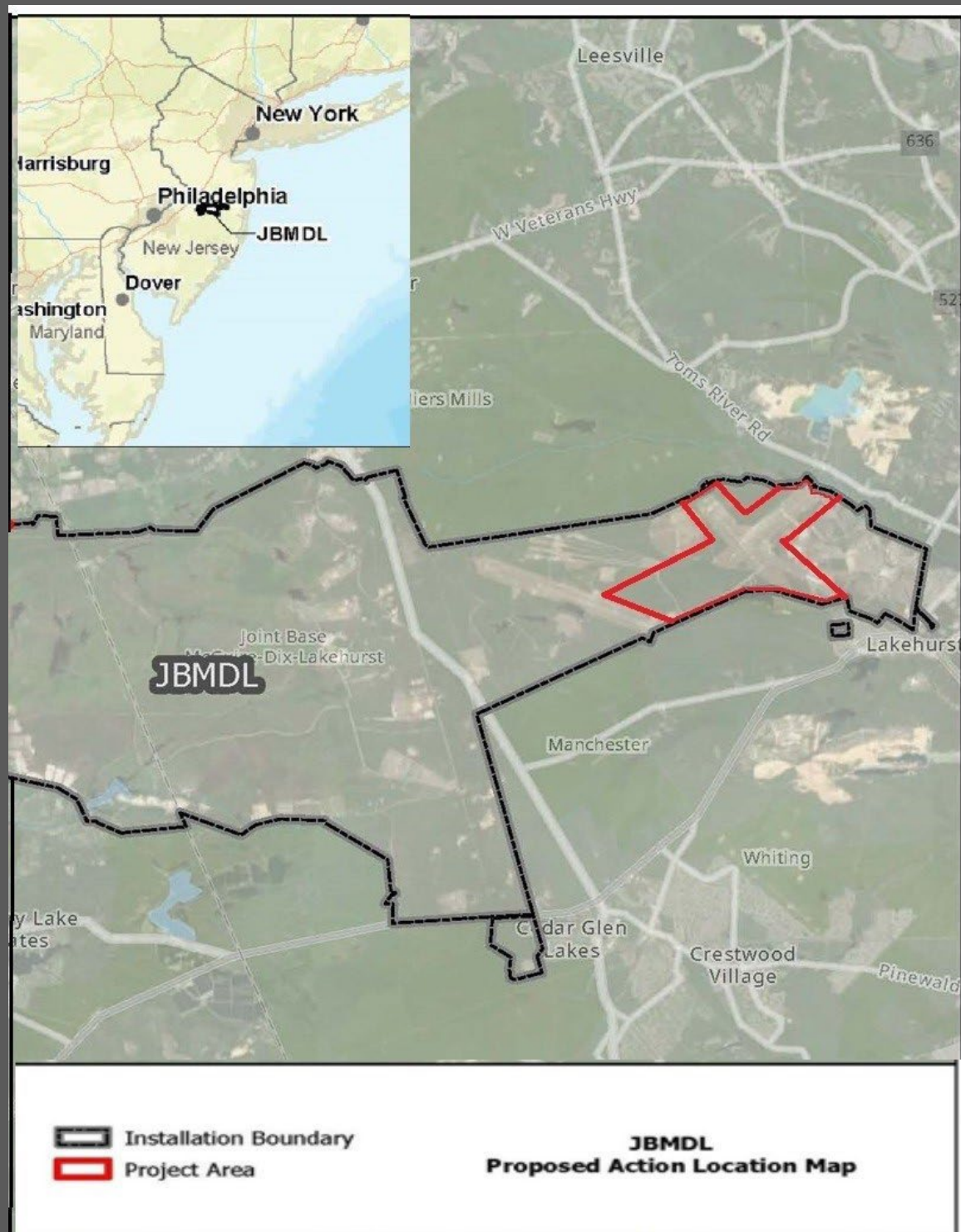
We look forward to and welcome your participation in this process. Please respond within 30 days of receipt of this letter to ensure your concerns are adequately addressed in the Environmental Assessment. Please send your written responses to me via email at [catherine.brunson@us.af.mil](mailto:catherine.brunson@us.af.mil). Thank you in advance for your participation.

Sincerely,

BRUNSON.C	Digitally signed by
ATHERINE.E.	BRUNSON.CATHERIN
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	Date: 2024.01.25
	10:51:11 -05'00'
CATHERINE BRUNSON, DAF	
JB MDL, NEPA/EIAP Project Manager	

Attachment:  
Map of the Proposed Action Project Area

**Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey**







DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 22, 2024

Ms. Catherine Brunson  
NEPA/EIAP Project Manager  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

Robert Reitmeyer, District Manager  
Burlington County Soil Conservation District  
1971 Jacksonville-Johnson Road  
Columbus, NJ 08022

SUBJECT: Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey

Dear Mr. Reitmeyer,

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Department of the Air Force (DAF) NEPA regulations at 32 CFR Part 989, DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the removal of trees that encroach into flight surfaces associated with Maxfield runways 15/33 and 06/24 at Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. Trees with heights that encroach into into airfield approach-departure flight surfaces associated with Maxfield runways pose a hazard to safe airfield operations. Many of the trees marked for removal are located within wetlands or near suspected cultural resources sites and unexploded ordnance concerns exist at several of the sites.

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In preparation for development of the Environmental Assessment, JB MDL is seeking your feedback regarding the Proposed Action. If you have information regarding potential impacts of the Proposed Action on the human environment, which includes the natural and physical environment or other environmental aspects of which we are unaware, we would appreciate receiving such information for inclusion and consideration during the NEPA compliance process.

LET'S GO!

We look forward to and welcome your participation in this process. Please respond within 30 days of receipt of this letter to ensure your concerns are adequately addressed in the Environmental Assessment. Please send your written responses to me via email at [catherine.brunson@us.af.mil](mailto:catherine.brunson@us.af.mil). Thank you in advance for your participation.

