



**DRAFT FINAL ENVIRONMENTAL ASSESSMENT  
LAWRENCE MUNICIPAL AIRPORT  
NORTH ANDOVER, MASSACHUSETTS**

This Environmental Assessment has been prepared to document potential impacts associated with the acquisition of aviation easements and the removal of trees obstructing protected airspace at Lawrence Municipal Airport.

October 2024

Prepared for:  
Lawrence Municipal Airport

Prepared by:  
Stantec Consulting Services Inc.  
2211 Congress Street Suite 380  
Portland, Maine 04102

Project Number:  
179450474

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

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**Draft Final Environmental Assessment Lawrence Municipal Airport  
North Andover, Massachusetts**

<b>Revision</b>	<b>Description</b>	<b>Author</b>	<b>Date</b>	<b>Quality Check</b>	<b>Date</b>	<b>Independent Review</b>	<b>Date</b>



**Draft Final Environmental Assessment Lawrence Municipal Airport  
North Andover, Massachusetts**

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Prepared by: *Taylor Lonk*  
Signature  
  
Taylor Lonk  
Typed Name

Reviewed by: *N. Louis*  
Signature  
  
Nick Louis  
Typed Name

Approved by: *Gregg Cohen*  
Signature  
  
Gregg Cohen  
Typed Name



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## **Acronyms / Abbreviations**

AC	Advisory Circular
BMP	Best Management Practice
CAA	Clean Air Act
CATEX	Categorical Exclusion
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
CMR	Code of Massachusetts Regulations
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
EA	Environmental Assessment
EIS	Environmental Impact Statement
FAA	Federal Aviation Administration
FICON	Federal Interagency Committee on Noise
FONSI	Finding of No Significant Impact
GHG	Greenhouse Gas
GPS	Global Positioning System
ILS	Instrument Landing System
INM	Integrated Noise Model
L&WCFA	Land & Water Conservation Fund Act
LSCS	Light Signal Clearance Surface
LWM	Lawrence Municipal Airport
MassDOT	Massachusetts Department of Transportation
MOA	Memorandum of Agreement
NCA	Noise Control Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPIAS	National Plan of Integrated Airport Systems
OCS	Obstacle Clearance Surface
PAPI	Precision Approach Path Indicator
ROD	Record of Decision
SHPO	State Historic Preservation Office
TERPS	United States Standard for Terminal Instrument Procedures
THPO	Tribal Historic Preservation Office
USACE	U.S. Army Corps of Engineers
USDOT	U.S. United States Department of Transportation
USFWS	U.S. Fish and Wildlife Service
VMP	Vegetation Management Plan
YOPU	Yearly Operational Plan Update

# **1 Introduction**

Lawrence Municipal Airport (LWM) has prepared this Environmental Assessment (EA) in accordance with Federal Aviation Administration (FAA) and National Environmental Policy Act (NEPA) requirements to evaluate potential impacts associated with acquiring easements to remove tree obstructions within the Runway 23 and Runway 32 approach surfaces. LWM prepared an airspace analysis at the airport to determine the presence of obstructions (trees and/or constructed objects) encroaching protected airspace above the airport. Results of the airspace analysis identified trees obstructing Runway 23 and 32 navigable airspace surfaces located on and off airport property. In order to mitigate trees located off airport property identified as obstructions to runway navigable airspace surfaces, easement acquisition on affected parcels is required. The easement acquisition will involve seven parcels, three parcels are located to the south of Runway 32 and the remaining four parcels are located east of the Runway 23 end. In accordance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) regulations, the potential environmental impacts associated with easement acquisition and the removal of obstructions off airport property must be reviewed within the context of an EA. See Figure 1-1 for the Site Vicinity map.

In accordance with Federal Aviation Administration (FAA) Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions of Airport Actions, potential impacts associated with certain federally funded actions require review and consideration within the context of an EA due to the potential of protected environmental resources in the vicinity of the project that would not allow the project to meet the conditions of a Categorical Exclusion as found in FAA Order 1050.1F.

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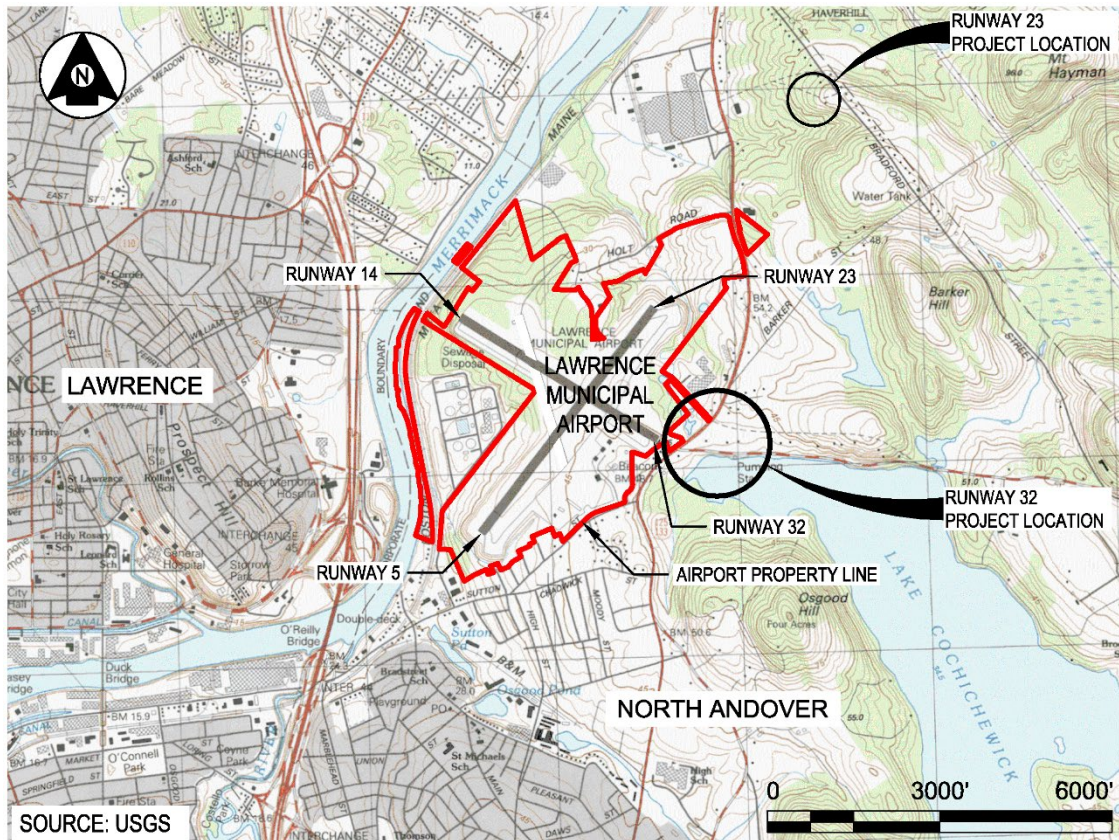


Figure 1-1. Site Vicinity Map

## 1.1 Purpose and Need

This project has been proposed to address existing safety hazards associated with trees penetrating established navigable airspace at Lawrence Municipal Airport (LWM). For the purposes of this document, trees identified as obstructions to affected surfaces have been recommended for removal to improve the safety of aircraft operations conducted at the airport. One of the FAA's primary responsibilities includes avoiding adverse impacts to the safe use of the airspace above the nation's public-use airports. FAA regulations, including but not limited to 14 CFR Part 77- *Safe, Efficient Use, And Preservation of The Navigable Airspace* and FAA Order 8260.3F *United States Standard for Terminal Instrument Procedures (TERPS)* establish air surface dimensions and identify measures to enhance safe air navigation. Design alternatives presented in this EA have been prepared in accordance with FAA regulations to ensure the proposed safety improvement projects provide the highest degree of safety for aircraft operations conducted at the airport.

The need for this project is derived from the analysis of aerial survey data that identified trees penetrating runway airspace. Obstructions (trees) identified on and off airport property must be effectively mitigated (i.e. removed) to comply with FAA regulations to provide the highest achievable degree of safety to aircraft operations conducted at the airport. Easements enabling the airport to manage vegetation off



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airport property are needed to remove obstructions identified within the Runway 23 and 32 protected navigable airspace.

## 1.2 Scope

The purpose of this document is to inform regulatory agencies and the public of the likely environmental consequences associated with the proposed actions and their reasonable alternatives. The EA provides the FAA with information necessary to determine whether the impacts associated with the proposed project have the potential to significantly impact the environment. Based on this determination, the FAA will either issue a Finding of No Significant Impact (FONSI) or the agency will require the preparation of an Environmental Impact Statement (EIS) to further analyze the proposed project and its associated impacts.

This EA has been developed in accordance with the National Environmental Policy Act of 1969 (NEPA), the federal Council of Environmental Quality's (CEQ) NEPA regulations (40 Code of Federal Regulations [CFR] §§ 1500-1508), FAA Order 1050.1F, Environmental Impacts: Policies and Procedures and FAA Order 5050.4B, *National Environmental Policy Act Implementing Instructions for Airport Actions*.

According to NEPA, all major projects and/or actions funded by the federal government fall into one of three categories:

- Those normally requiring an Environmental Impact Statement (EIS);
- Those normally requiring an EA; and
- Those that are categorically excluded from environmental review.

In summary, projects requiring an EIS are those that are likely to significantly impact the environment. Projects requiring an EA are those that have the potential to impact the environment. Projects that are categorically excluded include those projects that are unlikely to impact the environment.

In summary, projects requiring an EIS are those that are likely to significantly impact the environment. Projects requiring an EA are those that have the potential to impact the environment. Projects that are categorically excluded include those projects that are unlikely to impact the environment.

Typically, obstruction removal activities, including tree cutting, stump grubbing or grinding, and land grading, conducted on airport property are categorically excluded from FAA environmental review within the context of an EA if those actions do not involve extraordinary circumstances and/or substantial impacts to resources protected under "special purpose" laws. Special purpose laws are defined as those federal laws and regulations outside the scope of NEPA, including but not limited to federal wetland regulations, the Endangered Species Act of 1973, and the National Historic Preservation Act of 1966.

This project, however, cannot be categorically excluded as the airport sponsor is proposing the acquisition of avigation easements to facilitate the removal of trees, as the need arises, located off airport property. In accordance with NEPA and FAA regulations, off-airport tree removal projects utilizing federal funding are subject to review within the context of an environmental assessment. This EA has been prepared to assess potential environmental impacts associated with the acquisition of avigation easements required for the mitigation of off-airport obstructions to Runway 23 and 32 protected navigable airspace at the airport.

### **1.3 Airport Location and Vicinity**

Lawrence Municipal Airport is in the City of North Andover and is operated by the City of Lawrence, both in Essex County, Massachusetts. The airport covers approximately 420 acres and sits at an elevation approximately 150 feet above mean sea level. The airfield is on a plateau with the Merrimack River to the west and Lake Cochichewick to the east. The airport is located roughly equidistant between the cities of Boston, MA (24 miles away to the south), Portsmouth, NH (33 miles away to the northeast), and Manchester, NH (25 miles away to the northwest). The Atlantic Ocean lies 19 miles to the east at the mouth of the Merrimack River.

### **1.4 Land Use and Zoning**

Land uses surrounding the airfield include a wastewater treatment facility located on Charles Street, east of the airport, and a recycling center, waste incinerator, and other industrial uses located off Holt Road north of Runway 23 between airport property and the Merrimack River. Retail and commercial uses occur on Osgood Street southeast of the airport, and a residential area is located to the south along Sutton Street. Urban areas of Lawrence and Methuen are located west of the airport, across the Merrimack River. Rural land use (agriculture, rural residential, and recreational uses) makes up much of the area to the east of the airport. The airport is located in an Industrial 1 Zoning District in North Andover.

## **2 DESCRIPTION OF PROPOSED ACTIONS**

This project has been proposed to address existing safety hazards associated with trees penetrating established navigable airspace at Lawrence Municipal Airport. One of the FAA's primary responsibilities includes avoiding adverse impacts to the safe use of the airspace above the Nation's public-use airports. FAA regulations, including but not limited to 14 CFR Part 77- *Safe, Efficient Use, And Preservation Of The Navigable Airspace*, FAA Advisory Circular (AC) 150/5300-13B *Airport Design*, and FAA Order 8260.3F *United States Standard for Terminal Instrument Procedures (TERPS)* establish air surface dimensions and identify measures to enhance safe air navigation. Design alternatives presented in this EA have been prepared in accordance with FAA regulations to ensure the proposed safety improvement project provides the highest degree of safety for aircraft operations conducted at the airport.

### **2.1 Avigation Easement Acquisition**

The identification of required avigation easements is the result of a comprehensive analysis of the protected airspace above this airport. Aerial photogrammetry of the airport and outlying areas provides elevations of trees and other structures including buildings, utility poles, fences, etc. This data is compared with air surface elevations to determine the extent of objects penetrating specific regulated air surfaces. Once the obstructions have been identified, obstruction locations for which the airport does not own the land or the rights to manage trees or structure height are determined. In most instances, land is either purchased or easements are obtained granting the airport rights to maintain, in perpetuity, unobstructed airspace achieved through vegetation management or, when allowed, marked obstructions using FAA approved obstruction lighting.

Once the appropriate parcels have been identified, boundary surveys of each parcel are conducted, and easement boundaries are designed based on the airport's needs. Utilizing the survey plan, legal description, and tax assessment information, an independent professional land appraiser then performs an appraisal of the parcel and easement area. The appraiser then prepares a report of the parcel(s) which includes a fair market value of compensation for the easement(s). Appraisal reports are then provided to an independent "review appraiser" to verify the initial appraisal and recommendation for just compensation. Upon agreement between appraisers of fair market value for the easement(s), negotiations between the airport and landowner(s) for the purchase of the land or easement(s) commences. After the terms of easement acquisition and compensation have been agreed upon, the property or easement is purchased and is recorded with the registry of deeds. The easement acquisition process, as outlined above, must be conducted in accordance with 49 CFR Part 24 - *Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally-Assisted Programs Act of 1970*, as amended.

Aerial photogrammetry was used to perform the airspace analyses of Runways 5-23 and 14-32. The airspace analysis evaluated applicable regulated air surfaces at the airport that must be maintained free of obstructions. These surfaces have been established by the FAA, based primarily on the type of aircraft using the runway and the navigation aids in place to assist pilots on approach to a particular runway. Trees growing within these surfaces have been identified as obstructions that pose hazards to an aircraft and its passengers. Additionally, an airport's failure to adequately address obstructions to protected airspace jeopardizes the airport's eligibility to receive federal funding for future improvement projects and may lead to imposed restrictions that limit runway use and airport operations.

Based on the results of the airspace analysis, Lawrence Municipal Airport requires the acquisition of seven avigation easements for the removal of off-airport trees penetrating protected air surfaces

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associated with the runway approaches to maintain unobstructed airspace upon completion of the tree removal project. The acquisition of all required easements grants the airport the right to remove or manage the height of trees within the boundaries of each easement. Trees located on airport property that have been identified as penetrations to runway approach surfaces have also been proposed for removal.

### **2.2 On and Off-Airport Tree Removal**

LWM anticipates removing trees obstructing runway airspace surfaces in 2026 or 2027 after appropriate easements have been obtained. The obstruction analysis identified approximately 79 acres of trees, located on and off airport property, penetrating existing runway airspace. To limit the environmental impact and the cost of the project, tree removal is proposed only within those surfaces deemed most critical by the FAA including obstacle clearance approach surfaces (as expressed in the FAA AC 150/5300-13B, *Airport Design*). As a result, a total of approximately 4.7 acres of vegetation is proposed for removal, including 0.9 acres of trees located on airport property. Approximately 3.8 acres of vegetation will be removed from off-airport properties.

After the necessary easements have been acquired by the airport, environmental permits will be obtained, and the tree removal project will be conducted. Off airport property, trees will be removed from established project limits within each easement. In residential upland locations within easement areas, obstructing trees are proposed to be cut to ground level, stumps grinded and affected areas topsoiled and seeded with grass. Obstructing trees located within residential and commercial parcels may also be pruned to remove the penetration as desired by the landowner as long as the health and vitality of the tree is not compromised as a result of pruning. All timber and woody debris will be removed from the project locations.

On airport property, tree obstructions located in uplands are proposed to be cut, and where necessary to facilitate future vegetation management efforts (mowing), stumps are proposed to be grinded, and the affected areas seeded with grass. Obstructing vegetation located in wetlands will be cut to ground level and all woody debris will be removed from project areas. Stump grubbing or grinding will not be conducted within wetlands. Trees will be removed from wetlands during seasonally dry or frozen ground conditions to avoid disturbances to wetland soils.

### **3 PROJECT ALTERNATIVES**

The objective of the following analysis is to identify alternatives that are determined to be reasonable and practicable for achieving project goals. Reasonable alternatives that meet the needs of Lawrence Municipal Airport have been developed and evaluated based on operational, engineering, environmental, and economic considerations. Chapter 1 of FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* states a primary objective of NEPA is to “disclose to the interested public a clear and accurate description of potential environmental impacts that proposed federal actions and reasonable alternatives to those actions would cause.” This EA has been prepared to satisfy NEPA requirements by presenting the potential environmental impacts associated with the acquisition of aviation easements for the removal of on and off-airport obstructions necessary to provide the highest possible degree of safety to operations conducted on Runways 23 and 32 at the airport.

#### **3.1 Description of Proposed Alternatives**

LWM has identified three alternatives associated with the proposed easement acquisition and obstruction mitigation necessary to enhance the safety of operations conducted on Runways 5-23 and 14-32. Each alternative will be evaluated based on consideration of the proposed actions described in Section 2 of this EA. The Preferred Alternative will be selected based on its ability to fulfill the purpose and need of the project while minimizing impacts to the Affected Environment to the greatest extent practicable.

##### **3.1.1 Alternative 1- Existing Conditions: No Action**

The “No Action” alternative is prescribed by CEQ regulations for implementing NEPA to serve as a benchmark against which proposed federal actions can be evaluated. This alternative proposes that airport operations continue with the identified safety hazards associated with trees obstructing Runway 23 and 32 airspace.

Consideration of the “No Action” alternative assumes that the airport would not pursue the acquisition of easements necessary to mitigate off-airport obstructions to runway approach surfaces. Furthermore, the “No Action” scenario assumes the airport will not remove penetrations to the protected airspace currently located on airport property. There are no environmental impacts or costs from construction associated with the implementation of the “No Action” Alternative. This alternative restricts the use of the Runways 23 and 32 to day-time operations only and could potentially restrict certain aircraft from using the runways. Implementation of the “No Action” alternative also jeopardizes the airport’s ability to obtain future FAA Airport Improvement Project funding due to the failure to honor existing grant assurances requiring the airport to maintain a safe operating environment.

##### **3.1.2 Alternative 2 – Full clear**

Obtaining the necessary easements identified in this analysis enables the removal of all off-airport obstructions to the most conservative approach surfaces. Alternative 2 proposes the removal of approximately 77.43 acres of upland vegetation and 1.37 acres of wetland vegetation identified as obstructions located both on and off-airport property to 14 CFR Part 77 protected approach and approach transitional surfaces. Approximately 5.26 acres of trees obstructing 14 CFR Part 77 surfaces occur on airport property. The remaining 73.54 acres of obstructions occur off airport property. The removal of trees penetrating 14CFR FAR Part 77 approach and approach transitional surfaces provides the highest possible degree of safety to aircraft utilizing the runway. This alternative also requires the acquisition of

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approximately 54 avigation easements east of the Runway 23 end and 9 easements south of the Runway 32 end. These avigation easements are necessary to remove the obstructions located off-airport property.

The implementation of Alternative 2 rectifies existing safety deficiencies identified in Section 1.2 *Purpose and Need* by improving the safety of operations conducted on Runways 23 and 32 and satisfying FAA design and safety standards. This alternative effectively mitigates identified obstructions to the critical runway approaches and transitional approach surfaces and enables the runways to accommodate current levels of operation without restriction, see Figure 3-1 *Alternative 2 – Full Clear*.

Table 1 details the upland and wetland clearing acreage required for each runway in Alternative 2.

**Table 1.** Tree clearing required for Full Clear Alternative (in acres).

	Uplands On Airport (AC)	Uplands Off Airport (AC)	Total Uplands (AC)
<b>RW 32 Transitional</b>	0.03	2.12	2.15
<b>RW 32 Approach</b>	0.38	1.3	1.68
<b>RW 23 Transitional</b>	0.22	11.06	11.28
<b>RW 23 Approach</b>	3.51	58.81	62.32
	<b>Wetlands On Airport (AC)</b>	<b>Wetlands Off Airport (AC)</b>	<b>Wetlands (AC)</b>
<b>RW 32 Transitional</b>	0.11	0	0.11
<b>RW 32 Approach</b>	0.28	0.1	0.38
<b>RW 23 Transitional</b>	0.07	0.02	0.1
<b>RW 23 Approach</b>	0.66	0.13	0.8

In this development scenario, within forested areas trees are proposed to be cut as close to ground level as possible and all timber and woody debris will be removed from project locations. Within off-airport residential and commercial settings where selective removal is required, trees are proposed to be removed, stumps will be ground and stump grindings removed, and the disturbed areas will be topsoiled and seeded with grass. A cost of approximately \$685,000 has been estimated to design, permit, and construct Alternative 2. This preliminary cost estimate does not include costs associated with coordinating the acquisition and purchase of avigation easements necessary to remove off-airport obstructions due to the variability of appraisals and negotiations in the easement process.