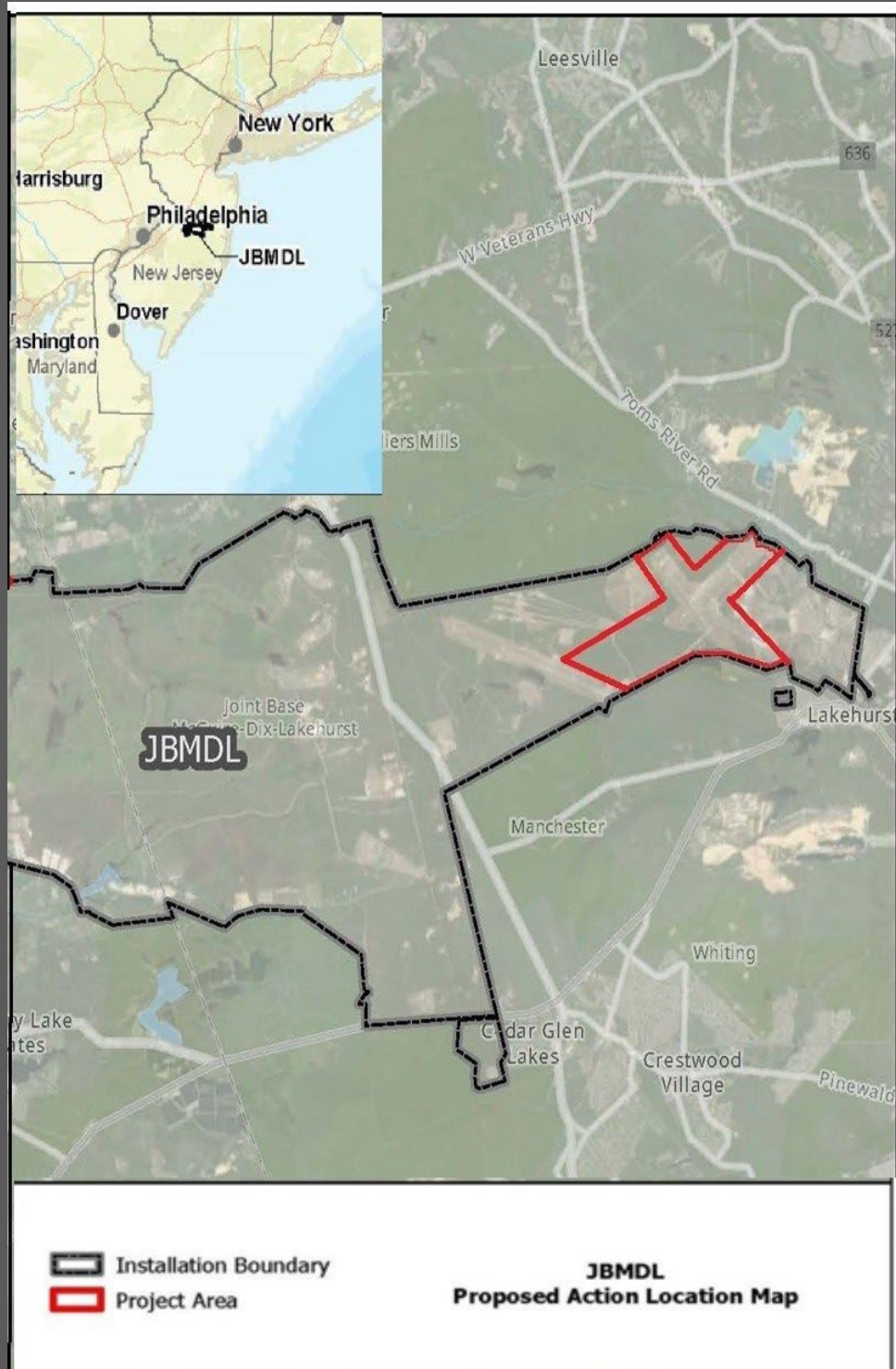
Sincerely,

BRUNSON.C  
ATHERINE.E.  
1091059890  
CATHERINE BRUNSON, DAF  
JB MDL, NEPA/EIAP Project Manager

Digitally signed by  
BRUNSON.CATHERIN  
E.E.1091059890  
Date: 2024.01.25  
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Attachment:  
Map of the Proposed Action Project Area

**Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey**



**LET'S GO!**

**PUBLIC NOTICES – POSTED JANUARY 14-15, 2024**

**Asbury Park Times**

**Burlington County Times**

**PUBLIC NOTICE  
JOINT BASE MCGUIRE-DIX-LAKEHURST  
NOTICE FOR EARLY PUBLIC REVIEW OF PROPOSED ACTIONS  
IN WETLANDS AND FLOODPLAINS**

To: All interested Agencies, Groups, and Individuals

The Department of the Air Force (DAF) proposes to remove trees from flight surfaces associated with airfield runways which would involve disturbances in wetlands and floodplains at Joint Base McGuire-Dix-Lakehurst. Specifically, the DAF would remove trees encroaching into airfield approach-departure and lateral clearance surfaces associated with runways 15/33 and 06/24 to maintain the glide slope and comply with the standards of Unified Facilities Criteria 3-260-01 *Airfield and Heliport Planning and Design*. This action is needed to ensure the safety of airfield operations.

The project is subject to the requirements and objectives of Executive Order (EO) 11990, Protection of Wetlands, and EO 11988, Floodplain Management, because it involves action in a floodplain and in a wetland. This notice is required by EO 11990 and EO 11988 and has been prepared and made available to the public by the DAF in accordance with 32 Code of Federal Regulations Part 989.24(c) and Air Force Manual 32-7003, Environmental Conservation, for actions proposed in wetlands and floodplains. The DAF is preparing an Environmental Assessment in accordance with the National Environmental Policy Act and the DAF's Environmental Impact Analysis Process. The DAF will contact the U.S. Fish and Wildlife Service and the New Jersey Historic Preservation Officer, amongst other agencies, for their input on the Proposed Action during the preparation of the Environmental Assessment as a part of the National Environmental Policy Act review process.

The Proposed Action could disturb or be located within wetlands and floodplains. Under the proposed conditions, implementation of the project would have approximately 80 acres of permanent wetland impact from the removal of trees that violate airfield safety criteria. The proposed project would be designed to avoid and minimize wetland and floodplain impacts to the maximum extent possible and are not expected to have an effect on flooding potential.

The DAF requests public comments to determine if there are any public concerns regarding the potential of the Proposed Action to impact wetlands and floodplains. The public comment period is from January 11, 2024 to February 10, 2024. Submit written comments to the 87th Air Base Wing Public Affairs Office, 2901 Falcon Lane, Suite 235, Joint Base McGuire-Dix-Lakehurst, New Jersey 08641. The telephone number is (609) 754-2104.

## **APPENDIX C – NATIVE AMERICAN TRIBAL GOVERNMENT COORDINATION**

Ms. Katelyn Lucas  
Tribal Historic Preservation Officer  
Delaware Nation Historic Preservation Office  
College of Health Annex, 524 Brodhead Avenue  
Bethlehem, PA 18015  
405-544-8115  
[cklucas@delawarenation-nsn.gov](mailto:cklucas@delawarenation-nsn.gov)

Ms. Carissa Speck  
Historic Preservation Director  
Delaware Nation  
31064 State Highway 281, Building 100  
Anadarko, OK 73005  
405-247-2448 ext.1403  
[cspeck@delawarenation-nsn.gov](mailto:cspeck@delawarenation-nsn.gov)

Ms. Susan Bachor  
Delaware Tribe of Indians  
Deputy Tribe Historic Preservation Officer  
126 University Circle, Stroud Hall, Room 437  
East Stroudsburg, PA 18301  
539-529-1671  
[sbachor@delawaretribe.org](mailto:sbachor@delawaretribe.org)





DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 16, 2024

Dr. Sharon D. White  
JB MDL Cultural Resources Manager  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

Ms. Susan Bachor  
Delaware Tribe of  
Indians  
Tribal Historic Preservation Officer  
Stroud Hall, Room 437  
126 University Circle  
East Stroudsburg PA 18301

Dear Ms. Bachor,

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Department of the Air Force (DAF) NEPA regulations at 32 CFR Part 989, DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the removal of trees that encroach into flight surfaces associated with Maxfield runways 15/33 and 06/24 at Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. Trees with heights that encroach into airfield approach-departure flight surfaces associated with Maxfield runways pose a hazard to safe airfield operations. Some of the trees marked for removal are located near an identified cultural resource.

Additionally, unexploded ordnance concerns exist within the project area.

The attached map indicates the project area for the Proposed Action. The purpose of the Proposed Action is to maintain the required runway approach-departure glide slopes and lateral clearance zones, and ensure the safety of airfield operations at Maxfield runways. The EA will analyze the potential environmental impacts associated with the selective cutting and removal of trees with heights that violate the criteria specified in UFC 3-260-01.

LET'S GO!

Pursuant to 54 United States Code § 306108 of the National Historic Preservation Act, and in accordance with 36 Code of Federal Regulations Part 800 (Protection of Historic Properties), the DAF would like to initiate consultation concerning the Proposed Action and the proposed archaeological and architectural Areas of Potential Effect to allow you the opportunity to provide comments, concerns, and/or suggestions you might have. The Areas of Potential Effect include the aforementioned airfield approach-departure glide slope and runway lateral clearance areas as described in UFC 3-260-01 and as indicated on the attached map. The Preferred Alternative will be to cut and remove violating trees within 100' of roadways, and to cut and leave violating trees further from the road. Mechanical equipment may be used to cut and remove trees, with the expectation that minimal soil disturbance will occur.

JB MDL intends to conduct a Phase 1A cultural resources sensitivity assessment along with a field inspection of the affected area by a cultural resources specialist. Information received will be used to determine the potential for the presence of cultural resources that are eligible for listing in the National Register of Historic Places, and if so, whether the Proposed Action would cause adverse effects that must be addressed.

In preparation for development of the Environmental Assessment, JB MDL is seeking your feedback regarding the Proposed Action. If you have information regarding potential impacts of the Proposed Action on the human environment, which includes the natural and physical environment or other environmental aspects of which we are unaware, we would appreciate receiving such information for inclusion and consideration during the NEPA compliance process.

Your feedback is important and a response within 30 days of receipt of this letter would enable us to ensure that your concerns are fully considered in our evaluation. Please be assured that, in accordance with confidentiality and disclosure stipulations in 54 United States Code § 307103, we will maintain strict confidentiality about certain types of information regarding historic properties.

If we can provide any assistance or additional information that would aid in your review, please feel free to contact me via email at [sharon.white.7@us.af.mil](mailto:sharon.white.7@us.af.mil). Thank you in advance for your participation.

Sincerely,

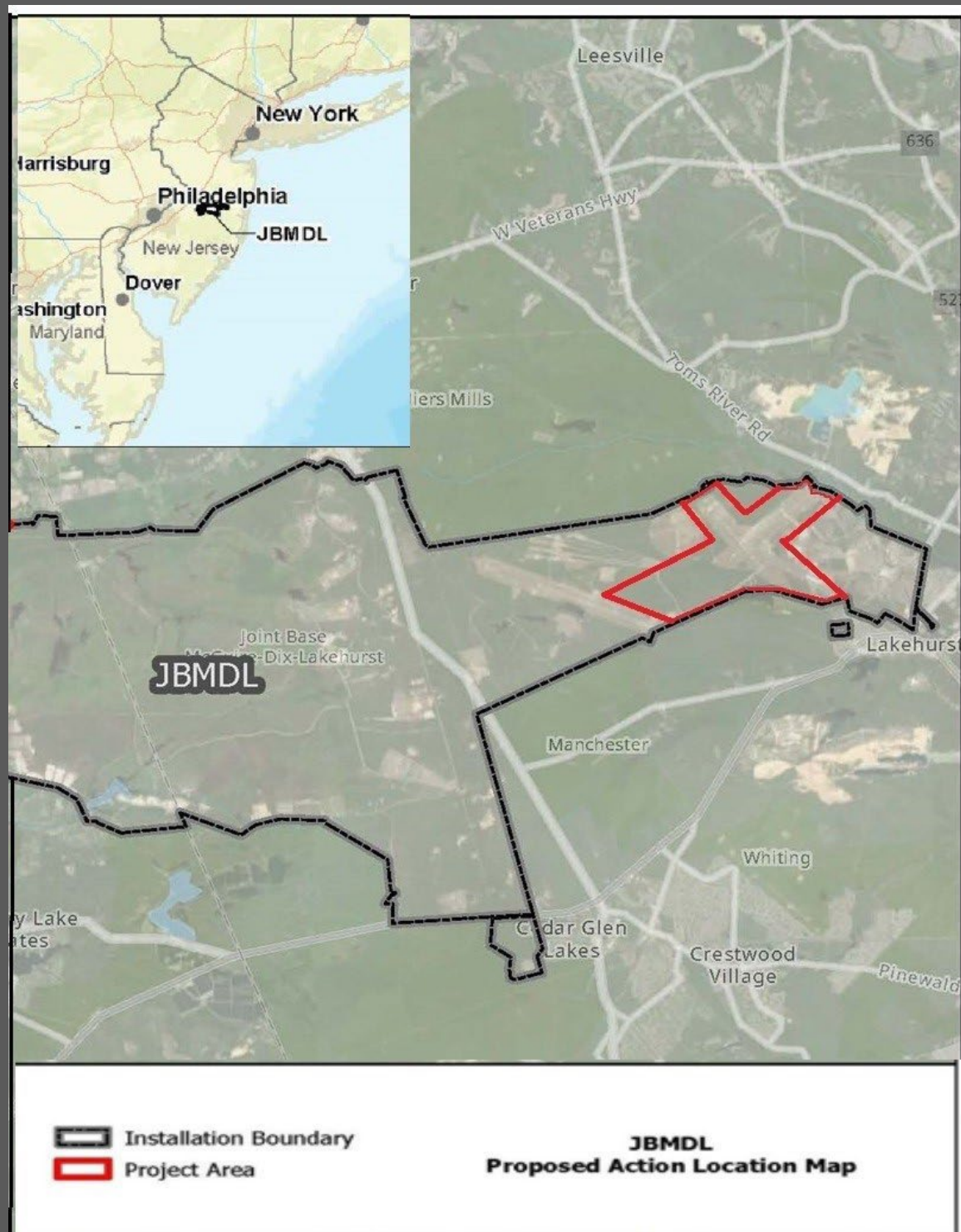
**WHITE.SHARON**  
**.D.1567708388**  
**DR. SHARON D. WHITE, DAF**  
**JB MDL, Cultural Resources Manager**

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Date: 2024.01.18 09:30:46  
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Attachment:

Map of the Proposed Action Project Area

**Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey**





DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 16, 2024

Dr. Sharon D. White  
JB MDL Cultural Resources Manager  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

Ms. Carissa Speck  
Historic Preservation Director  
31064 State Highway 281, Bldg. 100  
Anadarko, OK 73005

Dear Ms. Speck

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Department of the Air Force (DAF) NEPA regulations at 32 CFR Part 989, DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the removal of trees that encroach into flight surfaces associated with Maxfield runways 15/33 and 06/24 at Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. Trees with heights that encroach into airfield approach-departure flight surfaces associated with Maxfield runways pose a hazard to safe airfield operations. Some of the trees marked for removal are located near an identified cultural resource.

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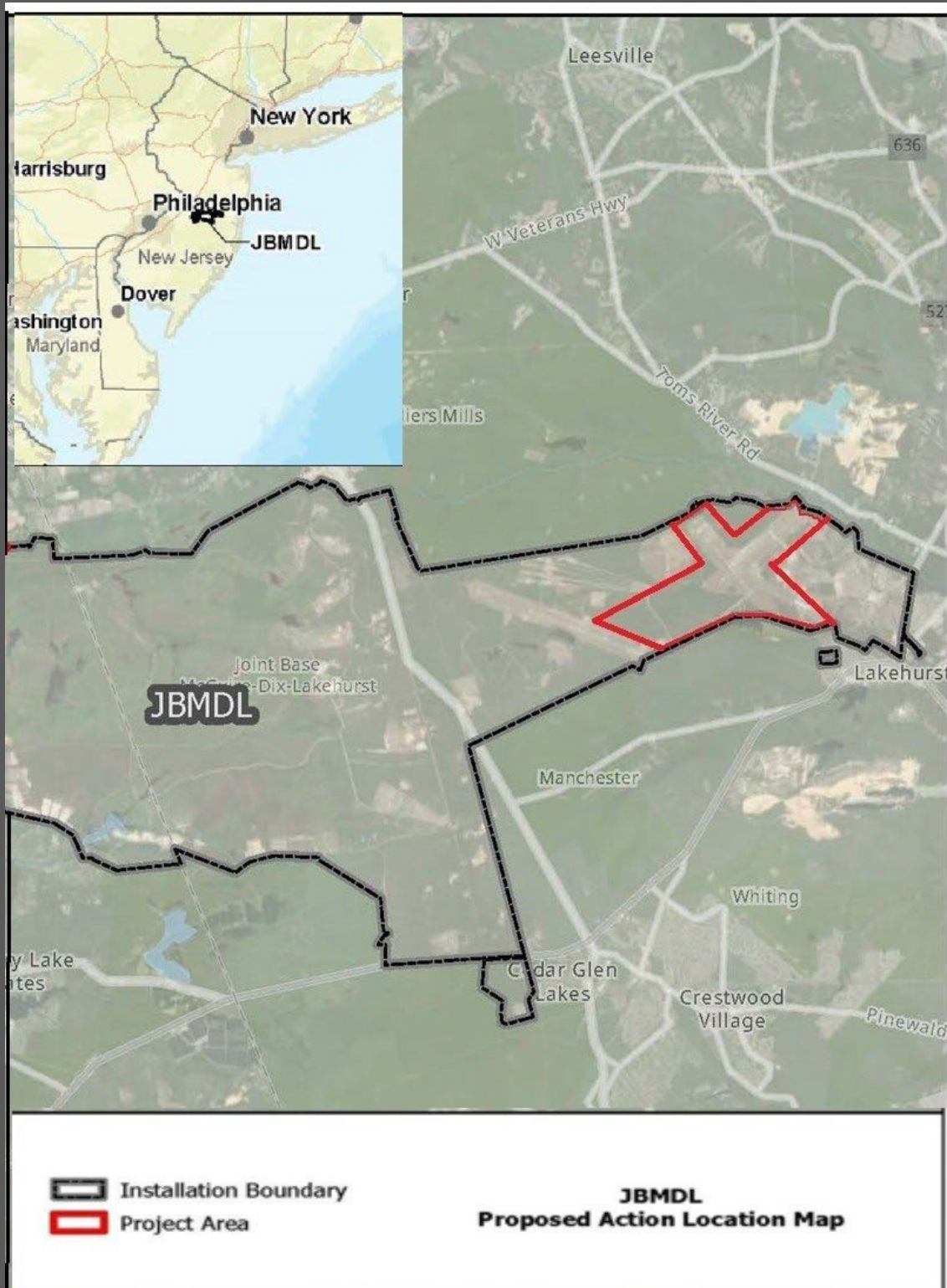
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Date: 2024.01.18 09:30:46  
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**DR. SHARON D. WHITE, DAF**  
**JB MDL, Cultural Resources Manager**

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DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND  
JOINT BASE MCGUIRE-DIX-LAKEHURST

January 24, 2024

Dr. Sharon D. White  
JB MDL Cultural Resources Manager  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

Ms. Katelyn Lucas  
Delaware Nation Historic Preservation Office  
College of Health Annex  
524 Brodhead Avenue  
Bethlehem, PA 18015

Dear Ms. Lucas,

In accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations, and the Department of the Air Force (DAF) NEPA regulations at 32 CFR Part 989, DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the removal of trees that encroach into flight surfaces associated with Maxfield runways 15/33 and 06/24 at Joint Base McGuire-Dix-Lakehurst (JB MDL). Currently, numerous trees within the identified project area violate Unified Facilities Criteria (UFC) 3-260-01 - *Airfield and Heliport Planning and Design* standards. Trees with heights that encroach into airfield approach-departure flight surfaces associated with Maxfield runways pose a hazard to safe airfield operations. Some of the trees marked for removal are located near an identified cultural resource.