### 3.1.3 Alternative 3 – Partial Clear

This alternative proposes acquiring the easements necessary to remove trees identified as obstructions to the applicable Runway 23 and Runway 32 approach obstacle clearance surfaces as defined in FAA’s Advisory Circular 150/5300-13B *Airport Design*. This alternative substantially reduces the amount of land to be cleared of trees and the number of easements necessary to remove trees located off airport property. Alternative 3 requires the removal of approximately 4.7 acres of trees, including approximately 0.9 acres of trees located on airport property. On airport, approximately 0.4 acres of shrub/sapling wetland vegetation must be removed, and an additional 0.5 acres of upland vegetation identified as obstructions to Runway 23 and Runway 32 airspace must also be removed. The remaining 3.8 acres of trees to be removed are located off airport and will require the acquisition of seven easements for the mitigation of current and long-term management of existing and future obstructions in these areas, see Figure 3-2 *Alternative 3 – Partial Clear Runway 23* and Figure 3-3 *Partial Clear Runway 32*. This alternative satisfies FAA design and safety standards and FAA grant assurances, maintaining the runways’ current operational status without restriction and continuing the airport’s eligibility to receive Airport Improvement Program funding.

The tree removal methodology outlined above in Alternative 2 is proposed to be implemented in Alternative 3. In forested areas trees are proposed to be cut as close to ground level as possible and all timber and woody debris are proposed to be removed from the site. Forest understory vegetation will be preserved to the greatest extent possible. Within newly acquired easement areas, where trees are proposed to be removed from residential or commercial areas, stumps will be ground in place and the grindings will be removed, and the disturbed areas will be topsoiled and seeded with grass. A cost of approximately \$85,000 has been estimated to construct Alternative 3. This preliminary cost estimate does not include costs associated with coordinating the acquisition and purchase of avigation easements necessary to remove off-airport obstructions. A summary of the Partial Clear Alternative is presented in Table 2 below.

**Table 2.** Tree clearing required for Partial Clear Alternative (in acres).

	Uplands On Airport (AC)	Uplands Off Airport (AC)	Total Uplands (AC)
<b>RW 32</b>	0.47	0.46	0.93
<b>RW 23</b>	0.07	3.35	3.42
	Wetlands On Airport (AC)	Wetlands Off Airport (AC)	Wetlands (AC)
<b>RW 32</b>	0.4	0	0.4
<b>RW 23</b>	0	0	0

## 3.2 Summary of Alternatives

As stated previously in Section 3.1.1 *Alternative 1 - No Action*, the “No Action” scenario is provided to serve as a benchmark against which proposed federal actions and associated impacts can be evaluated. The *No Action* alternative does not address existing safety deficiencies associated with existing penetrations to protected air surfaces at the airport. Additionally, by not adequately addressing airspace



**LEGEND**

- AIRPORT PROPERTY LINE
- ABUTTERS PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED EASEMENT
- EXISTING FENCE
- AIRSPACE SURFACE
- UPLAND VEGETATION REMOVAL AREA ON AIRPORT - 0.5 ACRES OFF AIRPORT - 0.42 ACRES
- WETLAND VEGETATION REMOVAL AREA ON AIRPORT - 3.99 ACRES OFF AIRPORT - 0.01 ACRES
- WETLAND BOUNDARY

**NOTES:**

1. ALL ELEVATIONS LISTED ARE MEAN SEA LEVEL (MSL) NAVD88 VERTICAL DATUM.
2. ELEVATIONS SUPPLIED BY STANTEC.
3. TREE TOP SURVEY CONDUCTED 2016 BY COL-EAST, INC.
4. PROPERTY LINES ARE APPROXIMATE.



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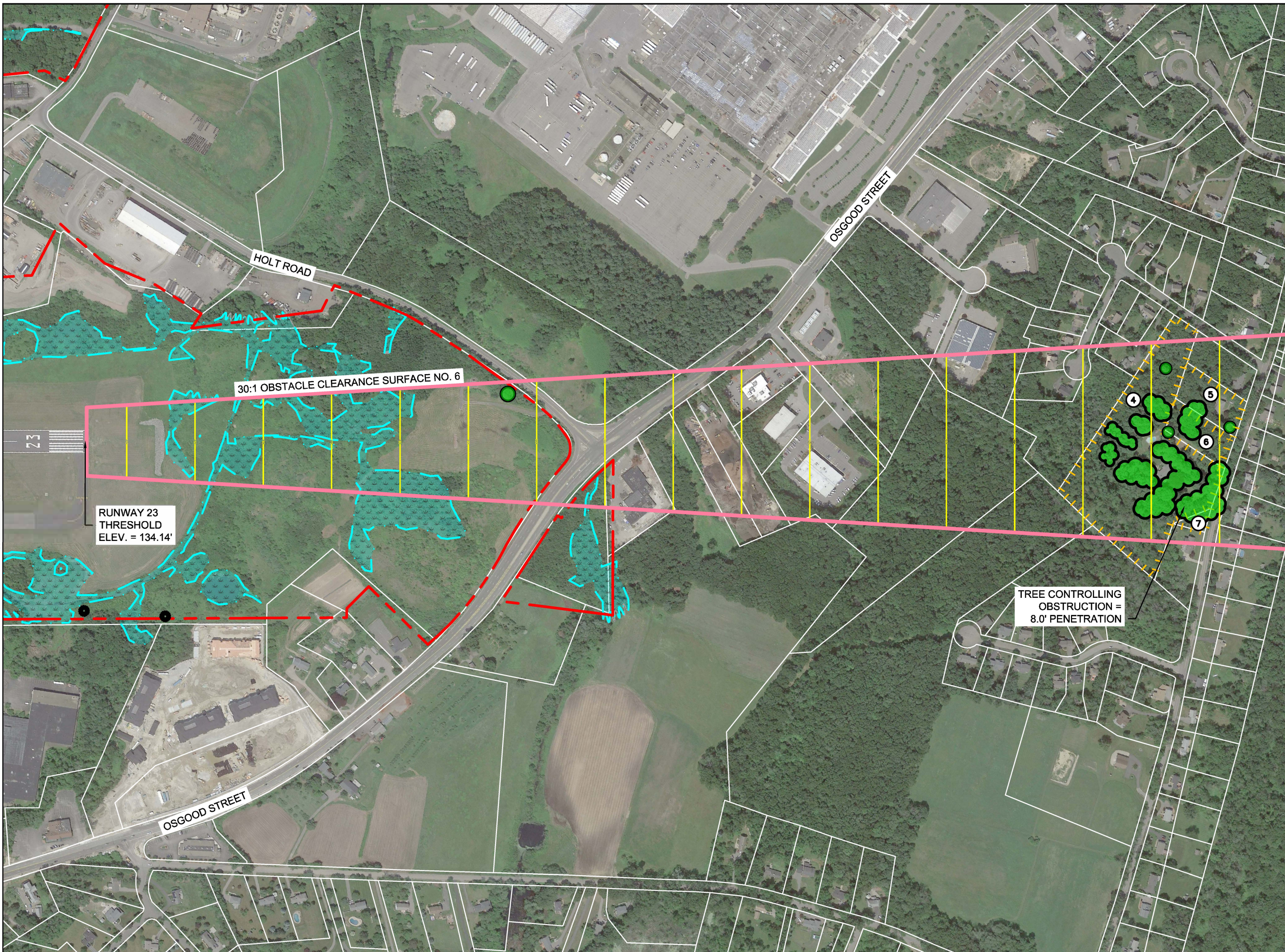
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Client/Project  
 LAWRENCE MUNICIPAL AIRPORT

NORTH ANDOVER, MASSACHUSETTS

Title  
 ALTERNATIVE 3 - PARTIAL CLEAR  
 RUNWAY 23

Project No. 179450474	Scale 1"=400'
Figure No. 3-2	Sheet of
	Revision 1



RUNWAY 23  
 THRESHOLD  
 ELEV. = 134.14'

30:1 OBSTACLE CLEARANCE SURFACE NO. 6

TREE CONTROLLING  
 OBSTRUCTION =  
 8.0' PENETRATION

**LEGEND**

- AIRPORT PROPERTY LINE
- ABUTTERS PROPERTY LINE
- EXISTING EASEMENT
- PROPOSED EASEMENT
- EXISTING FENCE
- AIRSPACE SURFACE
- UPLAND VEGETATION REMOVAL AREA  
ON AIRPORT - 0.5 ACRES  
OFF AIRPORT - 0.42 ACRES
- WETLAND VEGETATION REMOVAL AREA  
ON AIRPORT - 2.99 ACRES  
OFF AIRPORT - 0.01 ACRES
- WETLAND BOUNDARY

1. ALL ELEVATIONS LISTED ARE MEAN SEA LEVEL (MSL) NAVD88 VERTICAL DATUM.
2. ELEVATIONS AND RUNWAY END COORDINATES SUPPLIED BY STANTEC.
3. TREE TOP SURVEY CONDUCTED 2016 BY COL-EAST, INC.
4. PROPERTY LINES ARE APPROXIMATE.



Revision 1: Formatted area numbers EW 24.10.22

Revision by Appd. YF.MM.DD

Issued by Appd. YF.MM.DD

File Name: Part01\_option\_nw32\_ocs\_nok\_ea.dwg K4 GC LK 04.09.2024

Permit-Seal Dwn. Chkd. Dgn. YF.MM.DD

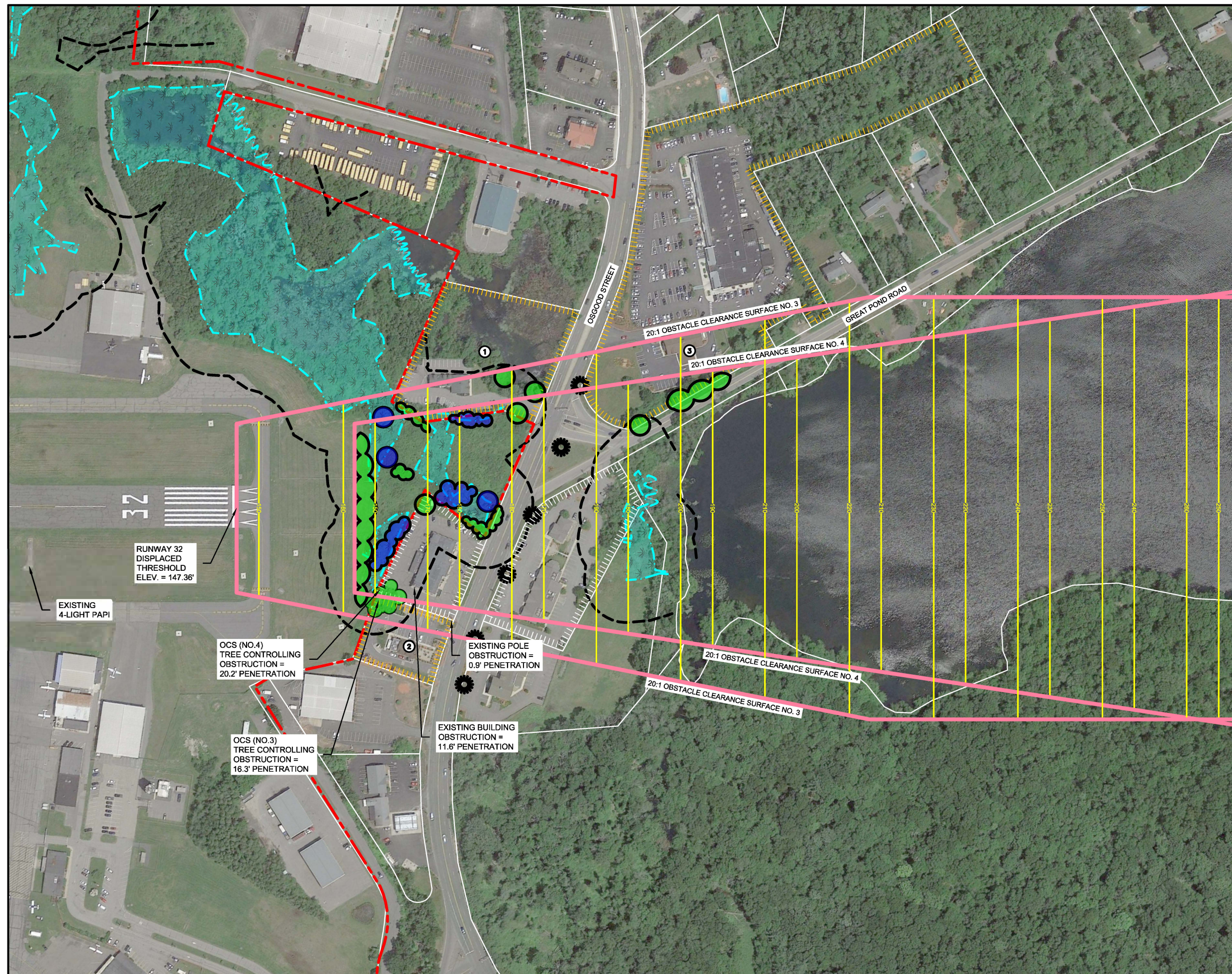
Client/Project  
 LAWRENCE MUNICIPAL AIRPORT

NORTH ANDOVER, MASSACHUSETTS

Title  
 RUNWAY 32  
 ALTERNATIVE 3 - PARTIAL CLEAR

Project No. 179450474 Scale 1"=100'

Drawing No. 3-3 Sheet Revision 1



**Draft Final Environmental Assessment Lawrence Municipal Airport  
North Andover, Massachusetts**

obstructions, use of the runways may be restricted to daytime operations and the airport will not meet the requirements of FAA's grant assurance program, jeopardizing eligibility for FAA funding for future infrastructure improvement projects until all safety deficiencies have been adequately rectified. There are no environmental impacts associated with implementing Alternative 1.

*Alternative 2 – Full Clear*, requires the removal of approximately 79 acres of trees, including approximately 1.4 acres of trees located in wetlands located south of the Runway 32 end. This alternative also requires the acquisition of as many as 54 easements necessary to remove trees located off airport property. Comparatively, implementing *Alternative 3 – Partial Clear* requires the removal of 4.75 acres of trees including approximately 0.4 acres of trees from within wetlands. Seven easements are necessary to remove five acres of trees located off airport property. The cost of constructing *Alternative 2 – Full Clear*, estimated at approximately \$685,000, is substantially more expensive than is the construction of *Alternative 2* (estimated at \$85,000.00). *Alternative 3* requires 47 fewer easements to accomplish project goals, further reducing project costs when compared to *Alternative 2*.

As both *Alternatives 2 and 3* satisfy FAA design and safety requirements, the reduction of potential environmental impacts and substantial savings recognized by implementing *Alternative 3 – Partial Clear* supports the designation of *Alternative 3* as the preferred and least environmentally damaging practicable alternative.

## 4 AFFECTED ENVIRONMENT

### 4.1 Introduction

This section describes the existing conditions of the environmental resources that have the potential to be impacted by the implementation of alternatives proposed in this EA. The Affected Environment includes the general airport vicinity as well as the land areas between the Runway 23 and 32 ends and the proposed easement areas associated proposed clearing activities.

The Lawrence Municipal Airport has two runways, a primary and a crosswind. Runway 5-23 is the primary runway because of its length, markings, lighting, and the availability of instrument approach procedures to both runway ends. The paved runway is 5,001 feet long and 100 feet wide and designated as a precision runway because of the instrument land system (ILS) approach to Runway 5. The runway was reconstructed in 2019 when the runway was shifted 100 feet to the southwest to provide runway safety areas that meet FAA design standards. Runway 14-32 is designated as a crosswind runway. It is 3,654 feet long and 100 feet wide. The airport includes a series of taxiways including full-length taxiways serving both runways as well as other taxiways providing aircraft access to and from apron and hangar locations at the northern and southern ends of the airport.

There are five aircraft parking areas and 37 hangar buildings. The aircraft parking aprons (or ramps) are designated as the North Ramp, West Ramp, East Ramp, South Ramp, and Main Terminal Ramp. The combined aprons cover approximately 50,000 square yards with room for 90-100 aircraft. The administration building is 4,100 square-feet and was constructed in 1957. The building houses the airport's administration office, restrooms, a small restaurant, and a small, leased office area.

Again, the Affected Environment is considered the areas within and adjacent to the proposed on and off-airport tree removal areas, including areas that are within visual and auditory range of the proposed construction activities.

The actions proposed in this EA will be evaluated for the potential to impact the following resources as required by NEPA. Each of these natural and human resources as they occur within or in proximity to the Affected Environment will be assessed:

<b>Resources</b>
<b>Air Quality</b>
<b>Biological Resources</b>
<b>Climate</b>
<b>Coastal Resources</b>
<b>Department of Transportation Act</b>
<b>Farmlands</b>
<b>Hazardous Materials, Solid Waste, and Pollution Prevention</b>
<b>Historical, Architectural, Archeological, and Cultural Resources</b>
<b>Land Use</b>
<b>Natural Resource and Energy Supply</b>
<b>Noise and Noise Compatible Land Use</b>

<b>Resources</b>	
<b>Socioeconomics, Environmental Justice, and Children’s Health and Safety Risks</b>	
<b>Visual Effects</b>	<ul style="list-style-type: none"><li>• Light Emissions</li><li>• Visual Resources/Visual Character</li></ul>
<b>Water Resources</b>	<ul style="list-style-type: none"><li>• <b>Wetlands</b></li><li>• <b>Floodplains</b></li><li>• <b>Surface Waters</b></li><li>• <b>Groundwater</b></li><li>• <b>Wild and Scenic Rivers</b></li></ul>

## **4.2 Air Quality**

### **Definition of the Resource**

**Air quality** is defined as the extent to which ambient air is pollution-free. The CAA defines ambient air as the "portion of the atmosphere, external to buildings, to which the general public has access" (40 CFR 50.1(e)).

### **Clean Air Act Definitions (42 USC §7512)**

- **Criteria pollutants:** EPA has set air quality standards for six (6) criteria pollutants: sulfur dioxide, carbon monoxide, particulates, nitrogen dioxide, ozone, and lead. States are responsible for developing state implementation plans to meet and maintain air quality that meets these standards. EPA determines whether areas do or do not meet air quality standards.
- **Attainment:** A geographic area with air quality that meets the air quality standards for a pollutant is called an "attainment" area.
- **Nonattainment:** A geographic area with air quality that does not meet the air quality standards for a pollutant is called a "non-attainment" area.
- **Maintenance Plan:** Once a non-attainment area meets the national air quality standard, the state can request the area be re-designated to attainment. EPA must approve the state's Maintenance Plan, which provides for maintaining clean air for at least ten (10) years after the re-designation.

*Federal Requirements:* The Clean Air Act (CAA) established National Ambient Air Quality Standards for six (6) criteria air pollutants, which are widespread common pollutants known to be harmful to human health. The EPA oversees enforcement of the CAA, determines whether areas are in attainment or non-attainment with National Ambient Air Quality Standards, and approves local maintenance plans.

### ***Affected Environment***

In 2015 the FAA published the Aviation Emissions and Air Quality Handbook to establish the scope of air quality assessments for compliance with the National Environmental Policy Act, the Clean Air Act, and other associated regulations. The Handbook attempts to provide consistency and quality of aviation related air quality assessments for aviation related projects. The Handbook identifies criteria pollutants to be analyzed in relation to National Ambient Air Quality Standards (NAAQS). The criteria pollutants include Nitrogen Dioxide (NO<sub>2</sub>), Sulfur Dioxide (SO<sub>2</sub>), Carbon Monoxide (CO), Ozone (O<sub>3</sub>), particulate matter (PM), and Lead (Pb). Regions in which one or more of the criteria pollutant levels exceeds air quality standards are referred to as nonattainment or maintenance areas. FAA actions proposed in nonattainment or maintenance areas are subject to various levels of NAAQS assessment, including quantitative and qualitative modeling analysis, to determine conformity with the Clean Air Act and NEPA regulations. The EPA Green Book provides detailed information about area NAAQS designations, classifications, and nonattainment status.

According to the most recent version of the Green Book (EPA 2024), Essex County, which includes the Town of North Andover, is in attainment for the NAAQS criteria pollutants established in the Clean Air Act.

## 4.3 Biological Resources

### 4.3.1 Vegetation, Wildlife, and Habitat

#### Definition of the Resource

- **Vegetation** is defined as the plant life in an area.
- **Wildlife** is defined as any animal species that is native or introduced and is characteristic of a region.
- **Habitats** includes all the physical and biological attributes that affect or sustain an organism within an ecosystem.

#### *Affected Environment*

Easement areas located to the east of the Runway 32 end are comprised predominantly of small commercial developments consisting of maintained lawns, landscaped trees and shrubs, and forested buffers between roads and businesses. On-airport clearing areas in this location are comprised of maintained turf and scrub-shrub wetlands at the end of Runway 32. This general vicinity provides little habitat as airport property is separated from commercial development and proposed easement areas by Osgood Road, a principal transportation corridor. However, land to the east of proposed easement locations includes Lake Cochichewick, a 560-acre public water supply, of which approximately 40% of the shoreline is comprised of forested conservation land, provides habitat for a variety of fish and other aquatic species, small mammals, and birds.