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Sincerely,

**WHITE.SHARON**  
**.D.1567708388**  
**DR. SHARON D. WHITE, DAF**  
**JB MDL, Cultural Resources Manager**

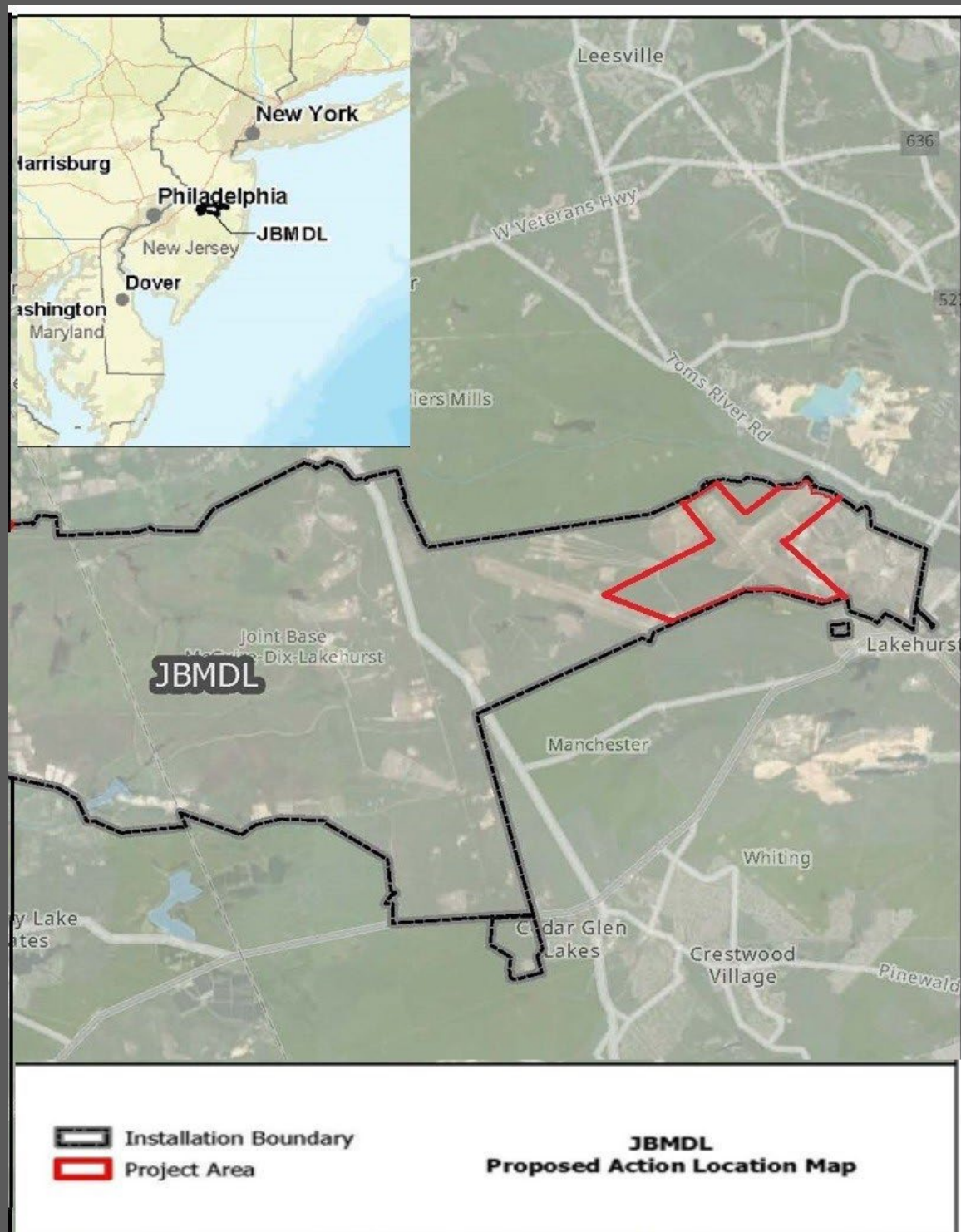
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Attachment:

Map of the Proposed Action Project Area



**Project Area Map - Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey**



## **APPENDIX B – PUBLIC INVOLVEMENT AND COMMENTS RECEIVED**

*[Preparer's Note: Appendix to include materials related to the public review period for the Draft Environmental Assessment]*





State of New Jersey  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
NATURAL AND HISTORIC RESOURCES  
FISH AND WILDLIFE  
P.O. BOX 420, MAIL CODE 501-03  
TRENTON, NEW JERSEY 08625-0420  
Tel. (609) 292-2965 • Fax (609) 984-1414  
VISIT OUR WEBSITE: [WWW.NJFISHANDWILDLIFE.COM](http://WWW.NJFISHANDWILDLIFE.COM)  
David M. Golden, Assist. Commissioner

PHILIP D. MURPHY  
Governor

SHEILA Y. OLIVER  
Lt. Governor

SHAWN M. LATOURETTE  
Commissioner

☐  
☐

April 10, 2024

Ms. Catherine Brunson  
NEPA/EIAP Project Manager  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

**In Reference to:**

Environmental Assessment for Removal of Trees Beneath Airfield Flight Surfaces at Maxfield  
Runways, Joint Base McGuire-Dix-Lakehurst, New Jersey

Dear Ms. Brunson:

New Jersey DEP's Fish & Wildlife (NJFW) thanks the Joint Base for giving NJFW the opportunity to assist in the preparation for development of the Environmental Assessment for this project. NJFW recommends a general timing restriction on mechanical trimming or removal of trees from 4/1 to 8/31 is recommended to protect nesting birds covered under the Migratory Bird Treaty Act and the NJ Endangered & Non-game Species Conservation Act.

This area is also potential summer habitat for Northern Myotis (Federally-listed —E), and Little Brown Bat, Eastern Small-footed Myotis, and Tri-colored Bat, all of which are found state-wide and after review by Endangered and Non-game Species Program Biologists and the NJ Endangered and Nongame Advisory Committee, have a "Consensus Status" of "Endangered" in NJ, and should be considered when tree clearing is part of any project.

Removal of highly suitable roost trees including snags (dead trees), shagbark hickories (*Carya ovata*), other trees with shaggy or exfoliating bark, and trees of any species over 3 inches dbh should be avoided or checked for usage before removal between April 1 and September 30. If tree removal/trimming needs to occur during the restricted period, then consultation with the US Fish and Wildlife Service should be initiated for federally-listed species.

The DFW relies on the Integrated Natural Resources Management Plan (INRMP) to protect resources under the purview of NJFW. The comments and recommendations of the NJFW's Office of Environmental Review (OER) are subject to change, if any additional environmental

issues or concerns that may negatively affect resources under the purview of the NJFW are discovered during pre-construction surveys or the construction phase. The OER should be contacted upon discovery at (609) 960-4502 or (609) 292-9451.  
If you have any questions, please contact me at (609) 960-4502 or [Kelly.Davis@dep.nj.gov](mailto:Kelly.Davis@dep.nj.gov)

Sincerely,



Kelly Davis, Principal Fisheries Biologist  
NJ Fish & Wildlife, Office of Env Review



From: Kosowski, Brett [DEP]  
To: BRUNSON, CATHERINE E CIV USAF AMC 787 CES/CEIEA  
Cc: FRANCKOPEC, ANTHONY S CIV USAF AMC 87 ABW/JA; Ellis, Branwen [PINELANDS]; Anderson, Ryan [DEP]  
Subject: [Non-DoD Source] RE: JB MDL TERPS project at Lakehurst  
Date: Tuesday, June 11, 2024 2:40:28 PM  
Attachments: TERPS EA\_Draft DOPAA\_20240304.pdf  
Importance: High

Hello Catherine,

Re: NJDEP Division of Land Resource Protection Comments

Joint Base McGuire-Dix-Lakehurst (JBMDL), New Jersey

Tree Removal Proposal within Imaginary Surfaces at Maxfield

Following our preliminary review of the submitted information attached above, the NJDEP – Division of Land Resource Protection have a follow-up response tabulated below:

Based on information provided and from past permitting history, it would appear the New Jersey Pinelands Commission (copied) would not likely regulate the freshwater wetlands jurisdiction areas on Joint Base McGuire-Dix-Lakehurst, pursuant to Joint Base Commander approval. Therefore, the NJDEP – Division of Land Resource Protection shall likely take jurisdiction over the proposed activities (see attached), unless notified otherwise.

Project activities: The DAF and JB MDL propose to remove trees on installation property encroaching upon imaginary surfaces associated with runways 15/33 and 06/24 at the Maxfield, Lakehurst, JB MDL to satisfy the purpose of and need for the Proposed Action as described in Section 1.1 of the draft report attached above.

According to the narrative presented, tree heights below airfield flight surfaces must meet the standards of UFC 3-260-01 Airfield and Heliport Planning and Design. UFC 3-260-01 requires that tree heights must be at least 10 feet below the elevation of the airfield imaginary flight surfaces.

Preferred alternative action: according to the attached draft report, selective removal of trees that violate airfield approach-departure and transitional surface criteria, posing a hazard to safe airfield operations. Cut trees adjacent to roads and cleared areas would be removed to mitigate any negative aesthetic effects caused by tree debris. Cut trees not visible from the forest edge would be left in place and either mulched or cut into pieces so that all branches and leaf debris would be at ground level to facilitate natural decomposition. Tree stumps for cut trees would be less than 10 inches in height and left in place. No conversion of forest land to non-forest conditions would occur.

NJDEP. All tree cutting located within freshwater wetlands, which doesn't create a discharge of fill material, will not require a permit from NJDEP Division of Land Resource Protection....see our Freshwater Wetland Rules at 7:7A-2.5 (b).

Caution. if impacts to freshwater wetlands creating a discharge of fill (example: stump and root removal), as a result of any proposed activities, then the NJDEP shall require the appropriate freshwater wetland permit(s). At least preliminarily, if wetland permits are required for an identified discharge of fill,

then a Freshwater Wetland General Permit #9 would likely be most applicable at this time.

NJDEP.. All impacts to freshwater wetland transition areas are not regulated by NJDEP DLRP under N.J.A.C. 7:7A-2.5. Transition areas are not regulated under this chapter in areas under the jurisdiction of the Pinelands Commission

NJDEP. For possible impacts to areas regulated by the Flood Hazard Area Control Act. The sites considered Federal Property and no additional Flood Hazard Area Permits would be required at this times. A compliance narrative could possibly be required regarding impact to flood plans.

Thank you again for contacting the NJDEP DLRP. Please contact me directly at [Brett.Kosowski@dep.nj.gov](mailto:Brett.Kosowski@dep.nj.gov) for additional questions, comments and/or to schedule a meeting.

Sincerely,

Brett Kosowski, NJDEP DLRP.

To: Kevin Porteck

Subject: [EXTERNAL]Data Request for: Removal of Trees Violating Airfield Flight Services at Maxfield Runway JBMDL NJ

Date: Friday, March 15, 2024 2:57:44 PM

Attachments: image002.png  
29969-24-4007413.pdf

PLEASE NOTE: The invoice has been included on the first page of the attached document.

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Good afternoon,

Attached, please find the results of the data request for the above-referenced project.

**Effective March 31, 2023, the U.S. Fish & Wildlife Service has now classified Northern myotis/Northern long-eared bat (*Myotis septentrionalis*) as endangered under the Endangered Species Act.**

Beginning May 9, 2017, the Natural Heritage Program reports for wildlife species will utilize data from the Landscape Project Version 3.3. This is an update from the previous Version 3.1 released in February of 2012. It contains approximately 3,400 new occurrences and three (3) previously unrepresented animal species: the Federally and State Endangered Atlantic sturgeon (*Acipenser oxyrinchus*), the Federally and State Endangered Northern myotis/Northern long-eared bat (*Myotis septentrionalis*), and the State Special Concern carpenter frog (*Lithobates virgatipes*).

There have been no changes to any of the other datasets and no changes to the format of the Heritage reports. All users will continue to receive reports listing all rare species and ecological communities that may be on their project sites. In 2016, the Natural Heritage Program, revised the reports for rare plant and ecological community data. There has been no change to these reports. For rare plant species, the standard database searches and those provided for projects where a riparian zone width determination (subject to the Flood Hazard Control Act rules) is requested, use slightly different search protocols. The 2016 revisions to the reports for rare plant species and ecological communities are summarized below:

All users will receive a consolidated report for all occurrences of rare plant species and rare ecological communities in the immediate vicinity (within ¼ mile) of their project sites. These reports include rare plant species and ecological communities in addition to those wetland plant species where a riparian zone width determination is required by the Flood Hazard Area Control Act rules. These reports may include records for rare plant species for which the precise location of the occurrence is not known. These are often older records, and surveys are needed in order to determine the current condition and location of these occurrences in relation to proposed projects. Users requesting reports in order to make a riparian zone width determination for Flood Hazard Area Control Act (FHACA) permits will continue to receive the same reports for those wetland plant species identified by the FHACA regulations as being critically dependent on the watercourse. These reports are limited to precisely located records for these species within one mile of the project site. The Department of Environmental Protection, Division of Land Resource Protection (DLRP) will use this report to determine whether the habitat for any regulated plant species occurs on site or within one mile downstream. The Natural Heritage Program cannot make a regulatory determination about whether rare species occurrences on these reports are subject to the provisions of the FHACA. Applicants should contact the DLRP directly.

If you have any further questions, feel free to contact me.

Mark Wong

Mark Wong

GIS Specialist

New Jersey Department of Environmental Protection



State Parks, Forests and Historic Sites

[Office of Natural Lands Management](#)

Natural Heritage Program

501 E. State Street, 4th Floor

MC501-04, PO Box 420, Trenton, NJ 08625-0420

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[mark.wong@dep.nj.gov](mailto:mark.wong@dep.nj.gov)

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PHILIP D. MURPHY  
Governor  
TAHESHA L. WAY  
Lt. Governor

## State of New Jersey

### THE PINELANDS COMMISSION

PO Box 359  
New Lisbon, NJ 08064  
(609) 894-7300  
www.nj.gov/pinelands



LAURA E. MATOS  
Chair  
SUSAN R. GROGAN  
Executive Director

General Information: [Info@pinelands.nj.gov](mailto:Info@pinelands.nj.gov)  
Application Specific Information: [AppInfo@pinelands.nj.gov](mailto:AppInfo@pinelands.nj.gov)

February 9, 2024

Catherine Brunson (via email)  
Department of the Air Force  
787 CES/CEIEA  
2404 Vandenberg Avenue  
Joint Base McGuire-Dix-Lakehurst, NJ 08641

Re: Application # 1991-0836.074  
McGuire-Dix-Lakehurst  
Borough of Lakehurst

Dear Ms. Brunson:

We have reviewed your February 5, 2024 letter regarding an Environmental Assessment for the removal of trees beneath airfield flight surfaces at Joint Base McGuire-Dix-Lakehurst.

The Pinelands Comprehensive Management Plan (CMP) contains many land use and environmental standards. For example, the land use standards of the CMP require that, where feasible, development at military installations be located in that portion of the installation located within the Pinelands Protection Area and avoid the Pinelands Preservation Area District and Forest Area. Examples of CMP environmental standards include a prohibition on most development in wetlands and a required buffer to wetlands, the protection of threatened and endangered plants and animals, and stormwater management.

To discuss how these standards may relate to the proposed development, you may wish schedule a pre-application conference with our staff. During this conference, we can discuss the proposed development and advise of the specific standards of the CMP that appear to be of concern. There is no fee required for a pre-application conference.

Please note that the last development project listed in your letter, the removal of four berms to drain approximately 20 acres of surface water and restore native grasslands would be a violation of the wetland protection standards of the Pinelands Comprehensive Management Plan.

Please feel free to contact me if you have any questions.

Sincerely,

Ernest M. Deman, CPM  
Supervising Environmental Specialist

**From:** BRUNSON, CATHERINE E CIV USAF AMC 787 CES/CEIEA  
**To:** appinfo@pinelands.nj.gov  
**Cc:** JICHA, KRISTEN G CIV USAF AMC 787 CES/CEIEC  
**Subject:** RE: [Non-DoD Source] Pinelands Application #1991-0836.074, 787 CES/CEIEA  
**Date:** Friday, February 9, 2024 3:02:00 PM  
**Attachments:** image001.png  
image002.png  
image003.png  
FeeMiscemd19910836074020924134459.pdf

Good afternoon Mr. Deman,

Thank you for the response to our scoping letter.