Proposed Runway 23 easement locations north of Osgood Street consist of rural residential development comprised of maintained landscapes and contiguous forested areas dominated by mixed conifer and deciduous tree species, providing habitat for birds, deer, coyote, and small mammals. Airport property between the Runway 23 end and Osgood Street is comprised of shrub and sapling habitat (upland and wetland) and mowed fields. Deer, coyote, and a variety of songbirds have been observed using this area.

Rare habitats and species within the Affected Environment are described below in Section 4.3.2.

### 4.3.2 State and Federally Protected Species

*Federal Requirements:* The Endangered Species Act (ESA) establishes a national program for the conservation of threatened and endangered (T&E) species. Under the ESA, species that are, or are likely to become in danger of extinction are listed as “endangered” or “threatened.” Section 7 of the ESA requires federal agencies to ensure that actions do not jeopardize listed species or destroy or adversely affect the critical habitat of the species. Section 7 includes requirements for when a federal agency must consult with U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) to help determine a alternatives effect on a listed species and its critical habitat(s).

*State Requirements:* 432 native plant and animal species are protected under the Massachusetts Endangered Species Act (M.G.L.c. 131A)

#### *Affected Environment*

**Draft Final Environmental Assessment Lawrence Municipal Airport  
North Andover, Massachusetts**

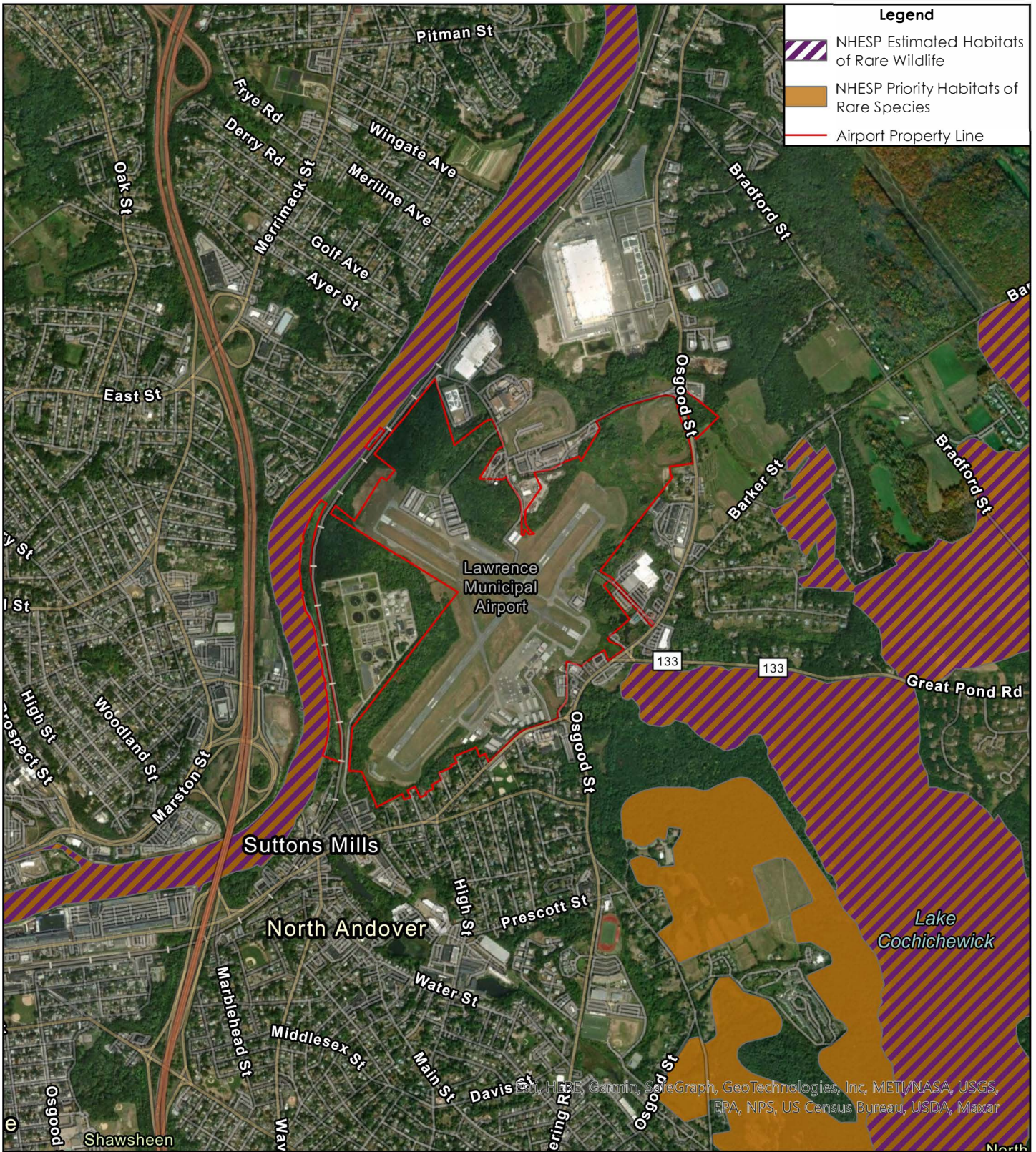
Priority Habitats of Rare Species is comprised of the known geographical extent of habitat for all state-listed rare species. The MassMapper geographic information system (GIS) website identifies one Priority Habitat located southeast of the airport including Lake Cochichewick and a region of its western shoreline, and another along Merrimack River to the north, south, and west of the airport. Both priority habitats are located beyond the limits of proposed easement acquisition and obstruction removal activities. Figure 4-1 shows these habitat areas in relation to the airport.

The U.S. Fish and Wildlife Service (FWS) has been consulted, pursuant to Section 7 of the Endangered Species Act, to determine the presence of federally listed threatened or endangered species within the boundaries of airport or easement areas. Correspondence with U.S. Fish and Wildlife Service advises there is no critical habitat listed in the airport project area. However, the Northern Long-Eared Bat (*Myotis septentrionalis*), the Tricolored bat (*Perimyotis subflavus*), and Monarch Butterfly (*Danaus plexippus*) are listed as federally threatened or endangered species that may occur within the vicinity of the project area. See USF&WS correspondence, including the official species list located in of this EA.

**Table 3. Summary of IPaC consultation results.**

Common / Scientific Name	Taxa (e.g., Fish)	Federal Status	Habitat Requirements
Northern Long-eared Bat ( <i>Myotis septentrionalis</i> )	Mammal	Endangered	During the summer and portions of the fall and spring, Northern Long-eared Bats may be found roosting singly or in colonies underneath bark, in cavities or in crevices of both live trees and snags, or dead trees. During winter Northern Long-eared Bats hibernate in caves and mines (hibernacula). No known hibernacula within vicinity of proposed actions.
Tricolored Bat ( <i>Perimyotis subflavus</i> )	Mammal	Proposed Endangered	During the spring, summer, and fall, the Tricolored Bat primarily roost among leaf clusters of live or recently dead hardwood trees. During winter, Tricolored Bats hibernate in caves and mines (hibernacula). No known hibernacula in the vicinity of proposed actions.
Monarch Butterfly ( <i>Danus plexippus</i> )	Insect	Candidate	The monarch butterfly relies on milkweed as a food source for their larvae and is considered an essential host plant for the species. The project area varies between forested and maintained turf.



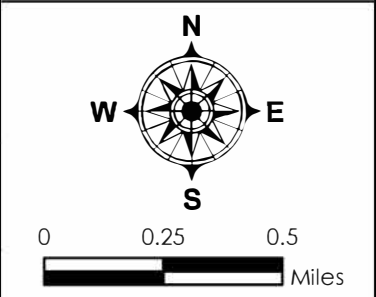


# State-Listed Rare Species Map

LWM Environmental Assessment  
 Lawrence Municipal Airport  
 North Andover, Massachusetts

 **Stantec**  
 Stantec Consulting Services  
 2211 Congress Street Suite 380  
 Portland, ME 04102-1955  
 www.stantec.com

Notes: Imagery provided by Esri Community Maps 2023; Massachusetts GIS data retrieved from MassMapper November, 2023.



## **4.4 Climate**

### **Definition of the Resource**

**Greenhouse gases (GHGs)** are gases that trap heat and make the planet warmer (e.g., carbon dioxide, methane, nitrous oxide, fluorinated gases). The primary sources of **GHG emissions** in the United States are transportation, electricity production, industry, commercial and residential, agriculture, and land use and forestry (EPA 2022d).

*Federal Requirements:* Clean Air Act, Executive Order 13514 Federal Leadership in Environmental Energy and Economic Performance, Executive Order 13653, Preparing the United States for the Impacts of Climate Change, Executive Order 13693, Planning for Federal Sustainability.

### ***Affected Environment***

The Affected Environment consists of airport and other industrial uses, commercial developments, conservation lands, agricultural use, residential homes, and public and private roadways. Fossil fuel use and the resulting GHG emissions are associated with the combustion of heating oils for commercial enterprises and residential homes, gasoline for vehicles, aircraft fuel for aircraft, and with the waste incinerator located north of the airport.

Proposed tree removal locations within the Runway 23 approach include large tracts of shrub/sapling and forested habitat. The Runway 32 approach tree removal areas are comprised of wetland scrub-shrub habitat, mixed forested and landscape plantings associated with commercial properties. Carbon in a forest is stored both above ground and below ground. Above ground carbon is stored in trees, plants, dead trees, and leaf litter. Below ground carbon is stored in roots and in soil. A forests' storage level is influenced by factors including soil properties, woodlot age, and past management practices. Carbon sequestration is the process of using carbon dioxide (CO<sub>2</sub>) during photosynthesis for tree and plant growth and upkeep. Older mature trees tend to have large carbon storage above and below ground, but these trees may not be sequestering carbon at a particularly high rate.

## 4.5 Coastal Resources

### Definition of the Resource

- **Coastal Zones** the official Massachusetts coastal zone includes the lands and waters within an area defined by the seaward limit of the state's territorial sea, extending from the Massachusetts-New Hampshire border south to the Massachusetts-Rhode Island border, and landward to 100 feet inland of specified major roads, rail lines, or other visible rights-of-way. The coastal zone includes all of Cape Cod, Nantucket, Martha's Vineyard, and the Elizabeth Islands. The coastal zone includes all islands, transitional and intertidal areas, coastal wetlands, and beaches. In isolated instances where the boundary line might exclude coastal resource area(s), these resources are included in the coastal zone although the written description follows the boundary line. Tidal rivers and adjacent uplands are included, at a minimum, to the extent of vegetation affected by measurably saline water. Anadromous fish runs are included, as well as their floodplains, to the freshwater breeding area, if such area is within a coastal town. Land owned or controlled by the federal government is excluded by law from the coastal zone.
- **Coastal Barriers** are depositional geological features that are subject to wave, tidal, and wind energies, and protects landward aquatic habitats from direct wave attack (16 USC §3502).

*Federal Requirements:* The Coastal Zone Management Act provides for the management of coastal resources (marine resources, wildlife, and nutrient-rich areas) in coastal and Great Lakes states, with the objective of preventing additional loss of living marine resources; alterations in ecological systems; and decreases in undeveloped areas available for public use (16 USC §1451).

The Coastal Barrier Resources Act restricts the development of the designated areas of the Coastal Barrier Resources System (16 USC §3501).

### ***Affected Environment***

The City of Lawrence and the project area are not within the official Massachusetts coastal zone as defined in the Massachusetts Office of Coastal Zone Management Policy Guide. The nearest coastal resource is located over 17 miles east of the project area, in the town of Newbury, Massachusetts, as can be seen Figure 4-2.



<h1>Coastal Zone Map</h1>		<p>LWM Environmental Assessment Lawrence Municipal Airport North Andover, Massachusetts</p>	
<p>Stantec Consulting Services 2211 Congress Street Suite 380 Portland, ME 04102-1955 www.stantec.com</p>	<p>Notes: Imagery provided by Esri Community Maps 2023; Massachusetts GIS data retrieved from MassMapper November, 2023.</p>		
<p>October 2024</p>		<p>Figure 4-2</p>	

## **4.6 Department of Transportation Act, Section 4(f)**

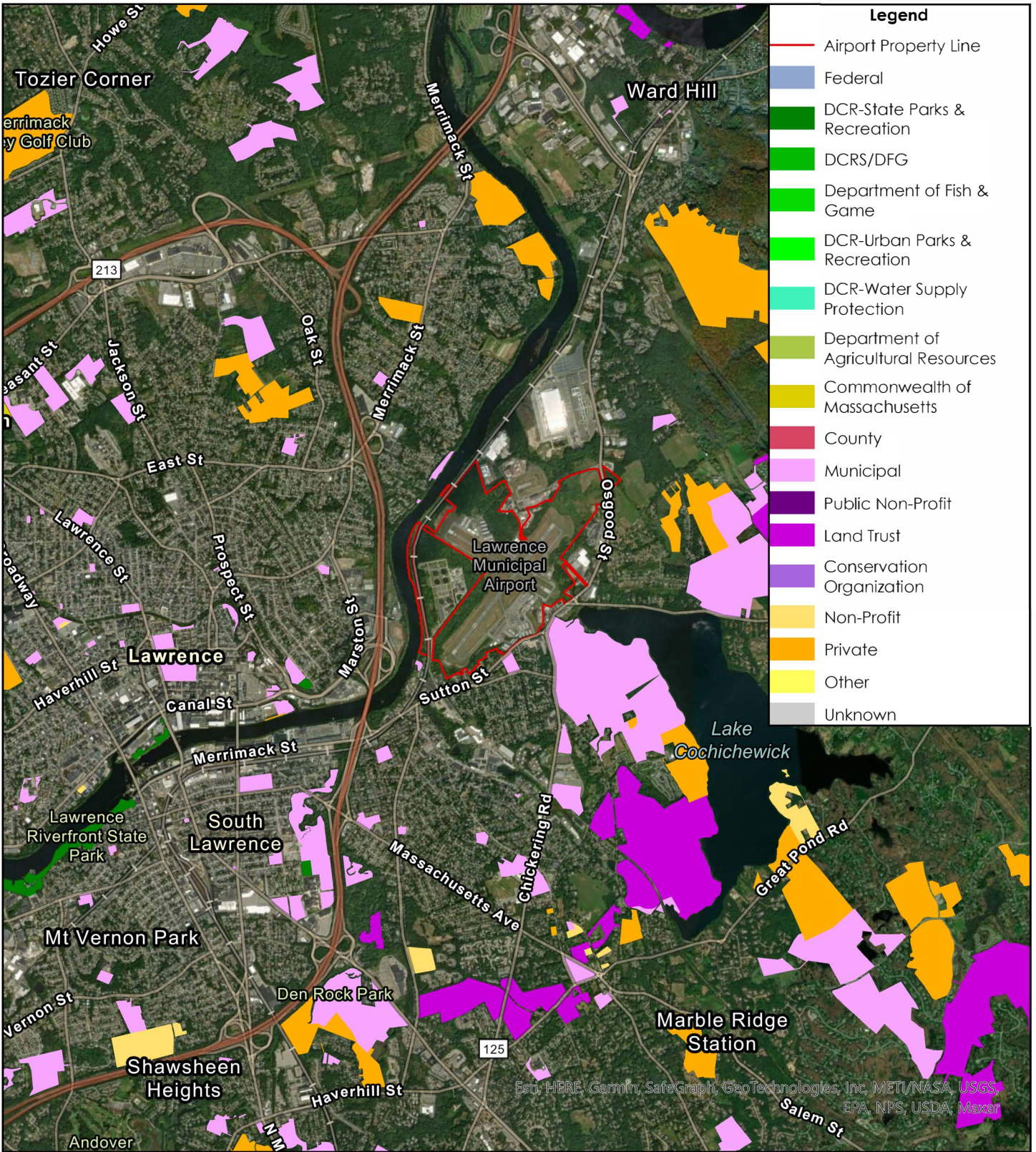
### **Definition of the Resource Section 4(f) properties include:**

- Parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public;
- Publicly owned wildlife and waterfowl refuges of national, state, or local significance that are open to the public; and
- Historic sites of national, state, or local significance in public or private ownership regardless of whether they are open to the public.

***Federal Requirements:*** Section 4(f) of the U.S. DOT Act of 1966 (now codified at 49 U.S.C. § 303) protects significant publicly owned parks, recreational areas, wildlife and waterfowl refuges, and public and private historic sites. Section 4(f) provides that the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land off a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or land of an historic site of national, State, or local significance, only if there is no feasible and prudent alternative to the using that land and the program or project includes all possible planning to minimize harm resulting from the use.

### ***Affected Environment***

Three publicly owned lands are located within or near the Affected Environment area. Osgood Hill Trails is a municipal owned recreational area around Lake Cochichewick, the area is approximately 237 acres and has 3.5 miles of walking trails. McEvoy Park, owned and maintained by the Town of North Andover, is a public recreation facility including several ball fields located southeast of the airport on Sutton Street. Settler's Ridge Conservation area is located directly south of the proposed Runway 23 easement clearing area on Bradford Street. Figure 4-3 shows these resources in relation to the Affected Environment.



<h1>Public Open Space Map</h1>	<p>LWM Environmental Assessment</p> <p>Lawrence Municipal Airport North Andover, Massachusetts</p>	
<p>Stantec Consulting Services 2211 Congress Street Suite 380 Portland, ME 04102-1955 www.stantec.com</p>	<p>Notes: Imagery provided by Esri Community Maps 2023; Massachusetts GIS data retrieved from MassMapper November, 2023.</p>	
<p>October 2024   Figure 4-3</p>		

## **4.7 Farmlands**

### **Definition of the Resource**

**Farmland** protected under the Farmland Protection Policy Act (FPPA) includes prime farmland, unique farmland, and land of statewide or local importance that can include forest land, pastureland, cropland, or other land not considered urban build-up land or water (7 CFR Part 658).

*Federal Requirements:* The FPPA is designed to minimize the impact that federal programs and projects have on the conversion of farmland to non-agricultural uses. Projects are subject to FPPA requirements if they may irreversibly convert prime farmland to nonagricultural use (7 CFR 658).

### ***Affected Environment***

Prime and Unique Farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available these uses.

State or local important farmland soils are those that fail to meet one or more of the requirements of prime farmland, but are important for the production of food, feed, fiber or forage crops. They include those soils that are nearly prime farmland and that economically produce high yields of crops when treated or managed according to acceptable farming methods. Some may produce as high a yield as prime farmlands if conditions are favorable. The Natural Resources Conservation Service (NRCS) is committed to the management and maintenance of the rescored based that supports the productive capacity of American agriculture. Many areas surrounding the airport are considered either Prime Farmland, Farmland of Statewide Importance, or Farmland of Unique Importance as shown on Figure 4-4.

According to the NRCS Soil Survey, two soils of prime agricultural and/or local importance occur within or in the vicinity of the Affected Environment (on and off airport property). Paxton fine sandy loams are present to the east of the Runway 32 end and to the east and north of Runway 23.





## 4.8 Hazardous Waste, Solid Waste, and Pollution Prevention

### Definition of the Resource

- **Solid waste** is any garbage or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, resulting from industrial, commercial, mining, and agricultural operations, and from community activities (42 USC §6903).
- **Hazardous waste** is any solid, liquid, contained gaseous, or semisolid waste, or any combination of wastes that poses a substantial present or potential hazard to human health or the environment. In general, both hazardous materials and wastes include substances that, because of their quantity; concentration; or physical, chemical, or infectious characteristics, might present substantial danger to public health or welfare or the environment when released or otherwise improperly managed (42 USC §6903).
- **Hazardous substance** is any substance with physical properties of ignitability, corrosivity, reactivity, or toxicity that might cause an increase in mortality, serious irreversible illness, incapacitating reversible illness, or pose a substantial threat to human health or the environment (42 USC §9601).
- **Hazardous material** is any substance or material that has been determined to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce. The term hazardous materials includes both hazardous wastes and hazardous substances, as well as petroleum and natural gas substances and materials (see 49 CFR § 172.101).
- **Pollution prevention** describes methods used to avoid, prevent, or reduce pollutant discharges or emissions through strategies such as using fewer toxic inputs, redesigning products, altering manufacturing and maintenance processes, and conserving energy.

*Federal Requirements:* The Resource Conservation and Recovery Act (RCRA) regulates hazardous and non-hazardous waste at facilities that are currently in use (40 CFR 239-282). RCRA Subtitle D sets minimum criteria and standards for state and local government regulation of nonhazardous solid waste. Through this process of state authorization, the Environmental Protection Agency (EPA) has delegated primary authority for implementing RCRA solid waste programs to all 50 states. EPA requires the state program to be equivalent, no less stringent, and consistent with the federal RCRA program.

### ***Affected Environment***

The Affected Environment consist of residential, commercial, recreational, and industrial land use. No hazardous waste generators, solid waste disposal facilities, or hazardous substances/spill sites were identified on EPA NEPAassist website or the MassGIS data layers within or adjacent to proposed project areas. However, a closed landfill associated with a Wheelabrator Incinerator abuts the airport property, and contaminated soil was detected during utility work in Sutton Street and Charles Street off of the Runway 5 end.