It appears that two different environmental assessments (EA) have been combined into this letter. We currently have two EAs in process. The Installation Development EA (IDEA), which covers 11 separate projects located around the installation, one of which is the berm removal project. The second EA we have in progress and have just completed the DOPAA for is the Lakehurst tree removal

EA (assigned the name TERPS). The TERPS EA has no berm removal, but only the removal of selected

trees violating the imaginary plane of the glide slope at the ends of the runways. Both EAs are mentioned in the attached letter.

To avoid confusion by the public and to maintain the appropriate administrative record for each project, would you please separate the second to last paragraph in your letter and place it in a second letter for the TERPS project?

Please let me know if you have any questions.

Thank you.

**From:** appinfo@pinelands.nj.gov <appinfo@pinelands.nj.gov>  
**Sent:** Friday, February 9, 2024 1:52 PM  
**To:** BRUNSON, CATHERINE E CIV USAF AMC 787 CES/CEIEA <catherine.brunson@us.af.mil>  
**Subject:** [Non-DoD Source] Pinelands Application #1991-0836.074, 787 CES/CEIEA  
Attached is a letter issued for Pinelands Application #19910836.074.

Ernest M. Deman  
Pinelands Commission  
PO BOX 359  
New Lisbon, NJ 08064  
609-894-7300

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## APPENDIX D AIR CONFORMITY APPLICABILITY MODEL

### Air Conformity Applicability Model Report Record of Conformity Analysis (ROCA)

**1. General Information:** The Air Force's Air Conformity Applicability Model (ACAM) was used to perform a net change in emissions analysis to assess the potential air quality impact/s associated with the action. The analysis was performed in accordance with the Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention*; the *Environmental Impact Analysis Process* (EIAP, 32 CFR 989); the *General Conformity Rule* (GCR, 40 CFR 93 Subpart B); and the *USAF Air Quality Environmental Impact Analysis Process (EIAP) Guide*. This report provides a summary of the ACAM analysis.

Report generated with ACAM version: 5.0.23a

**a. Action Location:**

**Base:** LAKEHURST NAVAL STATION  
**State:** New Jersey  
**County(s):** Ocean  
**Regulatory Area(s):** Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE

**b. Action Title:** Removal of Trees Intruding into Imaginary Flight Surfaces at Maxfield, Lakehurst, Joint Base McGuire-Dix-Lakehurst, New Jersey

**c. Project Number/s (if applicable):**

**d. Projected Action Start Date:** 1 / 2025

**e. Action Description:**

The Proposed Action includes removal of certain trees to maintain the approach-departure glide slope and transitional surfaces associated with airfield operations on runways 15/33 and 06/24 at Maxfield Lakehurst, Joint Base McGuire-Dix-Lakehurst (JB MDL). Removal of trees includes trimming trees down to approximately 10 inches. Stump removal, grinding, grubbing, or grading would likely not occur. Trees would be removed down to the stump level and the trimmed pieces would be scattered or mulched (along roadsides) and left in place. Tree removal activities would occur for approximately 10 days and equipment would be operated for 8 hours a day. It was estimated that the following equipment would be used:

John Deere 643L-II Feller Buncher  
John Deere 648L-II Grapple Log Skidder Cable  
John Deere 337E Knuckleboom Loader  
Gyro-trac GT250 Heavy Duty Mulcher  
Morbark 30/36 Whole Tree Drum Chipper  
Huaqvarna 562 XP Mark II Chainsaws (4)  
Mack Pinnacle Truck with flatbed trailer

**f. Point of Contact:**

**Name:** Carolyn Hein  
**Title:** Contractor  
**Organization:** HDR  
**Email:**  
**Phone Number:**



**2. Analysis:** Total reasonably foreseeable net change in direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the "worst-case" (highest annual emissions) and "steady state" (no net gain/loss in emission stabilized and the action is fully implemented) emissions. General Conformity under the Clean Air Act, Section 1.76 has been evaluated for the action described above according to the requirements of 40 CFR 93, Subpart B.

All emissions estimates were derived from various sources using the methods, algorithms, and emission factors from the most current *Air Emissions Guide for Air Force Stationary Sources*, *Air Emissions Guide for Air Force Mobile Sources*, and/or *Air Emissions Guide for Air Force Transitory Sources*. For greater details of this analysis, refer to the Detail ACAM Report.

\_\_\_\_\_ applicable  
  X   not applicable

**Conformity Analysis Summary:**

**2025**

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE			
VOC	0.010	50	No
NOx	0.073	100	No
CO	0.113		
SOx	0.000		
PM 10	0.003		
PM 2.5	0.002		
Pb	0.000		
NH3	0.000		

**2026 - (Steady State)**

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE			
VOC	0.000	50	No
NOx	0.000	100	No
CO	0.000		
SOx	0.000		
PM 10	0.000		
PM 2.5	0.000		
Pb	0.000		
NH3	0.000		

The Criteria Pollutants (or their precursors) with a General Conformity threshold listed in the table above are pollutants within one or more designated nonattainment or maintenance area/s for the associated National Ambient Air Quality Standard (NAAQS). These pollutants are driving this GCR Applicability Analysis. Pollutants exceeding the GCR thresholds must be further evaluated potentially through a GCR Determination.

The pollutants without a General Conformity threshold are pollutants only within areas designated attainment for the associated NAAQS. These pollutants have an insignificance indicator for VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM 10, PM 2.5, and NH<sub>3</sub> of 250 ton/yr (Prevention of Significant Deterioration major source threshold) and 25 ton/yr for Pb (GCR de minimis value). Pollutants below their insignificance indicators are at rates so insignificant that they will not cause or contribute to an exceedance of one or more NAAQSs. These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Refer to the *Level II, Air Quality Quantitative Assessment Insignificance Indicators* for further details.

None of the annual net change in estimated emissions associated with this action are above the GCR threshold values established at 40 CFR 93.153 (b); therefore, the proposed Action has an insignificant impact on Air Quality and a General Conformity Determination is not applicable.

Carolyn Hein, Contractor

May 12 2024

**Name, Title**

**Date**

## APPENDIX D AIR CONFORMITY APPLICABILITY MODEL

### Detail Air Conformity Applicability Model Report

#### 1. General Information

---

**- Action Location**

**Base:** LAKEHURST NAVAL STATION

**State:** New Jersey

**County(s):** Ocean

**Regulatory Area(s):** Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE

**- Action Title:** Removal of Trees Intruding into Imaginary Flight Surfaces at Maxfield, Lakehurst, Joint Base McGuire-Dix-Lakehurst, New Jersey

**- Project Number/s (if applicable):**

**- Projected Action Start Date:** 1 / 2025

**- Action Purpose and Need:**

The purpose of the Proposed Action is to maintain the approach- departure glide slope and transitional surfaces associated with airfield operations at Maxfield, Lakehurst, JB MDL. The Proposed Action is needed because the current tree intrusions violate airfield approach-departure and transitional surface criteria and pose a hazard to safe airfield operations.

**- Action Description:**

The Proposed Action includes removal of certain trees to maintain the approach-departure glide slope and transitional surfaces associated with airfield operations on runways 15/33 and 06/24 at Maxfield Lakehurst, Joint Base McGuire-Dix-Lakehurst (JB MDL). Removal of trees includes trimming trees down to approximately 10 inches. Stump removal, grinding, grubbing, or grading would likely not occur. Trees would be removed down to the stump level and the trimmed pieces would be scattered or mulched (along roadsides) and left in place. Tree removal activities would occur for approximately 10 days and equipment would be operated for 8 hours a day. It was estimated that the following equipment would be used:

John Deere 643L-II Feller Buncher  
John Deere 648L-II Grapple Log Skidder Cable  
John Deere 337E Knuckleboom Loader  
Gyro-trac GT250 Heavy Duty Mulcher  
Morbark 30/36 Whole Tree Drum Chipper  
Huaqvarna 562 XP Mark II Chainsaws (4)  
Mack Pinnacle Truck with flatbed trailer

**- Point of Contact**

**Name:** Carolyn Hein

**Title:** Contractor

**Organization:** HDR

**Email:**

**Phone Number:**

Report generated with ACAM version: 5.0.23a

**- Activity List:**

Activity Type		Activity Title
2.	Construction / Demolition	Tree Removal

Emission factors and air emission estimating methods come from the United States Air Force’s Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

## 2. Construction / Demolition

### 2.1 General Information & Timeline Assumptions

#### - Activity Location

**County:** Ocean

**Regulatory Area(s):** Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE

#### - Activity Title: Tree Removal

#### - Activity Description:

It was assumed tree removal would occur for 10 days in January of 2025. The actual period of activity may be different than what was used; however, tree removal activities would occur within the same year.

The site grading activity phase was used to calculate emissions from tree removal activities. An estimated 173.1 acres of trees would be affected. For the purposes of this analysis, it was assumed five percent of the total project area acreage would be graded to account for machine use, commute to from the site, and transit across the project area. Therefore, it was assumed 8.655 acres would be graded to account for the tree removal activities. Grading would occur over a 10-day period.

#### - Activity Start Date

**Start Month:** 1

**Start Month:** 2025

#### - Activity End Date

**Indefinite:** False

**End Month:** 1

**End Month:** 2025

#### - Activity Emissions:

Pollutant	Total Emissions (TONs)		Pollutant	Total Emissions (TONs)
VOC	0.009589		PM 10	0.002565
SO <sub>x</sub>	0.000204		PM 2.5	0.002323
NO <sub>x</sub>	0.073490		Pb	0.000000
CO	0.112522		NH <sub>3</sub>	0.000125

#### - Activity Emissions of GHG:

Pollutant	Total Emissions (TONs)		Pollutant	Total Emissions (TONs)
CH <sub>4</sub>	0.000838		CO <sub>2</sub>	20.600275
N <sub>2</sub> O	0.000176		CO <sub>2</sub> e	20.673531

#### - Global Scale Activity Emissions for SCGHG:

Pollutant	Total Emissions (TONs)		Pollutant	Total Emissions (TONs)
CH <sub>4</sub>	0.000838		CO <sub>2</sub>	20.600275
N <sub>2</sub> O	0.000176		CO <sub>2</sub> e	20.673531

## 2.1 Site Grading Phase

### 2.1.1 Site Grading Phase Timeline Assumptions

**- Phase Start Date**

Start Month: 1  
 Start Quarter: 1  
 Start Year: 2025

**- Phase Duration**

Number of Month: 0  
 Number of Days: 10

### 2.1.2 Site Grading Phase Assumptions

**- General Site Grading Information**

Area of Site to be Graded (ft<sup>2</sup>): 8.655  
 Amount of Material to be Hauled On-Site (yd<sup>3</sup>): 0  
 Amount of Material to be Hauled Off-Site (yd<sup>3</sup>): 0

**- Site Grading Default Settings**

Default Settings Used: No  
 Average Day(s) worked per week: 7

**- Construction Exhaust**

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	4	8
Off-Highway Trucks Composite	1	8
Rubber Tired Loaders Composite	1	8
Skid Steer Loaders Composite	1	8
Tractors/Loaders/Backhoes Composite	3	8

**- Vehicle Exhaust**

Average Hauling Truck Capacity (yd<sup>3</sup>): 20  
 Average Hauling Truck Round Trip Commute (mile): 20

**- Vehicle Exhaust Vehicle Mixture (%)**

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

**- Worker Trips**

Average Worker Round Trip Commute (mile): 20

**- Worker Trips Vehicle Mixture (%)**

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0





MC	0.10821	0.00245	397.57500	401.01181
----	---------	---------	-----------	-----------

## 2.1.4 Site Grading Phase Formula(s)

### - Fugitive Dust Emissions per Phase

$$PM10_{FD} = (20 * ACRE * WD) / 2000$$

PM10<sub>FD</sub>: Fugitive Dust PM 10 Emissions (TONs)

20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)

ACRE: Total acres (acres)

WD: Number of Total Work Days (days)

2000: Conversion Factor pounds to tons

### - Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$$

CEE<sub>POL</sub>: Construction Exhaust Emissions (TONs)

NE: Number of Equipment

WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)

HP: Equipment Horsepower

LF: Equipment Load Factor

EF<sub>POL</sub>: Emission Factor for Pollutant (g/hp-hour)

0.002205: Conversion Factor grams to pounds

2000: Conversion Factor pounds to tons

### - Vehicle Exhaust Emissions per Phase

$$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$$

VMT<sub>VE</sub>: Vehicle Exhaust Vehicle Miles Travel (miles)

HA<sub>OnSite</sub>: Amount of Material to be Hauled On-Site (yd<sup>3</sup>)

HA<sub>OffSite</sub>: Amount of Material to be Hauled Off-Site (yd<sup>3</sup>)

HC: Average Hauling Truck Capacity (yd<sup>3</sup>)

(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd<sup>3</sup>)

HT: Average Hauling Truck Round Trip Commute (mile/trip)

$$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$$

V<sub>POL</sub>: Vehicle Emissions (TONs)

VMT<sub>VE</sub>: Vehicle Exhaust Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

EF<sub>POL</sub>: Emission Factor for Pollutant (grams/mile)

VM: Vehicle Exhaust On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

### - Worker Trips Emissions per Phase

$$VMT_{WT} = WD * WT * 1.25 * NE$$

VMT<sub>WT</sub>: Worker Trips Vehicle Miles Travel (miles)

WD: Number of Total Work Days (days)

WT: Average Worker Round Trip Commute (mile)

1.25: Conversion Factor Number of Construction Equipment to Number of Works

NE: Number of Construction Equipment

$$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$$

$V_{POL}$ : Vehicle Emissions (TONs)

$VMT_{WT}$ : Worker Trips Vehicle Miles Travel (miles)

0.002205: Conversion Factor grams to pounds

$EF_{POL}$ : Emission Factor for Pollutant (grams/mile)

VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

## APPENDIX D AIR CONFORMITY APPLICABILITY MODEL

### Air Conformity Applicability Model Report Greenhouse Gase (GHG) Emissions

**1. General Information:** The Air Force’s Air Conformity Applicability Model (ACAM) was used to perform an analysis to estimate GHG emissions and assess the theoretical Social Cost of Greenhouse Gases (SC GHG) associated with the action. The analysis was performed in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the USAF Air Quality Environmental Impact Analysis Process (EIAP) Guide. This report provides a summary of GHG emissions and SC GHG analysis.

Report generated with ACAM version: 5.0.23a

**a. Action Location:**

**Base:** LAKEHURST NAVAL STATION  
**State:** New Jersey  
**County(s):** Ocean  
**Regulatory Area(s):** Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE

**b. Action Title:** Removal of Trees Intruding into Imaginary Flight Surfaces at Maxfield, Lakehurst, Joint Base McGuire-Dix-Lakehurst, New Jersey

**c. Project Number/s (if applicable):**

**d. Projected Action Start Date:** 1 / 2025

**e. Action Description:**

The Proposed Action includes removal of certain trees to maintain the approach-departure glide slope and transitional surfaces associated with airfield operations on runways 15/33 and 06/24 at Maxfield Lakehurst, Joint Base McGuire-Dix-Lakehurst (JB MDL). Removal of trees includes trimming trees down to approximately 10 inches. Stump removal, grinding, grubbing, or grading would likely not occur. Trees would be removed down to the stump level and the trimmed pieces would be scattered or mulched (along roadsides) and left in place. Tree removal activities would occur for approximately 10 days and equipment would be operated for 8 hours a day. It was estimated that the following equipment would be used:

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Gyro-trac GT250 Heavy Duty Mulcher  
Morbark 30/36 Whole Tree Drum Chipper  
Huaqvarna 562 XP Mark II Chainsaws (4)  
Mack Pinnacle Truck with flatbed trailer

**f. Point of Contact:**

**Name:** Carolyn Hein  
**Title:** Contractor  
**Organization:** HDR  
**Email:**  
**Phone Number:**

**2. Analysis:** Total combined direct and indirect GHG emissions associated with the action were estimated through ACAM on a calendar-year basis from the action start through the expected life cycle of the action. The life cycle for Air Force actions with "steady state" emissions (SS, net gain/loss in emission stabilized and the action is fully implemented) is assumed to be 10 years beyond the SS emissions year or 20 years beyond SS emissions year for aircraft operations related actions.

#### GHG Emissions Analysis Summary:

GHGs produced by fossil-fuel combustion are primarily carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (NO<sub>2</sub>). These three GHGs represent more than 97 percent of all U.S. GHG emissions. Emissions of GHGs are typically quantified and regulated in units of CO<sub>2</sub> equivalents (CO<sub>2</sub>e). The CO<sub>2</sub>e takes into account the global warming potential (GWP) of each GHG. The GWP is the measure of a particular GHG's ability to absorb solar radiation as well as its residence time within the atmosphere. The GWP allows comparison of global warming impacts between different gases; the higher the GWP, the more that gas contributes to climate change in comparison to CO<sub>2</sub>. All GHG emissions estimates were derived from various emission sources using the methods, algorithms, emission factors, and GWPs from the most current Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and/or Air Emissions Guide for Air Force Transitory Sources.