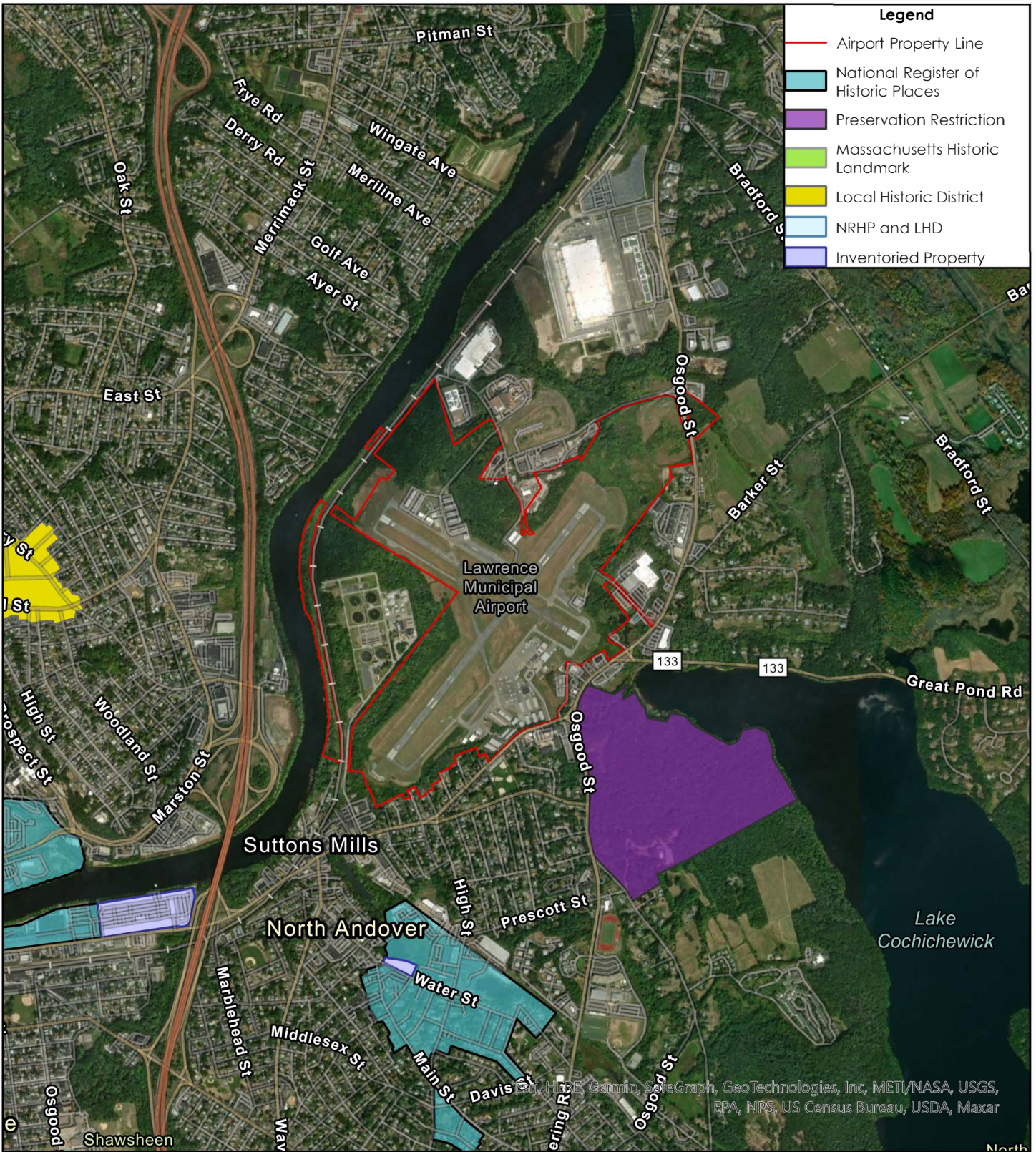
## **4.9 Historical, Architectural, Archaeological and Cultural Resources**

Federal Requirements: The National Register of Historic Places (NRHP) is the official list of the country's historic properties (including archaeological resources), created by the National Historic Preservation Act (NHPA) of 1966. Section 106 of the NHPA requires federal agencies to consider the effects of their undertakings on historic properties and includes consultation requirements with the Advisory Council on Historic Preservation, State Historic Preservation Officers (SHPO), Tribal Historic Preservation Officers (THPO), and/or Indian Tribes.

### ***Affected Environment***

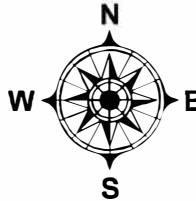

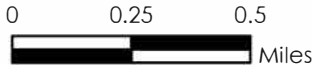
The National Historic Preservation Act (NHPA) of 1966, as amended, and the Archeological and Historic Preservation Act of 1974 as amended, requires federal agencies to consider impacts to resources of historic, cultural, or archeological significance. Section 106 of the NHPA requires consultation with the State Historic Preservation Officer (SHPO) and Tribal Historic Preservation Officer(s) (THPO) to determine potential adverse effects of a federal action to culturally significant resources and/or historic properties on or eligible for listing on the National Register of Historic Places.

The Massachusetts Historic Commission (MHC) was contacted in June 2022 seeking comment regarding potential impacts to historic resources from the proposed project. MHC stated that a number of ancient Native American sites and historic period sites are located within the airport vicinity (see Figure 3-5, MHC Cultural Resources Map). Additionally, a previously unidentified historic period stone foundation is located within one of the proposed easement parcels along Bradford Street. The local historical commission was contacted regarding the stone foundation on Bradford Street, however the commission was not aware of the foundation. Correspondence with MHC is located in Appendix A.



- Legend**
- Airport Property Line
  - National Register of Historic Places
  - Preservation Restriction
  - Massachusetts Historic Landmark
  - Local Historic District
  - NRHP and LHD
  - Inventoried Property

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<h2 style="margin: 0;">MHC Cultural Resources Map</h2>	<p>LWM Environmental Assessment</p> <p>Lawrence Municipal Airport North Andover, Massachusetts</p>	
 <p>Stantec Consulting Services 2211 Congress Street Suite 380 Portland, ME 04102-1955 www.stantec.com</p>	<p>Notes: Imagery provided by Esri Community Maps 2023; Massachusetts GIS data retrieved from MassMapper November, 2023.</p>	<p>0      0.25      0.5</p>  <p>Miles</p>
<p>October 2024      Figure 4-5</p>		

## **4.10 Land Use**

Local Requirements: Airport Development Zoning, Town of North Andover Zoning Map, revised January 2019.

### ***Affected Environment***

The town of North Andover is divided into 22 zoning districts, several of which are in proximity to the airport, see Figure 3-6, *North Andover Zoning Map*. The airport is located within the “Industrial 3” District (I-3). Permissible uses within the I-3 district include public buildings, public garages, public service corporations, public sanitary disposal site, public storage of equipment and all uses allowed in the “Industrial 1” (I-1) District. Developed property within the airport is primarily associated with aviation related activities.

Zoning districts adjacent to the airport include industrial, business, and residential districts as well as the Watershed Protection District. Several residential developments and commercial businesses are in the immediate vicinity of the airport. Properties immediately adjoining the airport are bound by the Merrimack River to the west and north, Holt Road and Old Clark Road to the northeast, Osgood Street to the east, and Sutton Street to the south. Abutting the western end of the airport, between Runways 14 and 05 is the Greater Lawrence Sanitary District Wastewater Treatment Plant.

North of the airport along Osgood Street are areas of light commercial development and residential housing. Streets running perpendicular to the main street are primarily residential with some agricultural zones. The same holds true for areas east of the airport and north of Great Pond Road.

More densely populated areas occur in the area south of the airport, along Sutton Street and east of High Street. These areas are primarily residential, with concentrations of business and commercial property. There are areas zoned as General Business (G-B District) and Business 1 (B-1 District) along Osgood and Sutton Streets. The areas running perpendicular and south of Chadwick Street are primarily residential.

West of the Merrimack River, which forms the western boundary of the airport, is the city of Lawrence. The river forms the political division between Lawrence and North Andover. Farther west is the city of Methuen. Lawrence and Methuen contain a mix of residential, commercial, and business properties, both east and west of Interstate 495.

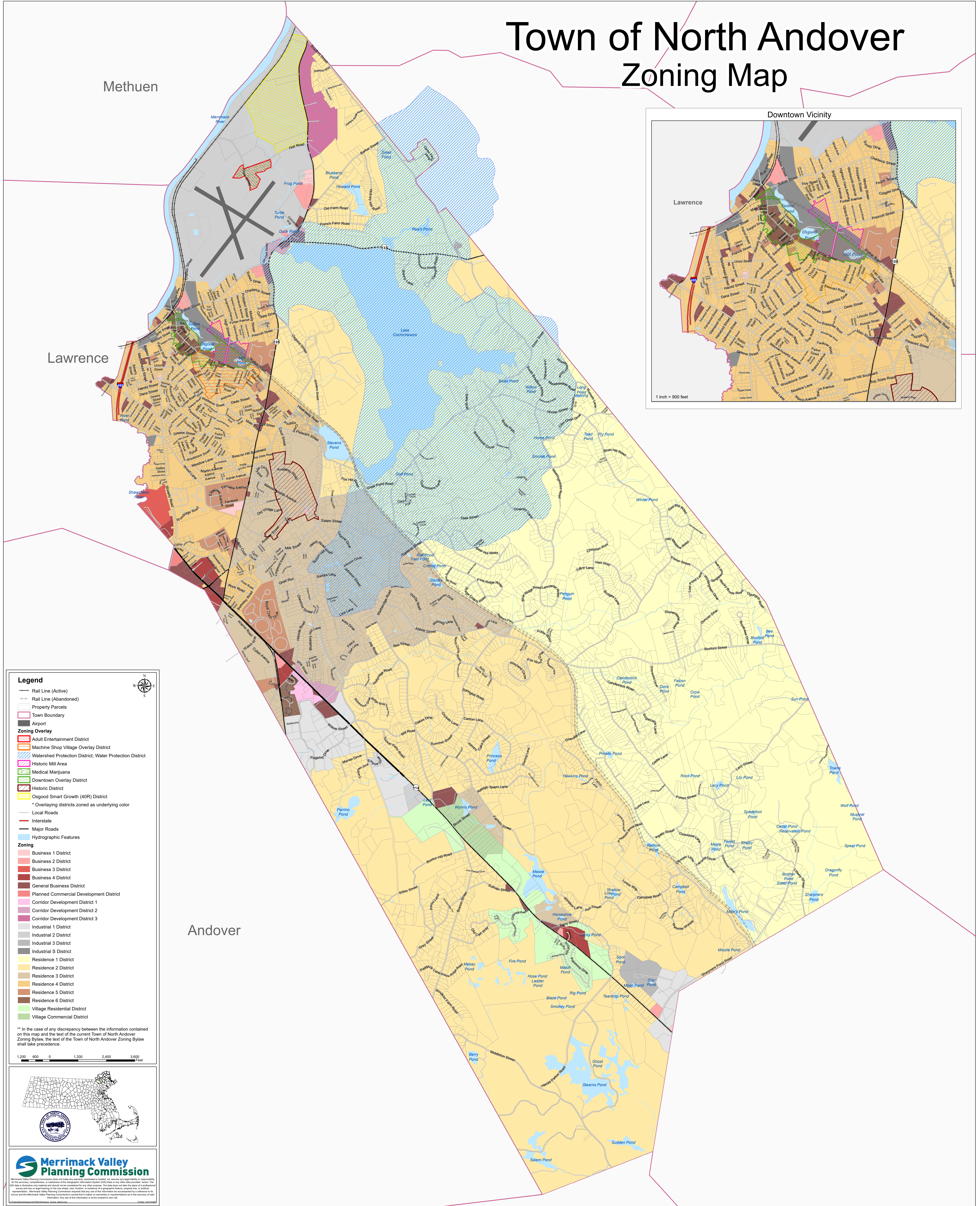
Land use around the Affected Environment is categorized as residential 2 district and business 3 and 4 districts use. Residential homes and a shopping center are structures found within easement areas.

Figure 4-6

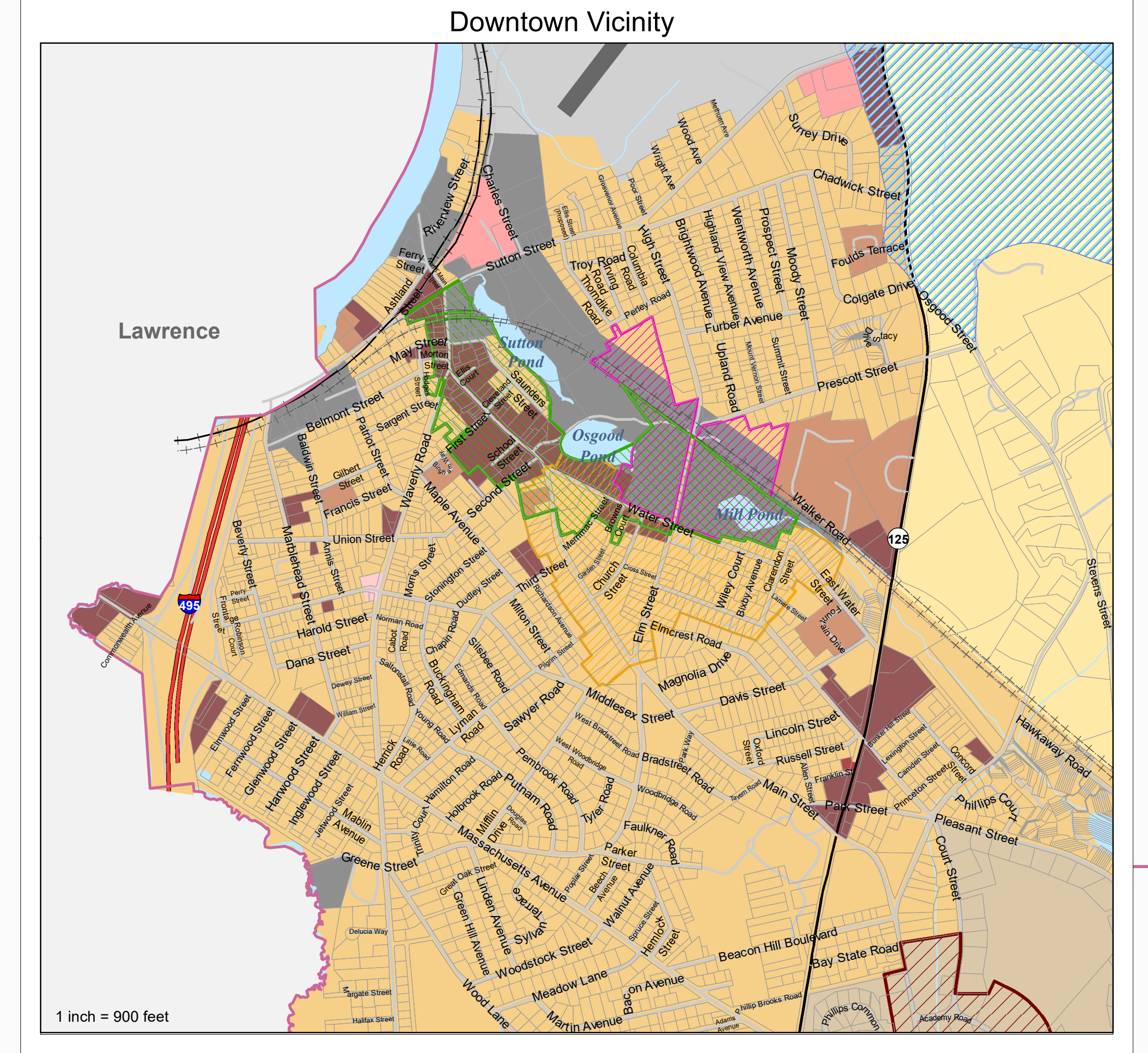
# Town of North Andover Zoning Map

Methuen

Lawrence



Downtown Vicinity

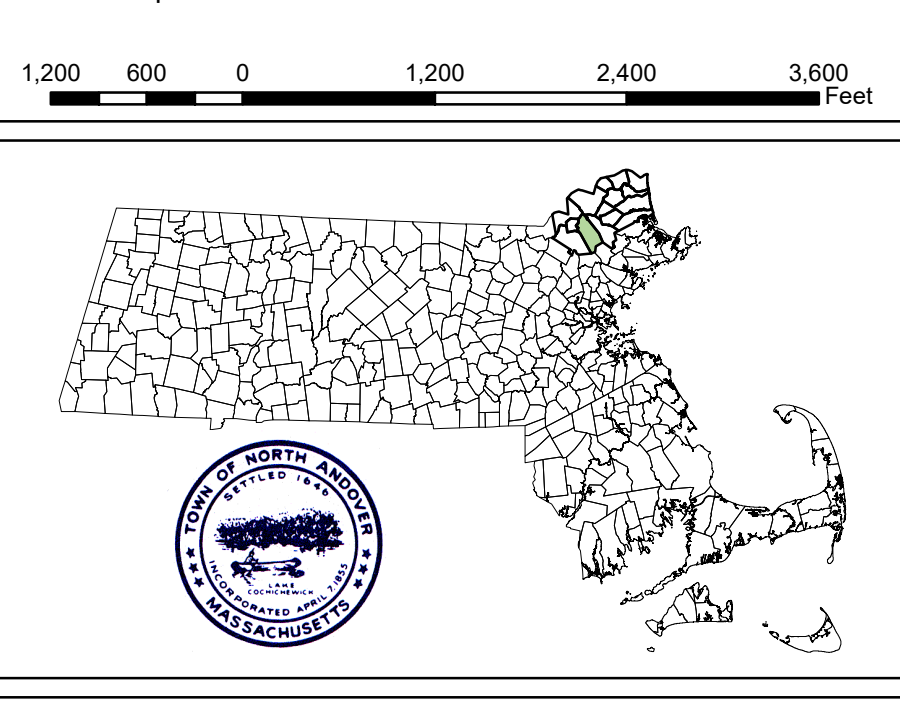


1 inch = 900 feet

- Legend**
- Rail Line (Active)
  - - - Rail Line (Abandoned)
  - Property Parcels
  - Town Boundary
  - Airport
  - Zoning Overlay**
  - Adult Entertainment District
  - Machine Shop Village Overlay District
  - Watershed Protection District; Water Protection District
  - Historic Mill Area
  - Medical Marijuana
  - Downtown Overlay District
  - Historic District
  - Osgood Smart Growth (40R) District
  - \* Overlying districts zoned as underlying color
  - Local Roads
  - Interstate
  - Major Roads
  - Hydrographic Features
  - Zoning**
  - Business 1 District
  - Business 2 District
  - Business 3 District
  - Business 4 District
  - General Business District
  - Planned Commercial Development District
  - Corridor Development District 1
  - Corridor Development District 2
  - Corridor Development District 3
  - Industrial 1 District
  - Industrial 2 District
  - Industrial 3 District
  - Industrial S District
  - Residence 1 District
  - Residence 2 District
  - Residence 3 District
  - Residence 4 District
  - Residence 5 District
  - Residence 6 District
  - Village Residential District
  - Village Commercial District



1:200 600 0 1:200 2:400 3:600 Feet



## 4.11 Natural Resources and Energy Supply

### Definition of the Resource

- **Sewer capacity** is defined as the ability to treat and dispose of sewage generated from a site by means of public or private, off-site or on-site facilities consistent all applicable water quality standards (LI 2022a).
- **Water source capacity** is defined as the total amount of water supply available from all active sources permitted for use by a water system (includes surface water, groundwater, and purchased water) (LI 2022b).
- **Drinking water** is defined as water meant for human consumption that is provided by a Public Water System or a private well (42 USC §300f).
- **Groundwater** is defined as the water that exists underground in saturated zones beneath the land surface (USGS 2022b).
- **Energy Supply** is the delivery of fuels or transformed fuels to point of consumption.

*Federal Requirements:* The Safe Drinking Water Act (SDWA) establishes standards for drinking water quality to ensure safe drinking water for the public. Sole Source Aquifer designation under the SDWA aims to help protect highly valuable drinking water resources from being impacted by development by requiring EPA review of any project proposed within the designated area receiving federal assistance (40 CFR 149).

*State Requirements:* State of Massachusetts Department of Environmental Protection. Drinking Water Regulations 310 CMR 22.20B.

### **Affected Environment**

Most homes and businesses within the Affected Environment are serviced by public water and sewer provided by the North Andover Water Department. The primary drinking source in North Andover is Lake Cochichewick. The lake's watershed is approximately 2,732 acres that drains to the lake from runoff, springs, and streams. The lake holds approximately 4.3 billion gallons of water. Sewer is treated by the Greater Lawrence Sanitary District, located west of the airport, along the Merrimack River. Within the Affected Environment, electricity is supplied by Colonial Power Group.

## **4.12 Noise and Noise-Compatible Land Use**

### **Definition of the Resource**

**Noise** is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise annoying. Noise can be intermittent or continuous, steady, or impulsive, and can involve any number of sources and frequencies. It can be readily identifiable or generally nondescript.