The Air Force has adopted the Prevention of Significant Deterioration (PSD) threshold for GHG of 75,000 ton per year (ton/yr) of CO<sub>2</sub>e (or 68,039 metric ton per year, mton/yr) as an indicator or "threshold of insignificance" for NEPA air quality impacts in all areas. This indicator does not define a significant impact; however, it provides a threshold to identify actions that are insignificant (de minimis, too trivial or minor to merit consideration). Actions with a net change in GHG (CO<sub>2</sub>e) emissions below the insignificance indicator (threshold) are considered too insignificant on a global scale to warrant any further analysis. Note that actions with a net change in GHG (CO<sub>2</sub>e) emissions above the insignificance indicator (threshold) are only considered potentially significant and require further assessment to determine if the action poses a significant impact. For further detail on insignificance indicators see Level II, Air Quality Quantitative Assessment, Insignificance Indicators (April 2023).

The following table summarizes the action-related GHG emissions on a calendar-year basis through the projected life cycle of the action.

Action-Related Annual GHG Emissions (mton/yr)						
YEAR	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e	Threshold	Exceedance
2025	19	0.00076026	0.00015934	19	68,039	No
2026 [SS Year]	0	0	0	0	68,039	No

The following U.S. and State's GHG emissions estimates (next two tables) are based on a five-year average (2016 through 2020) of individual state-reported GHG emissions (Reference: State Climate Summaries 2022, NOAA National Centers for Environmental Information, National Oceanic and Atmospheric Administration. <https://statesummaries.ncics.org/downloads/>).

State's Annual GHG Emissions (mton/yr)				
YEAR	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
2025	95,948,635	132,911	5,937	96,087,482
2026 [SS Year]	0	0	0	0

U.S. Annual GHG Emissions (mton/yr)				
YEAR	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
2025	5,136,454,179	25,626,912	1,500,708	5,163,581,798
2026 [SS Year]	0	0	0	0



### GHG Relative Significance Assessment:

A Relative Significance Assessment uses the rule of reason and the concept of proportionality along with the consideration of the affected area (yGba.e., global, national, and regional) and the degree (intensity) of the proposed action's effects. The Relative Significance Assessment provides real-world context and allows for a reasoned choice against alternatives through a relative comparison analysis. The analysis weighs each alternative's annual net change in GHG emissions proportionally against (or relative to) global, national, and regional emissions.

The action's surroundings, circumstances, environment, and background (context associated with an action) provide the setting for evaluating the GHG intensity (impact significance). From an air quality perspective, context of an action is the local area's ambient air quality relative to meeting the NAAQSs, expressed as attainment, nonattainment, or maintenance areas (this designation is considered the attainment status). GHGs are non-hazardous to health at normal ambient concentrations and, at a cumulative global scale, action-related GHG emissions can only potentially cause warming of the climatic system. Therefore, the action-related GHGs generally have an insignificant impact to local air quality.

However, the affected area (context) of GHG/climate change is global. Therefore, the intensity or degree of the proposed action's GHG/climate change effects are gauged through the quantity of GHG associated with the action as compared to a baseline of the state, U.S., and global GHG inventories. Each action (or alternative) has significance, based on their annual net change in GHG emissions, in relation to or proportionally to the global, national, and regional annual GHG emissions.

To provide real-world context to the GHG and climate change effects on a global scale, an action's net change in GHG emissions is compared relative to the state (where action will occur) and U.S. annual emissions. The following table provides a relative comparison of an action's net change in GHG emissions vs. state and U.S. projected GHG emissions for the same time period.

Total GHG Relative Significance (mton)					
		CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
2025-2036	State Total	95,948,635	132,911	5,937	96,087,482
2025-2036	U.S. Total	5,136,454,179	25,626,912	1,500,708	5,163,581,798
2025-2036	Action	19	0.00076	0.000159	19
Percent of State Totals		0.00001948%	0.00000057%	0.00000268%	0.00001952%
Percent of U.S. Totals		0.00000036%	0.00000000%	0.00000001%	0.00000036%

From a global context, the action's total GHG percentage of total global GHG for the same time period is: 0.00000005%.\*

\* Global value based on the U.S. emits 13.4% of all global GHG annual emissions (2018 Emissions Data, Center for Climate and Energy Solutions, accessed 7-6-2023, <https://www.c2es.org/content/international-emissions>).

### Climate Change Assessment (as SC GHG):

On a global scale, the potential climate change effects of an action are indirectly addressed and put into context through providing the theoretical SC GHG associated with an action. The SC GHG is an administrative and theoretical tool intended to provide additional context to a GHG's potential impacts through approximating the long-term monetary damage that may result from GHG emissions affect on climate change. It is important to note that the SC GHG is a monetary quantification, in 2020 U.S. dollars, of the theoretical economic damages that could result from emitting GHGs into the atmosphere.

The SC GHG estimates are derived using the methodology and discount factors in the "Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990," released by the Interagency Working Group on Social Cost of Greenhouse Gases (IWG SC GHGs) in February 2021.

The speciated IWG Annual SC GHG Emission associated with an action (or alternative) are first estimated as annual unit cost (cost per metric ton, \$/mton). Results of the annual IWG Annual SC GHG Emission Assessments are tabulated in the IWG Annual SC GHG Cost per Metric Ton Table below:

IWG SC GHG Discount Factor: 2.5%

IWG Annual SC GHG Cost per Metric Ton (\$/mton [In 2020 \$])			
YEAR	CO2	CH4	N2O
2025	\$83.00	\$2,200.00	\$30,000.00
2026 [SS Year]	\$84.00	\$2,300.00	\$30,000.00

Action-related SC GHG were estimated by calendar-year for the projected action’s lifecycle. Annual estimates were found by multiplying the annual emission for a given year by the corresponding IWG Annual SC GHG Emission value (see table above).

Action-Related Annual SC GHG (\$K/yr [In 2020 \$])				
YEAR	CO2	CH4	N2O	GHG
2025	\$1.55	\$0.00	\$0.00	\$1.56
2026 [SS Year]	\$0.00	\$0.00	\$0.00	\$0.00

The following two tables summarize the U.S. and State’s Annual SC GHG by calendar-year. The U.S. and State’s Annual SC GHG are in 2020 dollars and were estimated by each year for the projected action lifecycle. Annual SC GHG estimates were found by multiplying the U.S. and State’s annual five-year average GHG emissions for a given year by the corresponding IWG Annual SC GHG Cost per Metric Ton value.

State’s Annual SC GHG (\$K/yr [In 2020 \$])				
YEAR	CO2	CH4	N2O	GHG
2025	\$7,963,736.71	\$292,403.27	\$178,099.92	\$8,434,239.90
2026 [SS Year]	\$0.00	\$0.00	\$0.00	\$0.00

U.S. Annual SC GHG (\$K/yr [In 2020 \$])				
YEAR	CO2	CH4	N2O	GHG
2025	\$426,325,696.86	\$56,379,205.70	\$45,021,229.08	\$527,726,131.63
2026 [SS Year]	\$0.00	\$0.00	\$0.00	\$0.00

### Relative Comparison of SC GHG:

To provide additional real-world context to the potential climate change impact associate with an action, a Relative Comparison of SC GHG Assessment is also performed. While the SC GHG estimates capture an indirect approximation of global climate damages, the Relative Comparison of SC GHG Assessment provides a better perspective from a regional and global scale.

The Relative Comparison of SC GHG Assessment uses the rule of reason and the concept of proportionality along with the consideration of the affected area (yGba.e., global, national, and regional) and the SC GHG as the degree (intensity) of the proposed action’s effects. The Relative Comparison Assessment provides real-world context and allows for a reasoned choice among alternatives through a relative contrast analysis which weighs each alternative’s SC GHG proportionally against (or relative to) existing global, national, and regional SC GHG. The below table provides a relative comparison between an action’s SC GHG vs. state and U.S. projected SC GHG for the same time period:

Total SC-GHG (\$K [In 2020 \$])					
		CO2	CH4	N2O	GHG
2025-2036	State Total	\$7,963,736.71	\$292,403.27	\$178,099.92	\$8,434,239.90
2025-2036	U.S. Total	\$426,325,696.86	\$56,379,205.70	\$45,021,229.08	\$527,726,131.63
2025-2036	Action	\$1.55	\$0.00	\$0.00	\$1.56
Percent of State Totals		0.00001948%	0.00000057%	0.00000268%	0.00001847%
Percent of U.S. Totals		0.00000036%	0.00000000%	0.00000001%	0.00000030%

From a global context, the action’s total SC GHG percentage of total global SC GHG for the same time period is: 0.00000004%.\*

\* Global value based on the U.S. emits 13.4% of all global GHG annual emissions (2018 Emissions Data, Center for Climate and Energy Solutions, accessed 7-6-2023, <https://www.c2es.org/content/international-emissions>).

Carolyn Hein, Contractor	May 12 2024
<b>Name, Title</b>	<b>Date</b>