***Federal Requirements:*** The Noise Control Act (NCA) of 1972 established a national policy to control major sources of noise, including transportation vehicles and construction equipment. The NCA directs primary responsibility to state and local governments to address noise pollution. The federal government established noise guidelines and regulations for the purpose of protecting citizens from potential hearing damage and from various other adverse physiological, psychological, and social effects associated with noise. The Federal Interagency Committee on Noise (FICON) developed land use compatibility guidelines for noise in terms of Day-Night Average A-weighted Sound Level. The FICON established a metric of 65 dBA as the maximum “acceptable” level in residential areas (FICON 1992).

As indicated in FAA Order 1050.1F, the FAA has determined that for aviation noise analysis the cumulative noise exposure of individuals to noise resulting from aviation activities must be established in terms of yearly day/night average sound level (DNL) as FAA’s primary metric. A noise analysis can be prepared using the FAA’s Integrated Noise Model (INM) in order to assess noise impacts resulting from airport improvement projects to noise sensitive areas (e.g. densely populated residential areas, historic sites, national parks and national wildlife refuges). According to Order 1050.1F, a significant noise impact result when the INM analysis demonstrates the proposed project will create an increase of DNL 1.5 decibel (dB) or more at or above DNL 65dB noise exposure in noise sensitive areas.

### ***Affected Environment***

Noise sources in the Affected Environment are typical of sparsely populated residential areas and more densely developed commercial areas near an airport. The project area located off the Runway 23 end is primarily comprised of rural residential development. Existing noise sources predominantly consists of sparse vehicular traffic and intermittent aircraft noise from take-off and landing operations. The project area adjacent to the Runway 32 end is comprised of noise sources associated with commercial business and suburban residential development and principal noise sources in this area consist of higher-volume (more constant) vehicle traffic noise and aircraft noise from take-off and landing operations.

The degree to which individuals experience aircraft noise is dependent on their proximity to the airport. A noise analysis was performed as part of the 2022 Lawrence Municipal Airport Master Plan update. The analysis results included the Day-Night Sound Level (DNL)<sup>1</sup> expressed in 60, 65, and 70 DNLdb contours centered around the two runways. The results established that the 65 DNL, the federal significance threshold for aircraft noise exposure, lies almost entirely within airport property. The exception is a small area on the approach end of Runway 5, where the critical 65 DNL contour extends onto several industrial





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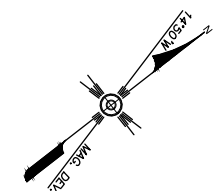
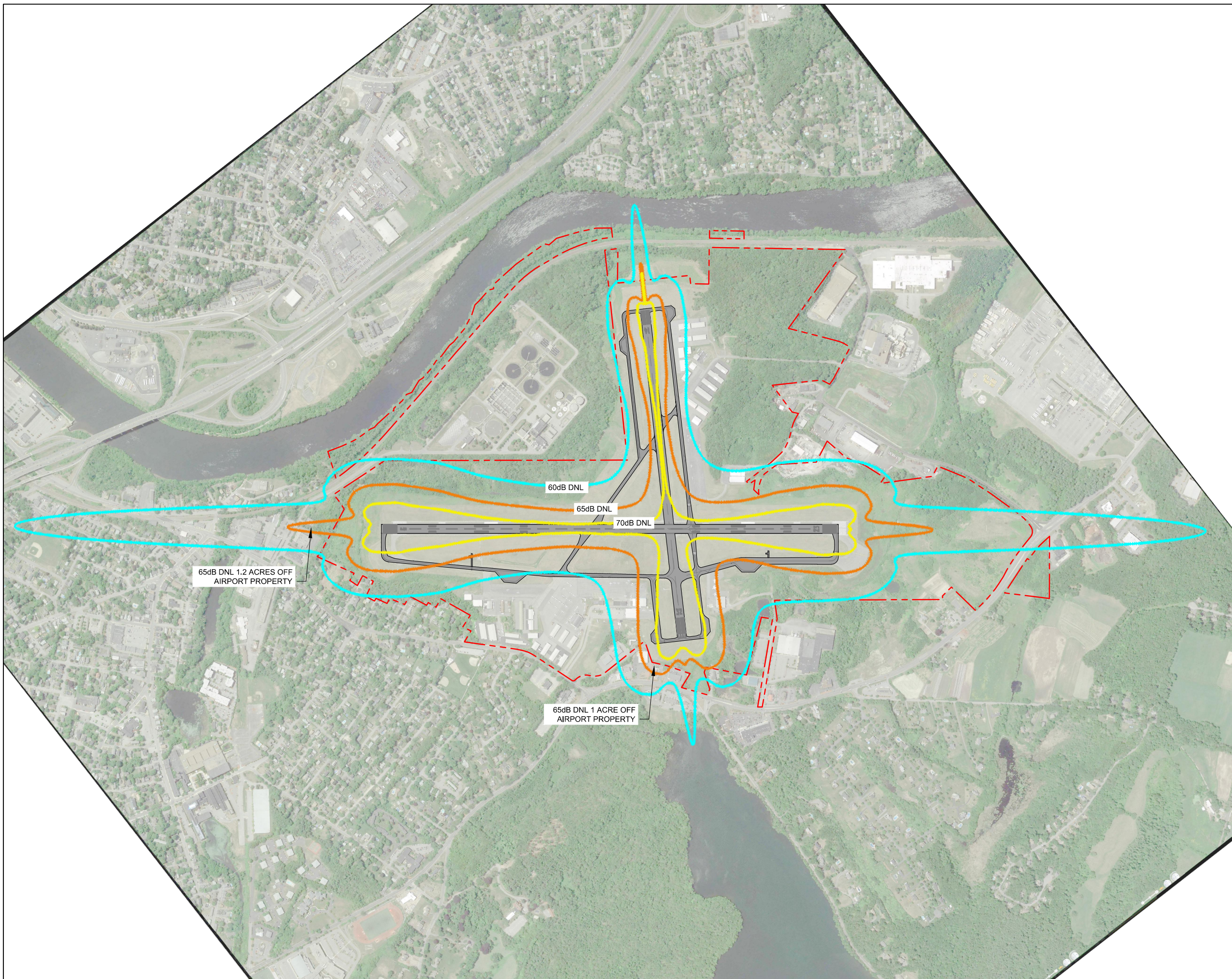
<sup>1</sup> To describe the effects of environmental noise in a simple, uniform and appropriate way, the day-night average sound level (DNL) noise metric is used. DNL is a metric that reflects a person's cumulative exposure to sound over a 24-hour period, expressed as the noise level for the average day of the year on the basis of annual aircraft operations.

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parcels, and a small lobe extension off airport property on the Runway 32 approach end, see Figure 4-7, *Existing Noise Contours*.



Legend	
	AIRPORT PROPERTY LINE
	60dB DNL NOISE CONTOUR
	65dB DNL NOISE CONTOUR
	70dB DNL NOISE CONTOUR



Revision	By	Appd.	YY.MM.DD

Issued	By	Appd.	YY.MM.DD

File Name:	KLH	ECD	ECD	20.10.20
Existing_Noise_Contours.dwg	Dwn.	Chk.	Dgn.	YY.MM.DD

Permit-Seal

Client/Project  
 LAWRENCE MUNICIPAL AIRPORT

NORTH ANDOVER, MASSACHUSETTS

Title  
 EXISTING NOISE CONTOURS

Project No.      Scale  
                          AS NOTED

Drawing No.      Sheet      Revision  
 4-7                      of

## 4.13 Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks

### 4.13.1 Socioeconomic

#### Socioeconomic Definitions

- **Demographics** are the statistical characteristics of human populations (e.g., age, race, ethnicity, income, education, and employment (i.e., occupational employment, employment rate)) (BLS 2022a).
  - **Occupational employment** refers to the types of jobs that people are employed at (e.g., retail, education, farming) (BLS 2022b).
  - The **employment rate** is defined as a measure of the extent to which available labor resources (people available to work) are being used (OECD 2022).
- **Housing supply** is defined as the flow of properties available at a given price in a given time period (Elliot and Ringo 2021).
- **Housing demand** refers to the willingness and ability to purchase a house (Elliot and Ringo 2021).

#### *Affected Environment*

The proposed project will improve the functionality of aircraft transportation to the City of North Andover and surrounding areas. The Affected Environment has been expanded to the entirety of Essex County for these criteria. The estimated population of Essex County is 806,765 people as of July 1, 2022 (US Census), with a median age of 40.9 years old, and a median household income of \$94,378 (2022 US Census). Essex County is 66.9% White (Non-Hispanic) 23.9% Hispanic or Latino, and 7.9% Black. 67.7% of the population ages 16 and over is in the labor force. In 2022, housing units were estimated at 330,149 with 62.7% being owner-occupied.

### 4.13.2 Environmental justice

#### Definition of the Resource

**Environmental justice** is defined as the fair treatment and meaningful involvement of people of all races, cultures, and income with respect to the development, implementation, and enforcement of environmental laws, regulations, programs, and policies. "Fair treatment" is the principle that no group of people, including a racial, ethnic or socioeconomic group, should bear a disproportionate share of the negative environmental consequences from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. This includes Tribes and indigenous peoples, low-income and minority populations, and overburdened communities (EPA 2022b).

*Federal Requirements:* Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), as amended by Executive Order 14008, Executive Order 14082, and Executive Order 14096 (Revitalizing Our Nation's Commitment to Environmental Justice for All), directs federal agencies to avoid disproportionate and adverse human health and environmental effects (including risks) and hazards, for low-income, disabled, and minority populations (i.e., Environmental Justice Communities). Risks and hazards include those related to climate change, the cumulative impacts of environmental and other burdens, and the legacy of racism or other structural or system barriers. Federal agencies are also directed to ensure that Environmental Justice Communities

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have equitable access to a healthy, sustainable, and resilient environment in which to live, play, work, learn, grow, worship, and engage in cultural and subsistence practices.

### Environmental Justice Definitions

- A **minority** is an individual or group of individuals who are members of the following groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black; not of Hispanic origin; or Hispanic (CEQ 1997).
- A **minority population** occurs when either:
  - The minority population of the Affected Environment exceeds 50 percent; or
  - The minority population of the Affected Environment is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (CEQ 1997).
- **Low-income populations** are identified by considering the annual statistical poverty threshold from the United States Census Bureau (CEQ 1997).

### ***Affected Environment***

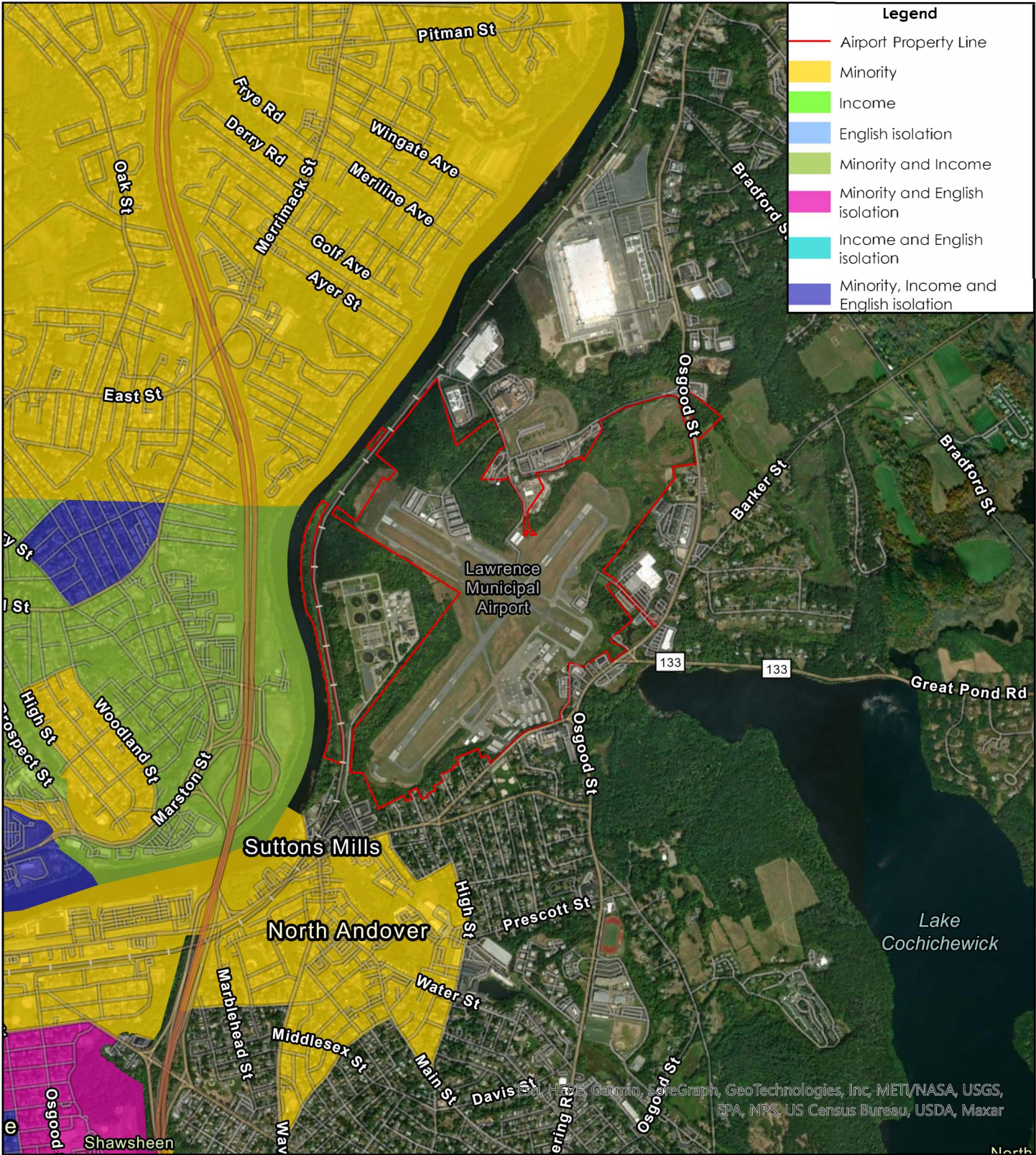
Environmental Justice populations do not occur within the Affected Environment. As illustrated in Figure 4-8, *Environmental Justice Map*, there are no Environmental Justice communities within the vicinity of proposed tree removal activities.

### **4.13.3 Children's Environmental Health and Safety Risks**

*Federal Requirements:* Pursuant to Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* 62 *Federal Register* 19885, (April 21, 1997), federal agencies are directed, as appropriate and consistent with the agency's mission, to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. The FAA is encouraged to identify and assess environmental health risks and safety risks that the agency has reason to believe could disproportionately affect children. Environmental health risks and safety risks include risks to health or to safety that are attributable to products or substances that a child is likely to come in contact with or ingest, such as air, food, drinking water, recreational waters, soil, or products they might use or be exposed to.

### ***Affected Environment***

Project areas within the Affected Environment are within the less than 50 percentiles for children under the age of 5. The Affected Environment does not contain schools, the nearest school is North Andover Highschool, located approximately 0.8 miles south of the Runway 32 end project area. Residential areas that may have children are located within the Affected Environment.



<h1>Environmental Justice Map</h1>		<p>LWM Environmental Assessment Lawrence Municipal Airport North Andover, Massachusetts</p>	
<p>Stantec Consulting Services 2211 Congress Street Suite 380 Portland, ME 04102-1955 www.stantec.com</p>	<p>Notes: Imagery provided by Esri Community Maps 2023; Massachusetts GIS data retrieved from MassMapper November, 2023.</p>	<p>October 2024</p>	

## **4.14 Visual Effects**

### **Definition of the Resource**

**Visual resources** include buildings, sites, traditional cultural properties, and other natural or manmade landscape features that are visually important or have unique characteristics. Visual resources may include structures or objects that obscure or block other landscape features. In addition, visual resources can include the cohesive collection of various individual visual resources that can be viewed at once or in concert from the area surrounding the site of the proposed action or alternative(s). In unique circumstances, the nighttime sky may be considered a visual resource.

**Visual character** refers to the overall visual makeup of the existing environment where the proposed action and alternative(s) would be located. For example, areas in close proximity to densely populated areas generally have a visual character that could be defined as urban, whereas less developed areas could have a visual character defined by the surrounding landscape features, such as open grass fields, forests, mountains, or deserts, etc.

**Light emissions** include any light that emanates from a light source into the surrounding environment. Examples of sources of light emissions include airfield and apron flood lighting, navigational aids, terminal lighting, parking facility lighting, roadway lighting, safety lighting on launch pads, additional lighting to support nighttime commercial space launches, and light generated from such launches. Glare is a type of light emission that occurs when light is reflected off a surface (e.g., window glass, solar panels, or reflective building surfaces).

*Federal Requirements:* Review under NEPA requirements.

### ***Affected Environment***

Easement areas within Runway 23 approach surface are located within a sparsely populated residential area along Bradford Street in North Andover. There are no commercial, recreational, or industrial developments near proposed project locations. Light emissions in this area are limited to those typically associated with single-unit residential dwellings and nighttime automobile traffic. Streetlights are not installed along Bradford Street.

The proposed easement areas within Runway 32 approach are located in a commercial area. Easement areas are located between 50-250 feet from the eastern edge of airport and are characterized by landscape trees and shrubs, retail developments and associated parking lots. Light emissions in this area are associated with building lighting, vehicle traffic, and street lighting. Ground-mounted taxiway and runway lighting from the airport may be seen from vehicles passing through the Osgood Street/Great Pond Road corridor during nighttime aircraft operations conducted on the runway (these lights are typically timer-controlled and activated by aircraft using the runway and do not remain on continually throughout evening hours).

## 4.15 Water Resources

### Definition of the Resource

- **Water quality standards** are provisions of State or Federal law which consist of a designated use or uses for the waters of the United States and water quality criteria for such waters based upon such uses. Water quality standards are to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act (40 CFR 131.3).
- **Stormwater** comes from rain or melting snow that runs off land and hard surfaces such as parking lots, and eventually soaks into the ground or discharges to surface water (USGS 2022a).

### 4.15.1 Surface Water Quality

*Federal Requirements:* The Clean Water Act (CWA) regulates the water quality of all discharges into waters of the United States. The CWA establishes permit programs to regulate and restrict pollution from both singular (defined under CWA as “point”) and multiple (defined under CWA as “non-point”) sources. Point sources are discrete sources of discharge such as pipes or man-made ditches, whereas non-point sources are diffuse sources of discharge such as sediment from improperly managed construction sites, crop and forest lands, and eroding streambanks (33 USC §1251).

The National Pollutant Discharge Elimination System (NPDES) Permit Program regulates point source pollution (33 USC §1342). Nonpoint sources are regulated at the state level.

An NPDES Stormwater General Construction Permit is required for construction activities that would disturb more than one (1) acre of land (33 USC §1342).

*State Requirements:* Multiple Massachusetts Department of Environmental Protection Water Quality Protection Regulations including the Wetlands Protection Act (310 CMR 10.00) and the Watershed Protection Act.

### **Affected Environment**

Surface waters around the project areas include the Merrimack River, located north and west of the airport, and Lake Cochichewick, located to the east of the Runway 32 end. Additionally, scrub-shrub emergent wetlands are present directly east of Runway 32 end within proposed vegetation removal areas (vegetation in this wetland is periodically cut as needed as part of the airport’s vegetation management program). Lake Chochichewick is the water supply for North Andover, Figure 4-6, *North Andover Zoning Map* (Section 4.10 of this EA) depicts the bounds of the municipal Watershed Protection District. Several individual trees are proposed for removal from within easements to be acquired in this zoning district.

### 4.15.2 Floodplains

#### Definition of the Resource

- **Floodplains** are land areas susceptible to being inundated by water from any source (44 CFR 59.1)
- A **100-year floodplain** is a lowland and relatively flat area, adjacent to a river or adjoining inland and coastal waters, subject to a one percent or greater chance of flooding any given year (42 USC §4004).
- A **500-year floodplain** is an area of minimal flood hazard; a designated area that has a 1 in 500 (0.2%) chance of being met or exceeded in any given year (42 USC §4004).

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The **Federal Flood Risk Management Standard (FFRMS) floodplain** is the area subject to flooding as determined by one of the following approaches (Executive Order 13690):

**Climate-informed Science Approach (CISA)** – Utilizing the best-available, actionable data and methods that integrate current and future changes in flood potential based on science.

**Freeboard Value Approach (FVA)** – Two (2) or three (3) feet of elevation above the 100-year base flood elevation. Three (3) feet is used for evaluations of critical actions and two (2) feet is used for other actions.

**0.2-percent-annual-chance Flood Approach (0.2PFA)** – 0.2 percent annual chance flood (also known as the 500-year food).

*Federal Requirements:* Executive Order (EO) 11988 (Floodplain Management) requires federal agencies to ensure alternatives would not adversely affect floodplains, and to avoid development in floodplains wherever there is a practicable alternative.

EO 13690 Establishing a Federal Flood Risk Management Standard (FFRMS) and a Process for Further Soliciting and Considering Stakeholder Input amended EO 11988 to establish a more protective standard for evaluating flood risk to ensure projects funded by the Federal government are more resilient to the impacts of flooding. The FFRMS requires agencies to expand management from the current base flood level to a higher vertical elevation and corresponding horizontal floodplain. The FFRMS ensures projects funded through taxpayer dollars last as long as intended by addressing current and future flood risks. The FFRMS applies to actions where federal funds are used for new construction, substantial improvement, or to address substantial damage to structures or facilities.

The National Flood Insurance Program (NFIP) provides access to federally backed insurance to local communities in exchange for adopting floodplain management ordinances and regulations to reduce future flood risks. To support the NFIP, the Federal Emergency Management Agency (FEMA) identifies flood hazard areas throughout the country on maps called Flood Insurance Rate Maps. These maps identify Special Flood Hazard Areas and other areas of flood hazards (42 UCS Ch. 50).

### ***Affected Environment***

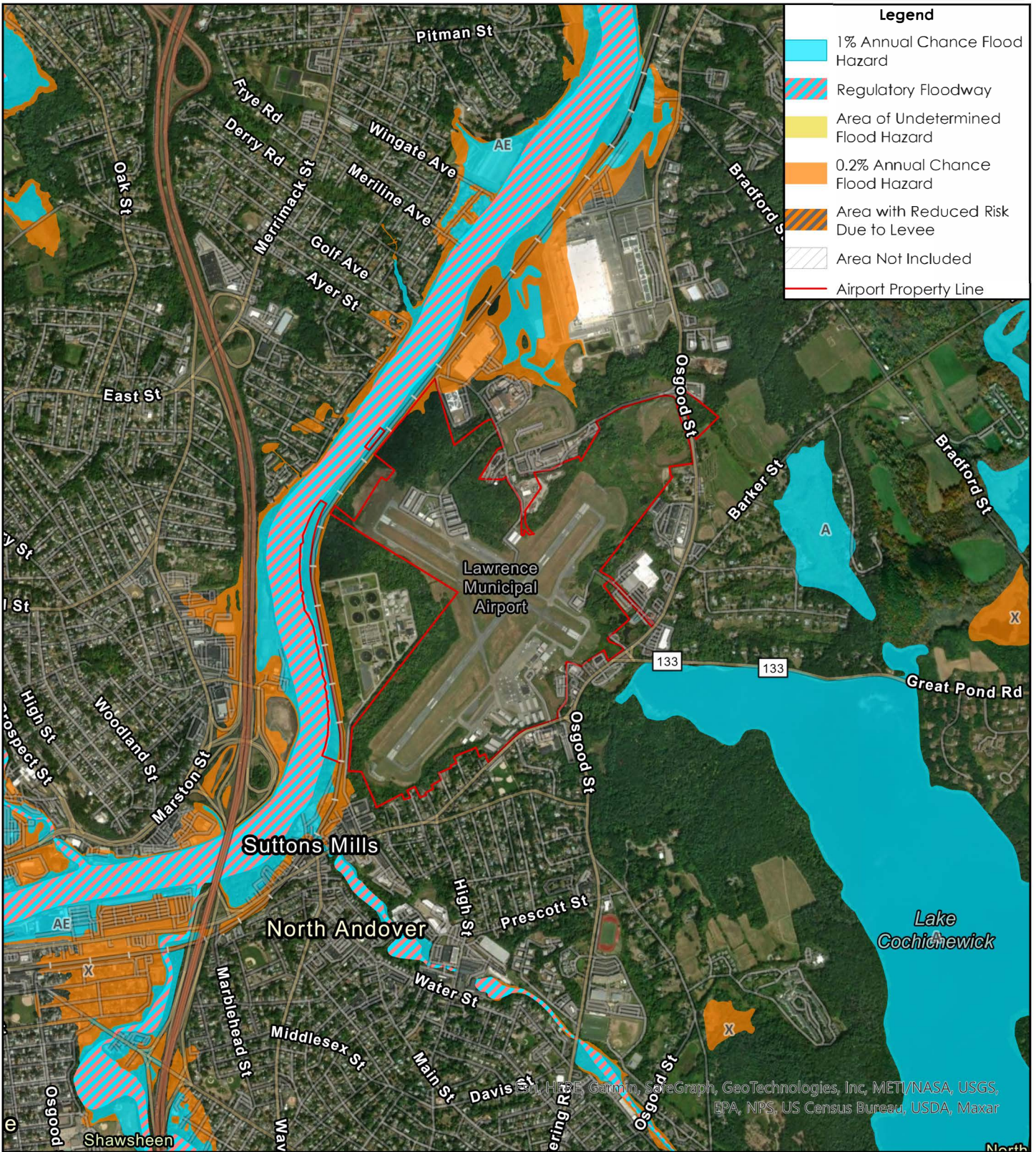
The western extent of the FEMA 100-year flood zone (1% Annual Chance Flood Hazard) associated with Lake Cochichewick is located to the east of proposed project locations, see Figure 4-9 *FEMA National Flood Hazards*.

## **4.15.3 Wetlands**

### **Definition of the Resource**

A **wetland** is an area inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds (EO 11990).

*Federal Requirements:* Under Section 404 of the CWA, the United States Army Corps of Engineers (USACE) regulates the discharge of dredged or filled material into waters and wetlands of the United States. Activities that are regulated under Section 404 include residential development, infrastructure development (highways, roads), and mining projects. EO 11990 (Protection of Wetlands) requires federal agencies to consider alternatives to wetland sites when planning an alternative and to limit potential damage if an activity affecting a wetland cannot be avoided.



**Legend**

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee
- Area Not Included
- Airport Property Line

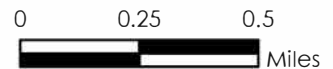
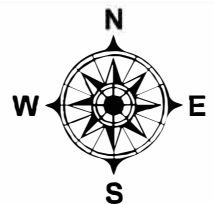
# FEMA National Flood Hazards

LWM Environmental Assessment  
 Lawrence Municipal Airport  
 North Andover, Massachusetts



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 2211 Congress Street Suite 380  
 Portland, ME 04102-1955  
 www.stantec.com

Notes: Imagery provided by Esri Community  
 Maps 2023; Massachusetts GIS data retrieved  
 from MassMapper November, 2023.





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State Requirements: Massachusetts Wetlands Protection Act (310 CMR 10.00)

### ***Affected Environment***

Wetlands occur at various locations throughout airport property (generally western and northern regions of the airport). These wetlands have been formally delineated and surveyed. Wetlands occurring off airport property were identified using online resources including the National Wetland Inventory Mapper ([www.fws.gov/program/national-wetlands-inventory/wetlands-mapper](http://www.fws.gov/program/national-wetlands-inventory/wetlands-mapper)), see Figure 4-10, *Wetlands Map*. Wetlands within the Affected Environment are characterized as scrub-shrub and forested wetlands. Additionally, wetlands adjacent to commercial developments on the west side of Osgood Street include seasonally inundated emergent wetlands characterized primarily by low-growth herbaceous plant species.

### **4.15.4 Groundwater**

#### **Definition of the Resource**

**Groundwater** is subsurface water that occupies the space between sand, clay, and rock formations. The term aquifer is used to describe the geologic layers that store or transmit groundwater to wells, springs, and other water sources.

Federal Requirements: 40 CFR Part 141 Subpart S; Safe Drinking Water Act

State Requirements: Water Management Act of 1986; 310 CMR 22 Massachusetts Drinking Water Regulations.

### ***Affected Environment***

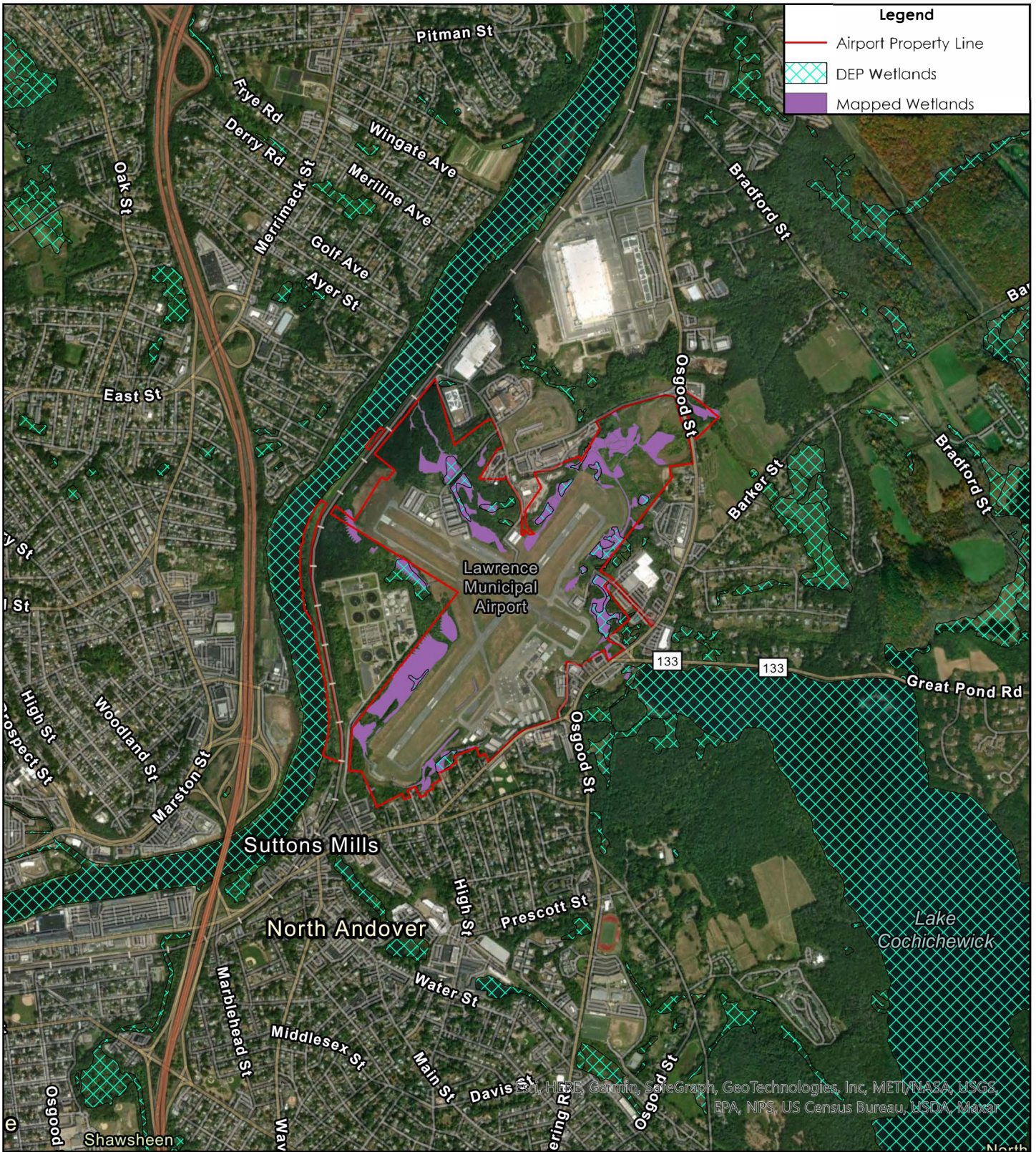
Groundwater was assessed using soil and aquifer data utilizing online resources (MassGIS/MassMapper). Soils within the easement areas are generally mapped as moderately well drained, indicating that seasonal high-water table varies from 15" to 40" from ground surface. Groundwater aquifers are not located within the project area. The nearest groundwater aquifer is mapped along the Merrimack River.

### **4.15.5 Wild and Scenic Rivers**

#### **Definition of the Resource**

##### **Wild and Scenic Rivers System (16 USC §1273)**

- **Wild Rivers** are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted.
- **Scenic Rivers** are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
- The **National River Inventory (NRI)** is a listing of free-flowing river segments in the United States that have been identified as having one or more "outstandingly remarkable" natural or cultural value(s). NRI river segments are potential candidates for inclusion in the National Wild and Scenic Rivers System (NWSRS) (16 USC §1276).



<h1>Wetlands Map</h1>	<p>LWM Environmental Assessment</p> <p>Lawrence Municipal Airport North Andover, Massachusetts</p>	
<p>Stantec Consulting Services 2211 Congress Street Suite 380 Portland, ME 04102-1955 www.stantec.com</p>	<p>Notes: Imagery provided by Esri Community Maps 2023; Massachusetts GIS data retrieved from MassMapper November, 2023.</p>	
<p>October 2024      Figure 4-10</p>		

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***Federal Requirements:*** The Wild and Scenic Rivers Act (WSRA) created the National Wild and Scenic Rivers System (NWSRS). The WSRA provides for the protection, preservation, and enhancement of designated wild and scenic rivers by prohibiting or restricting uses that would affect the river's "free-flowing" condition. The WSRA recognizes and allows for appropriate use and development of the NWSRS. The WSRA also requires that projects receiving federal assistance look to avoid or mitigate potential impacts to river segments with NRI designation (16 USC §1271).

### ***Affected Environment***

According to National Wild and Scenic Rivers System data, Massachusetts has approximately 8,229 miles of river, of which 147.1 miles are designated as wild and scenic—less than 2% of the state's river miles. The U.S. National Park Service maintains a database which lists all rivers and river segments which are currently listed as wild and scenic or have been afforded the status of a "study river" and thus may be eligible in the near future for inclusion on the list. This list, which was updated in 2022, does not include the Merrimack River or either of the small tributaries to the river which receive drainage from the airport. The closest listed river segments in the NRI include a stretch of the Ipswich River located approximately 15 miles southeast of the project site. There are no wild and scenic rivers within proximity of the Affected Environment.

## 5 ENVIRONMENTAL CONSEQUENCES

### 5.1 Introduction

This section describes and analyzes the impacts of the proposed project alternatives on resources discussed in Section 4, *Affected Environment* of this EA. Coastal Resources and Wild and Scenic Rivers have been dismissed from this analysis due to their absence in the Affected Environment.

The Environmental Consequences analysis addresses the context and intensity of the short-term and long-term impacts of each resource. The analysis considers both beneficial and adverse impacts to resources. Impacts are quantified as *negligible, minor, moderate, or significant*.

### 5.2 Air Quality

#### Evaluation Criteria

*Impacts to air quality would be considered significant if the alternative would result in emissions that would lead to exposure of people or wildlife to ambient air that does not meet the standards established under the CAA or exceeds state ambient air quality standards.*

#### Alternative 1 – No Action

Under the No Action alternative, easement acquisition and vegetation removal would not occur. Therefore, additional air emissions would not occur in the Affected Environment.

#### Alternative 2 – Full Clear

Short-term increases in air emissions would result from the Full Clear alternative resulting from construction equipment diesel exhaust generated during construction. These temporary increases are considered *de-minimis* and will not exceed CAA or state ambient air quality standards. Under this alternative, impacts to this resource are considered negligible.

#### Alternative 3 – Partial Clear

Similar to those impacts associated with Alternative 2 described above, short-term increases in air emissions would result from the Partial Clear alternative. Construction equipment will generate diesel exhaust during construction. These de-minimis increases will be temporary and will not exceed CAA or state ambient air quality standards. The Partial Clear alternative would require less overall time of construction and heavy equipment use when compared to the Full Clear alternative. Under this alternative, impacts to this resource are considered negligible.

## **5.3 Biological Resources**

### **5.3.1 Vegetation, Wildlife, and Habitat**

#### Evaluation Criteria

*Impacts to vegetation, wildlife, or habitat would be considered significant if the alternative would result in the disruption or disturbance of nearby wildlife populations, the introduction of invasive or exotic species; the permanent loss of natural vegetation communities; or violate tribal, local, state, or federal requirements related to wildlife and their habitats.*

#### Alternative 1 – No Action

The No Action alternative would not result in easement acquisition and vegetation removal. Trees within runway approach surfaces will remain as obstructions to protected air surfaces. This alternative would not impact vegetation, wildlife, or habitat.

#### Alternative 2 – Full Clear

The Full Clear alternative would result in the removal of all trees identified as obstructions growing within the Runway 23 and 32 approach surfaces (approximately 79 acres). Large tracts of forested areas within the project area, specifically within the Runway 23 approach, would be removed and converted to grass and scrub-shrub land cover. This alternative would substantially alter existing habitat and would adversely impact wildlife utilizing previously forested habitat. This alternative also requires the removal of approximately 1.4 acres of scrub shrub wetland vegetation. The clearing is proposed within multiple wetland systems beyond each of the affected runway ends. Due to the limited clearing proposed in each of these wetland systems and the low-impact methodology of proposed vegetation removal, impacts to wildlife and wetland habitat would be negligible in these locations. Implementation of this alternative satisfies FAA safety standards and provides the highest degree of safety possible to aircraft operations.

#### Alternative 3 – Partial Clear

Alternative 3 significantly reduces the total number of trees to be removed (approximately 4.75 acres) to provide unobstructed approach surfaces. Only trees identified as obstructions will be removed from proposed easement areas. Large forested tracts located beyond the Runway 23, including the areas within which proposed easements occur, would remain substantially undisturbed. Wetland vegetation removal would be reduced to 0.4 acres on airport property adjacent to the Runway 32 end. Vegetation in this wetland has been previously cut as part of the airport's vegetation management program. Impacts to wildlife and upland and wetland habitat as a result of implementing Alternative 3 are considered negligible. Alternative 3 substantially improves the safety of operations conducted at the airport and satisfies FAA safety and design standards.

### **5.3.2 State and Federally Protected Species**

#### Evaluation Criteria

*Impacts to state and federally protected species would be considered significant if the alternatives would result in a take of a protected species or lead to impacts on designated critical habitat. Impacts would also be considered significant if noise or other disturbances resulting from the alternatives led to impacts on federally protected species in the area. Impacts to migratory birds are more likely to be significant if they occur during a species' known breeding season.*

According to the US Fish and Wildlife Service (USFWS) Information for Planning and Consultation database (IPaC) determination, the Northern Long-eared Bat (*Myotis septentrionalis*) is an endangered species and the Tricolored Bat (*Perimyotis subflavus*) is a proposed endangered species that may occur within the boundary of the proposed project and/or may be affected by the proposed project. The IPaC determination key reached a determination of "No Effect" for this project for the Northern Long-eared Bat. See the USFWS IPaC confirmation letter in Appendix A.2. Additionally, the partial clear would likely be conducted during winter months, when bats are absent from the region.

#### Alternative 1 – No Action

Under the No Action alternative, easement acquisition and vegetation removal would not occur. State and federally protected species would not be impacted by the project.

#### Alternative 2 – Full Clear

Under the Full Clear alternative, approximately 79 acres of trees will be removed. Clearing activities will not occur within MA state protected species areas, as indicated by MassGIS data. Although there is no known winter hibernacula within proposed tree removal locations, the removal of 77 acres of forested habitat increases the potential for impacts to roosting habitat of Northern Long-eared and Tricolored bats.

#### Alternative 3 – Partial Clear

Implementation of this alternative substantially reduces the number of trees removed to provide clear approach surfaces (4.7 acres). Proposed action areas do not occur within Estimated, or Priority Habitats of wildlife and rare species. According to the USFWS IPaC consultation, the project is unlikely to adversely affect Northern-Long-eared and Tricolored bat species, see Appendix A for USFWS IPaC consultation.

## **5.4 Climate**

### Evaluation Criteria

*Impacts to Climate would be considered significant if the alternative would result in a substantial increase in GHG emissions in the project area or result in excessive or unnecessary GHG emission levels.*

#### Alternative 1 – No Action

Under the No Action alternative, easement acquisition and vegetation removal would not occur and there will be no greenhouse gas emissions resulting from construction activities. Adverse climate impacts would not result due to the implementation of this alternative.

#### Alternative 2 – Full Clear

As described in Section 4.4, carbon sequestration (storage) would be expected to decrease if substantial clearing of mature trees occurs. Quickly growing understory shrub and tree species likely to repopulate cleared areas have lower storage capacities than older trees but have higher sequestration rates and remove more atmospheric carbon, potentially providing a balance between carbon storage and capture. However, implementation of Alternative 2 would likely result in a net loss of local carbon storage and capture capabilities. Although the implementation of Alternative 2 is not likely to adversely affect current local and regional climate regimes, a project of this magnitude, when considered cumulatively with similarly scaled projects within a broader geographic extent, may be regarded as potential contributors to global climate change.

#### Alternative 3 – Partial Clear

Due to the limited extent of tree removal proposed in Alternative 3, it is not anticipated the resulting loss of carbon sequestration will significantly impact climate regimes and thus is the preferred alternative for implementation.

## **5.5 Department of Transportation Act, Section 4(f)**

### Evaluation Criteria

*A significant impact would occur when the action involves more than a minimal physical (taking of land) use of a Section 4(f) resources or constitutes a constructive (i.e. noise from construction activities) use.*

#### Alternative 1 – No Action

Under the No Action alternative, easement acquisition and vegetation removal would not occur. Section 4(f) resources would not be impacted by the project.

#### Alternative 2 – Full Clear

The Full Clear alternative would not occur on or require the taking of Section 4(f) lands. Impacts to Section 4f lands are not anticipated.

#### Alternative 3 – Partial Clear

Similar to Alternative 2, tree removal will not occur on or require the taking of Section 4(f) lands. Impacts to Section 4f lands are not anticipated.



## **5.6 Farmlands**

### Evaluation Criteria

*Impacts to prime farmland, as designated under the FPPA, would be considered significant if they exceed an allowable level based on the Farmland Conversion Impact Rating.*

#### Alternative 1 – No Action

Under the No Action alternative, easement acquisition and vegetation removal would not occur. Farmland resources would not be impacted by the project.

#### Alternative 2 – Full Clear

This alternative proposes removing approximately 79 acres of vegetation consisting primarily of mature forested habitat. Although much of the clearing is proposed on land consisting of soils designated as Prime Farmland or Farmland of Statewide Importance, none of the impacted areas are currently used or designated for agricultural use. Additionally, the removal of trees within project areas would not preclude or prohibit agricultural use of these lands in the future.

#### Alternative 3 – Partial Clear

Similarly, the Partial Clear alternative proposes trees for removal within areas where Prime Farmland and Farmland of Statewide Importance have been mapped. In this alternative, tree removal is proposed within areas where commercial, residential, and airport operations are the principal land uses. Implementation of this alternative does not impact land currently used or designated for agricultural use. Impacts to farmland soils will not result from the implementation of Alternative 3.

## **5.7 Hazardous Waste, Solid Waste, and Pollution**

### Evaluation Criteria

*Solid and hazardous waste impacts would be considered significant if the alternative would result in an increase in the generation of waste that would exceed the capacity of the available waste management operations and facilities available to safely handle and dispose of the waste, or if the alternative resulted in waste management that was noncompliant with applicable federal, state, local, and/or tribal regulations. Additionally, impacts would be considered significant if the alternative would create contaminated sites or would disturb existing contaminated sites to a degree that would result in adverse effects on human health or the environment.*

*Impacts would also be considered significant if the project area contained hazardous material, contamination, toxic chemicals, gasses, or radioactive substances where a hazard could affect the health and safety of future occupants or conflict with the intended use of the alternatives.*

#### Alternative 1 - No Action

Under the No Action alternative, easement acquisition and vegetation removal would not occur. Hazardous waste, solid waste, and pollution would not be generated by the project.

#### Alternative 2 – Full Clear

The Full Clear alternative proposes the removal of approximately 79 acres of vegetation. Timber and all woody debris will likely either be chipped and processed for sale as landscape bark or processed and sold as firewood. As the removal of tree stumps, generally regarded as solid waste, is not proposed, the implementation of Alternative 2 is not anticipated to generate significant amounts of solid waste. Refueling of construction equipment on site when needed is generally conducted utilizing standard fuel pumping equipment from fuel tanks mounted in pickup trucks. Any fuel or lubricant spills that might occur during construction (typically limited to very small quantities during projects of this nature) will be collected by the contractor and disposed of at an appropriate waste disposal facility. Implementation of Alternative 2 is not anticipated to generate significant amounts of hazardous or solid waste.

#### Alternative 3 – Partial Clear

The preferred Partial Clear alternative proposes the removal of approximately 4.75 acres of tree and shrub vegetation. Vegetation removed will be processed in similar fashion as described in Alternative 2—no stumping of felled trees is proposed. Similarly, any fuel or oil-based lubricants spilled during construction will be immediately collected and removed from the site at an appropriate waste disposal facility. Due to the reduced scale and shortened duration of this project (likely to be completed within several days), the potential for and likelihood of spills is significantly reduced in comparison with Alternative 2. Implementation of Alternative 3 is not anticipated to generate significant amounts of hazardous or solid waste.

## **5.8 Historical, Architectural, and Cultural Resources**

### Evaluation Criteria

*Impacts to historic districts, sites, buildings, or structures would be considered significant if the alternatives would result in directly or indirectly diminishing historic integrity or significance, or an “adverse impact” determination under Section 106 of the NHPA.*

#### Alternative 1 - No Action

Under the No Action alternative, easement acquisition and vegetation removal would not occur. Historical, architectural, and cultural resources would not be impacted by this alternative.

#### Alternative 2 – Full Clear

Although tree removal projects that do not propose stumping or land grading do not generally impact historic or archaeologically sensitive resources due to limited sub-ground surface disturbance, additional coordination with the Massachusetts Historical Commission is necessary as the MHC has not considered the scale and scope of the project as presented in this alternative. Should consultation with MHC identify historic or culturally sensitive resources in the area, additional survey and/or documentation may be required and modifications to proposed vegetation removal methodologies may be necessary. However, significant impacts to historic or archaeological resources are not anticipated.

#### Alternative 3 – Partial Clear

The MHC has reviewed the limits of the project alternative as proposed in this EA and has determined that LWM contains ancient Native American sites and historic period sites and particular project areas occur within archaeologically sensitive areas. However, MHC has stated the implementation of Alternative 3 will not impact archaeological resources provided the shallow-grinding of stumps, as proposed, is implemented during construction. Additionally, the MHC recommended the FAA make a determination of “no historic properties affected (36 CFR 800.4(d)(1))” for this undertaking in their letter from June 29, 2022 (MHC response letter included in Appendix A.1). Therefore, the Partial Clear alternative is not anticipated to impact historic or archaeologically sensitive resources identified within proposed project locations.

## 5.9 Land Use

### Evaluation Criteria

*Impacts to land use and zoning would be considered significant if the alternative conflicts with any federal, state, local or tribal land use plans, if land-use patterns change due to the alternative, or if the alternative is noncompliant with local or tribal zoning.*

#### Alternative 1 - No Action

Under the No Action alternative, easement acquisition and vegetation removal would not occur. Therefore, impacts to land use will not occur.

#### Alternative 2 – Full Clear

Tree clearing is a permitted land use within full clear areas. This alternative does not impact land use.

#### Alternative 3 – Partial Clear

Tree clearing is a permitted land use within full clear areas. This alternative does not impact land use.

## 5.10 Natural Resources and Energy Supply

### Evaluation Criteria

*Impacts on energy would be considered significant if the alternatives would result in a substantial increase in the level of demand for energy supply and/or result in the use of energy in a wasteful, inefficient, excessive, or unnecessary manner.*

#### Alternative 1 - No Action

Under the No Action alternative, easement acquisition and vegetation removal would not occur. Therefore, impacts to natural resources and energy supply will not occur.

#### Alternative 2 – Full Clear

The proposed tree removal project will use heavy machinery which will require diesel fuel for operations. Due to the increased scale of the project in the Full Clear alternative more diesel fuel will be consumed when compared to the equipment and trucking fuel requirements associated with *Alternative 3 - Partial Clear*. However, diesel (and/or gasoline) fuel use during construction will not contribute to significantly increased energy demands within the Affected Environment when compared with the No Action or Partial Clear options.

#### Alternative 3 – Partial Clear

The implementation of Alternative 3 will require substantially less fuel for trucking and heavy equipment associated with proposed tree removal activities when compared with fuel needs associated with *Alternative 2 - Full Clear*. Implementation of this alternative will not contribute to increased energy demand or excessive or inefficient use of natural resources within the Affected Environment.

## **5.11 Noise and Noise-Compatible Land Use**

### Evaluation Criteria

*Noise impacts would be considered significant if the alternatives resulted in the prolonged exposure of people to noise that exceeded applicable federal, state, local, or tribal noise regulations or ordinances. Noise impacts would also be considered significant if the existing ambient noise of the location of the proposed new construction would interfere with the proposed facility being used for its intended use.*

#### Alternative 1 - No Action

Under the No Action alternative, easement acquisition and vegetation removal would not occur. Therefore, noise will not be generated by the project.

#### Alternative 2 – Full Clear

The clearing proposed by the Full Clear alternative will have temporary effects on noise within the immediate area of the construction sites during daytime working hours due to the use of heavy machinery and equipment in clearing areas. Duration of construction is anticipated to occur over a 3 to 4-week period. Dense stands of vegetation do provide varying degrees of noise attenuation (depending on the type and density of vegetation). Consequently, minor increases in long-term noise levels may occur as a result of the removal of contiguous stands of vegetation between the Runway 23 end and residential developments within proposed tree removal locations. Implementation of Alternative 2 will not alter the existing fleet mix of aircraft currently using the airport nor will it contribute to an increase in aircraft operations at the airport. Therefore, existing noise contours and regimes at the airport will not be affected. Implementation of Alternative 2 will not result in significant noise impacts within the Affected Environment.

#### Alternative 3 – Partial Clear

Tree removal proposed in the Partial Clear alternative will result in temporary increased noise impacts within the Affected Environment from the use of heavy equipment during construction activities, which is anticipated to occur over a one-week period. Noise impacts will be limited to daytime working hours. There will be no long-term noise impacts to residential or commercial land uses within the Affected Environment as the removal of dense stands of vegetation that provide noise attenuation or buffering is not proposed. Implementation of Alternative 3 will not alter the existing fleet mix of aircraft currently using the airport nor will it contribute to an increase in aircraft operations at the airport. Therefore, existing noise contours and regimes at the airport will not be affected. Short-term noise impacts will be shorter in duration under Alternative 3 due to the reduced scope and timespan of the proposed clearing work when compared with Alternative 2.

## 5.12 Socioeconomics, Environmental Justice, and Children's Environment

### Evaluation Criteria

*Impacts to socioeconomics would be considered significant if the alternatives would result in substantial adverse impacts to an environmental resource that would have a related adverse impact on business and employment opportunities, the sustainability of the population, or services and infrastructure (e.g., housing). Impacts to environmental justice would be considered significant if the alternatives would result in disproportional adverse impacts to minority or low-income populations. Impacts to children's environment do not have a significance threshold, but alternatives that have the potential to impact children's environmental health and safety (i.e. air, water, etc.).*

#### Alternative 1 - No Action

Under the No Action alternative, easement acquisition and vegetation removal would not occur. Therefore, obstructions would not be removed from the runway approach surfaces and FAA safety standards at the airport would not be met. The purpose of obstruction removal is to improve the safety of approach and departure operations conducted on Runways 23 and 32. Failure to remove obstructions to protected approach surfaces increases the potential for a catastrophic accident resulting in injuries to aircraft passengers and people on the ground (including children) within the Affected Environment.

#### Alternative 2 – Full Clear

Implementation of Alternative 2 will not result in adverse impacts to natural resources which negatively impact businesses or employment within the Affected Environment. Additionally, there are no Environmental Justice communities (minority or low-income communities) within the Affected Environment. The Full Clear alternative increases the safety of aircraft operations conducted at the airport, significantly reducing the potential hazards to aircraft passengers and to people and structures on the ground, including children. *Alternative 2 – Full Clear* will not result in adverse socioeconomic impacts, nor will it contribute to disproportionate impacts to Environmental Justice communities or children within the Affected Environment.

#### Alternative 3 – Partial Clear

Implementation of Alternative 3 will not result in adverse impacts to natural resources which negatively impact businesses or employment within the Affected Environment. Additionally, there are no Environmental Justice communities (minority or low-income communities) within the Affected Environment. The Partial Clear alternative increases the safety of aircraft operations conducted at the airport, and significantly reduces the potential hazards to aircraft passengers and to people, including children, on the ground. *Alternative 3 – Partial Clear* will not result in adverse socioeconomic impacts, nor will it contribute to disproportionate impacts to Environmental Justice communities or children within the Affected Environment.

## **5.13 Visual Effects**

### Evaluation Criteria

*Impacts on visual effects would be considered significant if the existing visual character and/or quality is significantly degraded.*

#### Alternative 1 - No Action

Under the No Action alternative, easement acquisition and vegetation removal would not occur. Therefore, the existing view scape within the Affected Environment will not be affected by this alternative.

#### Alternative 2 – Full Clear

Under the Full Clear alternative, approximately 79 acres of existing forested area will be cleared for obstruction removal and converted to grassed or scrub-shrub habitat. The existing visual character of the Affected Environment will be substantially altered, particularly within the Runway 23 approach.

#### Alternative 3 – Partial Clear

Implementation of Alternative 3 proposes the removal of approximately 4.75 acres of vegetation from airport property, existing easements (Runway 32), and the seven easement areas proposed within the Runway 23 and 32 approaches. The existing visual character within the Runway 23 proposed easement areas will be altered by the removal of mature trees from these parcels. These impacts will be limited to several rural residential developments on Bradford Street. However, significant impacts to the Affected Environment will not result from the construction of this alternative.



## 5.14 Water Resources

### 5.14.1 Surface Water Quality

#### Evaluation Criteria

*Impacts to water resources would be considered significant if the alternative would result in runoff, sedimentation, or other contamination that would lead to or contribute to the degradation of waters that do not meet the standards established under the CWA, interfere with state water quality standards, or violate Total Maximum Daily Load targets. Impacts would also be considered significant if the alternative resulted in significant changes in the availability of surface or groundwater, or changes in discharge or recharge patterns of groundwater.*

#### Alternative 1 - No Action

Under the No Action alternative, easement acquisition and vegetation removal would not occur. Therefore, surface water quality will not be affected by the implantation of this alternative.

#### Alternative 2 – Full Clear

Tree removal activities are not anticipated to result in the siltation or pollution of surface water quality. Sedimentation and erosion will be avoided as tree removal will likely be conducted during winter months and frozen ground conditions. Best Management Practices (BMPs) including haybales or wattles will be installed where necessary to prevent the sedimentation of adjacent surface water bodies and wetlands. Contractors will be required to maintain adequate spill containment equipment to prevent the discharge of pollutants from construction equipment such as fuels, lubricants, or any other harmful or potentially harmful substances. This alternative will not adversely impact surface water quality within the Affected Environment.

#### Alternative 3 – Partial Clear

Tree removal activities are not anticipated to result in the siltation or pollution of surface water quality. Sedimentation and erosion will be avoided as tree removal will likely be conducted during winter months and frozen ground conditions. Best Management Practices (BMPs) including wattles and/or silt fence will be installed where necessary to prevent the sedimentation of adjacent surface water bodies and wetlands. Contractors will be required to maintain adequate spill containment equipment to prevent the discharge of pollutants from construction equipment such as fuels, lubricants, or any other harmful or potentially harmful substances. Given proper installation and maintenance of BMPs, Alternative 3 is not expected to adversely impact surface water quality within the Affected Environment.

### 5.14.2 Floodplains

#### Evaluation Criteria

*Impacts to floodplains would be considered significant if the floodplain is directly or indirectly altered enough to present a substantial increased flood danger to the area or if the alternative is noncompliant with applicable state or local floodplain ordinances.*

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Alternative 1 - No Action

Under the No Action alternative, easement acquisition and vegetation removal would not occur. Therefore, floodplains will not be affected by the project.

Alternative 2 – Full Clear

Designated FEMA floodplains and flood hazard areas are not present within the Affected Environment; therefore, implementation of this alternative will not impact floodplains.

Alternative 3 – Partial Clear

Designated FEMA floodplains and flood hazard areas are not present within the Affected Environment; therefore, implementation of this alternative will not impact floodplains.

**5.14.3 Wetlands**

Evaluation Criteria

*Impacts to wetlands would be considered significant if the alternative would result in the direct or indirect alteration of the soil, structure, hydrology, or the vegetation to a wetland or its buffer and the action was not carried out in compliance with permit requirements.*

Alternative 1 - No Action

Under the No Action alternative, easement acquisition and vegetation removal would not occur. Therefore, wetlands will not be impacted by this alternative.

Alternative 2 – Full Clear

Approximately 1.4 acres of tree clearing will be located within wetland areas, located on airport property within the Runway 23 and 32 approaches (additional wetland delineations will be required in proposed off-airport tree removal locations to confirm the presence or absence of wetlands). Stumps will be left in place in wetland areas and clearing will be proposed during frozen ground conditions to avoid adverse impacts to wetland soils. Wetland matting will be utilized to protect wetland soils if frozen ground conditions are not present during construction. The use of wetland/bog mats and the leaving behind of stumps will cause minimal impacts to wetlands and will not permanently disturb wetland habitat. Only temporary disturbance of the wetland is expected due to use of BMPs and the other methods described herein. Slash and other woody debris will be removed from the wetlands at the conclusion of the proposed project. As funding becomes available, the airport will manage vegetation within affected wetlands to control the regrowth of tree species to limit vegetation from becoming obstructions in the future. Implementation of this alternative will not significantly impact wetlands within the Affected Environment.

Alternative 3 – Partial Clear

Approximately 0.4-acres of tree clearing will be located within scrub-shrub wetlands located east of the Runway 23 end (additional wetland delineations will be required in proposed off-airport tree removal locations to confirm the presence or absence of wetlands). Stumps will be left in place in wetland areas

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and clearing will be proposed during frozen ground conditions to avoid adverse impacts to wetland soils. Wetland matting will be utilized to protect wetland soils if frozen ground conditions are not achieved at the time of construction. The use of wetland/bog mats and the leaving stumps in place will cause minimal impacts to wetlands and will not permanently disturb wetland habitat. This alternative will have negligible temporary impacts to wetlands.

**5.14.4 Groundwater**

*Evaluation Criteria*

*Impacts to groundwater would be considered significant if the alternative would exceed groundwater quality standards established by the federal, state, local, and tribal regulatory agencies or contaminate any aquifer used for public water supply such that public health may be adversely affected.*

Alternative 1 - No Action

Under the No Action alternative, easement acquisition and vegetation removal would not occur. Therefore, groundwater resources will not be affected by implementing this alternative.

Alternative 2 – Full Clear

Groundwater aquifers and water supply wells are not present within the Affected Environment. Heavy machinery that use petroleum-based fuels may be a potential source of groundwater contamination. To negate risk of groundwater contamination, contractors will be required to maintain spill containment equipment to prevent the discharge of pollutants from construction equipment such as fuels, lubricants, or any other harmful or potentially harmful substances. Assuming proper installation and maintenance of BMPs and other protective measures, Alternative 2 is not expected to impact groundwater resources.

Alternative 3 – Partial Clear

Groundwater aquifers and water supply wells are not found within the Affected Environment. Heavy machinery that uses fuels may be a potential source of groundwater contaminant. To negate risk of groundwater contamination, contractors will be required to maintain spill containment equipment to prevent the discharge of pollutants from construction equipment such as fuels, lubricants, or any other harmful or potentially harmful substances. Assuming proper installation and maintenance of BMPs and other protective measures, Alternative 3 is not expected to impact groundwater resources.

## **5.15 Summary of Impacts**

This environmental assessment has been prepared to identify and evaluate potential impacts resulting from project alternatives to human and natural resources within the vicinity of the airport. The analysis presented in this section has determined that the preferred development alternative considered in this EA does not result in significant environmental impacts. Pursuant to NEPA considerations, the preferred alternative for achieving project goals is *Alternative 3 – Partial Clear* meets the purpose and need statement in this EA by significantly improving the safety of operations conducted at the airport.

## **5.16 Cumulative Impacts**

Council on Environmental Quality (CEQ) regulations require the assessment of cumulative impacts for actions proposed within the context of NEPA documents. Cumulative impacts on the environment result from the effects of an action that are added to or adversely interact with the impacts of previous actions. Cumulative impacts can result in the degradation of environmental resources over time. To determine the potential for the project presented in this EA to contribute to significant cumulative impacts, the proposed project will be evaluated in the context of environmental impacts that have resulted from previous actions conducted at the airport. The evaluation will also include an assessment of the potential for known future projects to contribute to cumulative impacts. The temporal scope is the past, present, and future projects within a 10-year period, consisting of 5 years in the past and 5 years in the future.

### **5.16.1 Current / Ongoing Projects**

The airport is currently in the design stage of a streambank restoration project proposed for construction in 2025. This project includes the reinforcement of streambanks along a narrow, shallow intermittent stream located on airport property at the southern terminus of the Runway 5 safety area, approximately 250 feet south of Taxiway 'A.' This project has been proposed to minimize streambank overtopping to mitigate flooding of commercial developments located south of airport property during significant storm events. Banks along this stretch of stream will be raised with appropriate fill soils and reinforced with plantings of native wetland plants. Additionally, a new stormwater pipe and culvert will be installed and connected to an existing stormwater conveyance system to reduce the volume of overland stormwater runoff from reaching the stream during storm events. This project will impact less than 200 linear-feet of streambank and less than 150 square-feet of existing wet-meadow wetlands. Due to the timing of the streambank restoration project, NEPA review will be conducted independently of projects considered in this EA. A Categorical Exclusion will be prepared and submitted to FAA for consideration and no significant impacts are anticipated.

### **5.16.2 Past Projects**

The most recent major project at LWM involved the reconstruction of Runway 5-23 completed in 2018. This project included shifting the runway 100 feet to the south in order to provide FAA-compliant turf runway safety areas at each end of the runway. The runway shift was proposed to avoid impacting wetlands located at the end of Runway 23. To accommodate a compliant safety area at the end of the Runway 5 end, a stretch of existing intermittent stream (referenced in the section above) was relocated. Mitigation to compensate for impacts to wetlands associated with this stream was provided at a 1:1 ratio for in-kind wetland creation at the stream relocation site. Additionally, a small wetland restoration project was conducted in scrub-shrub wetlands located north of the West Ramp hangar site, along the hangar access road.

### **5.16.3 Future Projects**

Future projects proposed within the next five years include the replacement of the airport's existing administration (terminal) building. This 4,100 square-foot building, originally constructed in 1957, houses the airport's administration office, including a conference room, a small café, and leased office space. The terminal building will essentially be replaced in-kind, within the existing footprint of the current building and will provide accommodation for the building's current uses (administration offices, conference room, and small restaurant). There are no environmental impacts associated with the construction of the new administration building.

### **5.16.4 Summary**

The Council on Environmental Quality (CEQ) Regulations define a cumulative impact as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (40 Code of Federal Regulations [CFR] § 1508.7). Cumulative impacts can be viewed as the total combined impacts on the environment of the proposed action under consideration in the EA and other known or reasonably foreseeable actions. Past, present, and reasonably foreseeable future actions must be considered in determining whether there are potential cumulative impacts. This includes actions initiated by any entity (i.e., other federal agencies, state, tribal, or local governments, or private entities).

There have been several developments within and adjacent to the Affected Environment in recent years to fulfill the operational needs of the airport. Most locations of the proposed action occur within previously developed areas including the airport and commercial developments located along Osgood Street. Easement areas located to the north of the Runway 23 end along Bradford Street have experienced little development since the construction of the homes in this area. However, the removal of approximately 4.75 acres of vegetation from several sites, including airport property, existing aviation easement areas, and seven proposed easement areas will not contribute to significant environmental impacts within the Affected Environment when considered cumulatively with past and future projects.

## **6 Mitigation Measures**

Mitigation measures are actions that will be implemented during project design and construction to avoid and minimize environmental impacts to the greatest extent possible. Ultimately, mitigation must conform with the necessary permitting requirements provided in Section 6 of this document. Mitigation measures generally include the following:

- Avoiding the effect altogether by stopping or modifying the action.
- Minimizing the effect by limiting the degree or magnitude of the action and the activities associated with its implementation.
- Rectifying the effect by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating the effect over time by preservation and maintenance operations during the life of the action.
- Compensating for the effect by replacing or providing substitute resources or environments.

Compensatory wetland mitigation will not be required as a condition of environmental permitting associated with construction activities. Based on safety, operational, environmental, and economic considerations, it has been determined that the preferred alternative for achieving projects goals is *Alternative 3*. This alternative improves the safety of operations conducted on the runway and satisfies FAA airspace safety standards and meets the Purpose and Need goals established in the EA.

### **6.1 Water Quality Mitigation**

Impacts to ground and surface water resources are not anticipated as a result of the project proposed in this EA. The proposed safety improvement projects will not result in an increase of impervious surface on or adjacent to the airport. Increased stormwater runoff from the airport and off-airport project locations is not expected.

Erosion and sedimentation are unlikely to result as soil disturbances will be minimized to the greatest extent possible through the implementation of appropriate BMPs. Land grading is not associated with project alternatives. In limited locations where stump grinding may be required in upland residential and commercial locations, affected areas will be treated with topsoil, graded to match existing topography and seeded with grass or an appropriate conservation seed mix to provide final stabilization of disturbed upland areas.

### **6.2 Construction Mitigation**

In order to avoid potential water quality impacts associated with the construction of the proposed project, temporary erosion and pollution control measures will be specifically designed and implemented throughout the duration of removal activities pursuant to federal, state, and local jurisdictional authorities.

Best management practices will include the implementation of erosion, sedimentation and pollution prevention controls and the operation of equipment during day-time hours only. Central locations for all equipment refueling and staging will be established in upland areas removed from any wetland locations to minimize the risk of ground and surface water quality impacts. Gravel pads may also be installed at site access/egress points to prevent off-site sediment tracking.

## **7 Jurisdictional Authorities, Actions and Permits**

The following discussion outlines the jurisdictional authorities, actions, and permits that apply to the project proposed in this environmental assessment to be constructed at the airport. All permits required for construction will be obtained prior to initiating construction activities.

### **7.1 Federal Jurisdiction**

#### **7.1.1 National Environmental Policy Act (NEPA)**

NEPA is this nation's basic charter for protection of the environment. NEPA was enacted with two primary objectives in mind: (1) preventing environmental damage and degradation, and (2) ensuring that federal agencies consider environmental factors with regard to federal actions. NEPA also established the federal Council on Environmental Quality, which is responsible for promulgating NEPA regulations (40 CFR Parts 1500-1508).

NEPA regulations mandate environmental protection for all federal agencies (excluding Congress, the judiciary, and the President). They also require federal agencies to assist in implementing the CEQ's NEPA regulations by adopting policy and procedures consistent with NEPA. The FAA has two such documents: FAA Orders 1050.1.F, *Environmental Impacts: Policies and Procedures* and 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*.

The analysis and documentation provided in this EA enables the FAA to either issue a Finding of No Significant Impact (FONSI), or, if additional analysis is necessary, require the preparation of an Environmental Impact Statement (EIS).

#### **7.1.2 State Jurisdiction**

Impacts to freshwater wetlands are regulated by the Massachusetts Department of Environmental Protection in accordance with the Massachusetts Wetlands Protection Act. Projects impacting less than 5,000 square-feet are permitted through the applicable municipal conservation commission with the filing of a Notice of Intent. Projects proposing wetland impacts of 5,000 square-feet or greater must file a variance with DEP and may also be subject to Massachusetts Environmental Policy Act (MEPA) filing and reporting requirements. Actions proposed in this EA will not require the filing of a variance nor are they subject to review under the MEPA. Additionally, LWM has a Vegetation Management Plan (VMP) approved by the North Andover Conservation Commission, therefore, additional permitting with the MassDEP will not be required.

#### **7.1.3 Local Jurisdiction**

A Notice of Intent (NOI) will not be required because a Vegetation Management Plan (VMP) is in place for vegetative management at Lawrence Municipal Airport. Massachusetts Department of Transportation (MassDOT) will prepare and submit a Yearly Operational Plan Update (YOPU) to the North Andover Conservation Commission on behalf of LWM by 6/30/2025. The YOPU will detail local permitting required for off-airport tree clearing in newly required easements. ....

## **8 List of Preparers**

- Taylor Lonk: Stantec, Aviation Planner, 2 years experience. Dowling College. EA co-author, agency collaboration.
- Eric Whitney: Stantec, Environmental Scientist, 7 years experience. BS Environmental Science and Management, University of Rhode Island. EA co-author.
- Nick Louis: Stantec, Environmental Scientist, 9 years experience. MS Natural Resources and Environment, University of Michigan. Response to FAA & DOT comments.
- Katie Hogue: Aviation Planner, 11 years experience. GIS, Airspace Evaluation, EA document figure preparation.
- Gregg Cohen: Stantec, Sr. Associate, 25 years experience. MS, Natural Resource Management and Administration, Antioch University New England. Document review.



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- FAA 2015 Federal Aviation Administration. "Environmental Impacts: Policies and Procedure". Order 1050.1F. Last Updated July 5, 2015
- FAA 2020a Federal Aviation Administration Office of Environment and Energy. "Order 1050.1F Desk Reference, Version 2". Last updated February 2020.

**Draft Final Environmental Assessment Lawrence Municipal Airport  
North Andover, Massachusetts**

FICON 1992	Federal Interagency Committee on Noise (FICON). "Federal Agency Review of Selected Airport Noise Analysis Issues, Volume 2: Technical Report". Published August 1992.
OECD 2022	Organization for Economic Co-operation and Development (OECD). "Employment Rate". Accessed 2024. Available from <a href="https://data.oecd.org/emp/employment-rate.htm">https://data.oecd.org/emp/employment-rate.htm</a>

Federal Aviation Administration. 2015. *Environmental Impacts: Policies and Procedures*. Order1050.1F.

Federal Aviation Administration. 2020. *1050.1F Desk Reference, Version 2*.

Federal Aviation Administration. 2006. *National Environmental Policy Act [NEPA] Implementing Instructions for Airport Actions*, FAA Order 5050.4B.

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Federal Aviation Administration. 2020. *United States Standard for Terminal Instrument Procedures (TERPS)*, FAA Order 8260.3F.

Federal Aviation Administration. 2022. AC 150/5300-13B: *Airport Design*

14 Code of Federal Regulations, Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace, July 21, 2010.

Massachusetts GIS MassMapper, [MassMapper Interactive map | Mass.gov](#)

FEMA National Flood Hazard Layer, <https://www.fema.gov/flood-maps/national-flood-hazard-layer>

## Appendix A AGENCY CORRESPONDENCE

**A.1 Massachusetts Historical Commission**

**A.2 USFWS IPaC Findings**





June 29, 2022

Richard Doucette  
Federal Aviation Administration  
12 New England Executive Park  
Burlington MA 01803

**The Commonwealth of Massachusetts**  
William Francis Galvin, Secretary of the Commonwealth  
Massachusetts Historical Commission

RE: Lawrence Municipal Airport, Easement Acquisition and Obstruction Removal, North Andover, MA, MHC #RC.1182

Dear Mr. Doucette:

Staff of the Massachusetts Historical Commission (MHC), the office of the State Historic Preservation Officer, have reviewed the information submitted in a Project Notification Form (PNF) for the proposed easement acquisition and obstruction removal project at the Lawrence Memorial Airport, received at the MHC on June 6, 2023.

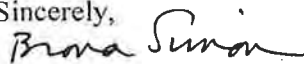
Lawrence Municipal Airport contains a number of ancient Native American sites and historic period sites that are included in MHC's Inventory of Historic and Archaeological Assets of the Commonwealth. The entire airport has not been systematically surveyed for the presence of archaeological sites. Many undisturbed areas within the airport and the proposed easement parcels are considered to be sensitive for the location of archaeological resources. In addition, the PNF describes a previously unidentified historic period stone foundation located within one of the proposed easement parcels.

The proposed obstruction removal entails tree cutting with shallow grinding of any large stumps, which would avoid disturbing any archaeological resources in the soil.

The information submitted indicates that there are no known historic properties in the project area of the proposed partial re-routing of Taxiway A, which appears to have been previously disturbed.

The MHC recommends that FAA make a determination of "no historic properties affected" (36 CFR 800.4(d)(1)) for this undertaking.

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (36 CFR 800), and MGL c. 9, ss. 26-27C (950 CMR 71). Please contact me if you have any questions or require further information.

Sincerely,  
  
Brona Simon  
State Historic Preservation Officer  
Executive Director  
State Archaeologist  
Massachusetts Historical Commission

xc: Randall Christensen, Stantec  
North Andover Historical Commission

220 Morrissey Boulevard, Boston, Massachusetts 02125  
(617) 727-8470 • Fax: (617) 727-5128  
[www.sec.state.ma.us/mhc](http://www.sec.state.ma.us/mhc)



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New England Ecological Services Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To:

10/14/2024 17:53:36 UTC

Project Code: 2025-0005335

Project Name: Lawrence Municipal Airport Environmental Assessment

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

To Whom It May Concern:

*Updated 4/12/2023 - Please review this letter each time you request an Official Species List, we will continue to update it with additional information and links to websites may change.*

## **About Official Species Lists**

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Federal and non-Federal project proponents have responsibilities under the Act to consider effects on listed species.

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested by returning to an existing project's page in IPaC.

## **Endangered Species Act Project Review**

Please visit the “**New England Field Office Endangered Species Project Review and Consultation**” website for step-by-step instructions on how to consider effects on listed

species and prepare and submit a project review package if necessary:

<https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review>

**\*NOTE\*** Please do not use the **Consultation Package Builder** tool in IPaC except in specific situations following coordination with our office. Please follow the project review guidance on our website instead and reference your **Project Code** in all correspondence.

**Northern Long-eared Bat - (Updated 4/12/2023)** The Service published a final rule to reclassify the northern long-eared bat (NLEB) as endangered on November 30, 2022. The final rule went into effect on March 31, 2023. You may utilize the **Northern Long-eared Bat Rangewide Determination Key** available in IPaC. More information about this Determination Key and the Interim Consultation Framework are available on the northern long-eared bat species page:

<https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis>

For projects that previously utilized the 4(d) Determination Key, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective. If your project was not completed by March 31, 2023, and may result in incidental take of NLEB, please reach out to our office at [newengland@fws.gov](mailto:newengland@fws.gov) to see if reinitiation is necessary.

#### *Additional Info About Section 7 of the Act*

Under section 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether projects may affect threatened and endangered species and/or designated critical habitat. If a Federal agency, or its non-Federal representative, determines that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Federal agency also may need to consider proposed species and proposed critical habitat in the consultation. 50 CFR 402.14(c)(1) specifies the information required for consultation under the Act regardless of the format of the evaluation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/service/section-7-consultations>

In addition to consultation requirements under Section 7(a)(2) of the ESA, please note that under sections 7(a)(1) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Please contact NEFO if you would like more information.

**Candidate species** that appear on the enclosed species list have no current protections under the ESA. The species' occurrence on an official species list does not convey a requirement to

consider impacts to this species as you would a proposed, threatened, or endangered species. The ESA does not provide for interagency consultations on candidate species under section 7, however, the Service recommends that all project proponents incorporate measures into projects to benefit candidate species and their habitats wherever possible.

### **Migratory Birds**

In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

<https://www.fws.gov/program/migratory-bird-permit>

<https://www.fws.gov/library/collections/bald-and-golden-eagle-management>

Please feel free to contact us at **newengland@fws.gov** with your **Project Code** in the subject line if you need more information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat.

Attachment(s): Official Species List

Attachment(s):

- Official Species List

## **OFFICIAL SPECIES LIST**

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

### **New England Ecological Services Field Office**

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

## PROJECT SUMMARY

Project Code: 2025-0005335  
Project Name: Lawrence Municipal Airport Environmental Assessment  
Project Type: Easement / Right-of-Way  
Project Description: Environmental assessment for aviation easements  
Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.72206225,-71.11835492806512,14z>



Counties: Essex County, Massachusetts



## ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

**MAMMALS**

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/10515">https://ecos.fws.gov/ecp/species/10515</a>	Proposed Endangered

**INSECTS**

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

**CRITICAL HABITATS**

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

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

## **IPAC USER CONTACT INFORMATION**

Agency: Portland city  
Name: Nicolas Louis  
Address: 2211 Congress Street  
Address Line 2: Ste 380  
City: Portland  
State: ME  
Zip: 04102  
Email: nlouis@geiconsultants.com  
Phone: 2077134306

## **LEAD AGENCY CONTACT INFORMATION**

Lead Agency: Federal Aviation Administration



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New England Ecological Services Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To:

10/16/2024 14:45:00 UTC

Project code: 2025-0005335

Project Name: Lawrence Municipal Airport Environmental Assessment

Federal Nexus: yes

Federal Action Agency (if applicable): Federal Aviation Administration

**Subject:** Record of project representative's no effect determination for 'Lawrence Municipal Airport Environmental Assessment'

Dear Nicolas Louis:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on October 16, 2024, for 'Lawrence Municipal Airport Environmental Assessment' (here forward, Project). This project has been assigned Project Code 2025-0005335 and all future correspondence should clearly reference this number. **Please carefully review this letter.**

## **Ensuring Accurate Determinations When Using IPaC**

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat Rangewide Determination Key (Dkey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

## **Determination for the Northern Long-Eared Bat**

Based upon your IPaC submission and a standing analysis, your project has reached the determination of "No Effect" on the northern long-eared bat. To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative), to a federally listed species or designated critical habitat. Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed

action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17).

Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no consultation with the Service is required (ESA §7). If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required except when the Service concurs, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13].

### **Other Species and Critical Habitat that May be Present in the Action Area**

The IPaC-assisted determination for the northern long-eared bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Candidate
- Tricolored Bat *Perimyotis subflavus* Proposed Endangered

You may coordinate with our Office to determine whether the Action may affect the animal species listed above and, if so, how they may be affected.

### **Next Steps**

Based upon your IPaC submission, your project has reached the determination of “No Effect” on the northern long-eared bat. If there are no updates on listed species, no further consultation/coordination for this project is required with respect to the northern long-eared bat. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional coordination with the Service should take place to ensure compliance with the Act.

If you have any questions regarding this letter or need further assistance, please contact the New England Ecological Services Field Office and reference Project Code 2025-0005335 associated with this Project.

## Action Description

You provided to IPaC the following name and description for the subject Action.

### 1. Name

Lawrence Municipal Airport Environmental Assessment

### 2. Description

The following description was provided for the project 'Lawrence Municipal Airport Environmental Assessment':

Environmental assessment for aviation easements

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.72250425,-71.11729832633684,14z>



## DETERMINATION KEY RESULT

Based on the information you provided, you have determined that the Proposed Action will have no effect on the Endangered northern long-eared bat (*Myotis septentrionalis*). Therefore, no consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required for those species.

## QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of the northern long-eared bat or any other listed species?

**Note:** Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

No

2. The action area does not overlap with an area for which U.S. Fish and Wildlife Service currently has data to support the presumption that the northern long-eared bat is present. Are you aware of other data that indicates that northern long-eared bats (NLEB) are likely to be present in the action area?

Bat occurrence data may include identification of NLEBs in hibernacula, capture of NLEBs, tracking of NLEBs to roost trees, or confirmed NLEB acoustic detections. Data on captures, roost tree use, and acoustic detections should post-date the year when white-nose syndrome was detected in the relevant state. With this question, we are looking for data that, for some reason, may have not yet been made available to U.S. Fish and Wildlife Service.

No

3. Does any component of the action involve construction or operation of wind turbines?

**Note:** For federal actions, answer 'yes' if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

No

4. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

Yes

5. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

No

6. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

**Note:** This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

*No*

7. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

*No*

8. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

*No*

9. Have you determined that your proposed action will have no effect on the northern long-eared bat? Remember to consider the [effects of any activities](#) that would not occur but for the proposed action.

If you think that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, answer “No” below and continue through the key. If you have determined that the northern long-eared bat does not occur in your project’s action area and/or that your project will have no effects whatsoever on the species despite the potential for it to occur in the action area, you may make a “no effect” determination for the northern long-eared bat.

**Note:** Federal agencies (or their designated non-federal representatives) must consult with USFWS on federal agency actions that may affect listed species [50 CFR 402.14(a)]. Consultation is not required for actions that will not affect listed species or critical habitat. Therefore, this determination key will not provide a consistency or verification letter for actions that will not affect listed species. If you believe that the northern long-eared bat may be affected by your project or if you would like assistance in deciding, please answer “No” and continue through the key. Remember that this key addresses only effects to the northern long-eared bat. Consultation with USFWS would be required if your action may affect another listed species or critical habitat. The definition of [Effects of the Action](#) can be found here: <https://www.fws.gov/media/northern-long-eared-bat-assisted-determination-key-selected-definitions>

*Yes*



## **PROJECT QUESTIONNAIRE**

Will all project activities be completed by November 30, 2024?

*No*

## **IPAC USER CONTACT INFORMATION**

Agency: Portland city  
Name: Nicolas Louis  
Address: 2211 Congress Street  
Address Line 2: Ste 380  
City: Portland  
State: ME  
Zip: 04102  
Email: nlouis@geiconsultants.com  
Phone: 2077134306

## **LEAD AGENCY CONTACT INFORMATION**

Lead Agency: Federal Aviation Administration

## Appendix B PUBLIC NOTICE & COMMENTS



## **PUBLIC NOTICE**

October 2024

### Appendix B Public Notice and Comment

The Public Notice on the following page was published in the Eagle-Tribune on October 21, 2024. Copies of the Draft Final EA were made available at the Lawrence Public Library in Lawrence, MA and the Stevens Memorial Library in North Andover, MA and an electronic copy of the document was uploaded to the City of Lawrence and Lawrence Municipal Airport websites for a 30-day public comment period.

### **Public Notification Lawrence Municipal Airport Environmental Assessment 492 Sutton Street, North Andover, MA 01845**

Lawrence Municipal Airport (LWM) and Stantec Consulting Services Inc. have prepared a Final Draft Environmental Assessment (EA) in accordance with Federal Aviation Administration (FAA) and National Environmental Policy Act (NEPA) requirements to evaluate potential impacts associated with a proposed project. The proposed project involves acquiring easements and removing trees within the Runway 23 and Runway 32 approach surfaces at the airport. LWM prepared an airspace analysis to determine the presence of obstructions (trees or other objects) encroaching protected airspace above the airport. The airspace analysis identified trees obstructing the Runway 23 and 32 navigable airspace approach surfaces located on and off airport property. In order to remove obstructing trees located off airport property, easement acquisition on affected parcels is required.

The purpose of this document is to inform the public of potential environmental consequences associated with proposed federal actions and their alternatives. The EA assists with identifying the environmentally preferable alternative for the proposed actions. The EA also provides the Federal Aviation Administration (FAA) with the information necessary to determine whether activities associated with the proposed project have the potential to contribute to significant impacts to the environment. Based on this determination, the FAA will either issue a Finding of No Significant Impact (FONSI) or the agency will require additional review to further analyze the proposed project and associated impacts.

Copies of the Draft EA have been made available for a 30-day public review and comment period at the Lawrence Public Library, 51 Lawrence Street, Lawrence, MA 01841 and the Stevens Memorial Library, 345 Main Street, North Andover, MA 01845. The Draft EA may also be viewed at the websites for the City of Lawrence (<https://www.cityoflawrence.com>) and the Lawrence Municipal Airport (<https://lawrencemunicipalairport.com>). A virtual public meeting to discuss and answer questions regarding the Draft EA will be held on Wednesday, October 30, 2024 at 6:30 PM. The virtual public meeting can be accessed using a link provided on the events calendar on the Lawrence Municipal Airport homepage: <https://lawrencemunicipalairport.com>.

Public comments will be accepted in writing (via US mail) or electronically (via email) until 5 pm, Wednesday, November 20, 2024. Public comments will be submitted to the FAA for consideration and included in the Final EA.

Please forward written comments to:

Nick Louis  
Stantec Consulting Services Inc.  
2211 Congress Street, Suite 380  
Portland, ME, 04102  
Phone: 207-713-4306  
[Nick.louis@stantec.com](mailto:Nick.louis@stantec.com)