Fitchburg Municipal Airport

DRAFT ENVIRONMENTAL ASSESSMENT

for 2022 Airport Master Plan Projects

AIP No. 3-25-0018-034-2023

February 2024

PREPARED BY:

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Bedford, NH

JN 777118

Contents

FIGURES

APPENDICES

1.0 Introduction

1.1 Airport Overview

The Fitchburg Municipal Airport (the Airport) located in the City of Fitchburg, MA is a public use, general aviation airport in Worcester County. The Airport is located at 567 Crawford Street and consists of approximately 334 acres. The Airport abuts the Town of Leominster and is 10 miles from the New Hampshire border, and 50 miles from Boston, serving the North Central Massachusetts aviation community. The Airport has a single use runway, Runway 14-32, with a total paved length of 5,001 feet.

The Fitchburg Airport Commission (the Commission), duly appointed in accordance with Chapter 90 of the General Laws by the Mayor of Fitchburg, provides oversight of the Airport. In 2022, the Commission completed the process of updating the Airport Master Plan. The Airport, Federal Aviation Administration (FAA), and the Massachusetts Department of Transportation/ Aeronautics Division (MassDOT/AD) participated in the funding of the Airport Master Plan. The purpose of the Airport Master Plan was to identify those facilities in need of improvement, identify conditions and infrastructure that are not in conformity with FAA design and safety standards, and recommend strategies to improve the identified deficiencies.

1.1.1 The Client Group

The Client Group provides oversight to this project and consists of representatives from the Airport Commission, FAA, and MassDOT/AD. Gale Associates, Inc. (the Engineer) provides support to the Client Group. The Client Group is responsible for reviewing documents and providing guidance to the Engineer.

1.1.2 Authority

This report was prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) pursuant to FAA Order 5050.4B, *National Environmental Policy Act Implementing Instructions for Airport Actions.* The FAA is responsible for implementing NEPA at airports through order 5050.4B.

1.1.3 Funding

This project has been funded pursuant to the Infrastructure Investment and Jobs Act (Public Law 117-58) of 2021 referred to as the Bipartisan Infrastructure Law. FAA has contributed 90% funding, MassDOT/AD 5% and the City of Fitchburg 5%.

2.0 Proposed Action

The Proposed Action includes a suite of improvements to the runway environment and terminal area at the Airport, as identified in the 2022 Airport Master Plan. For simplicity, this report will refer to the suite of improvements directly related to the safe operation of airplanes as the “Aircraft and Operational Facilities”. This classification includes all improvements to the runway, taxiways, runway and taxiway appurtenances, taxilanes, parking aprons, tie-downs areas, navigational aids, airspace and similar infrastructures. Improvements that are not directly related to the safe operation of aircraft are called the “Terminal Facilities”. These will include such facilities as hangars, utility buildings, fueling facilities, fencing, administration building, and similar facilities. Figures 1 and 2 outline the Proposed Action(s).

The Proposed Action(s) evaluated in this Environmental Assessment (EA) include the following:

- Avigation Easement Acquisitions and Vegetation Obstruction Removal
- Corporate and General Aviation (GA) Hangar Development including associated Taxilanes (approximately 10 hangars)
- Perimeter Fencing
- Terminal Area Development
- Non-Aeronautical Use Development
- ASOS (Automated Surface Observing System) Relocation

Each action is further described below in Sections 2.1- 2.7 below.

2.1 Acquisition of Avigation Easements: This project seeks to secure avigation easements necessary to protect and enhance aircraft and public safety and to obtain eligibility for future vegetation clearing efforts. An analysis of obstruction data prepared as part of the 2022 Airport Master Plan indicates that three (3) off-airport parcels in the Runway 32 approach surface contain individual trees penetrating the Airport's approach surface as defined in FAA Advisory Circular 150/5300-13B, Table 3-4, *APV and PA Instrument Runway Approach Surfaces.*[1] Through this project, the Airport will address the following:

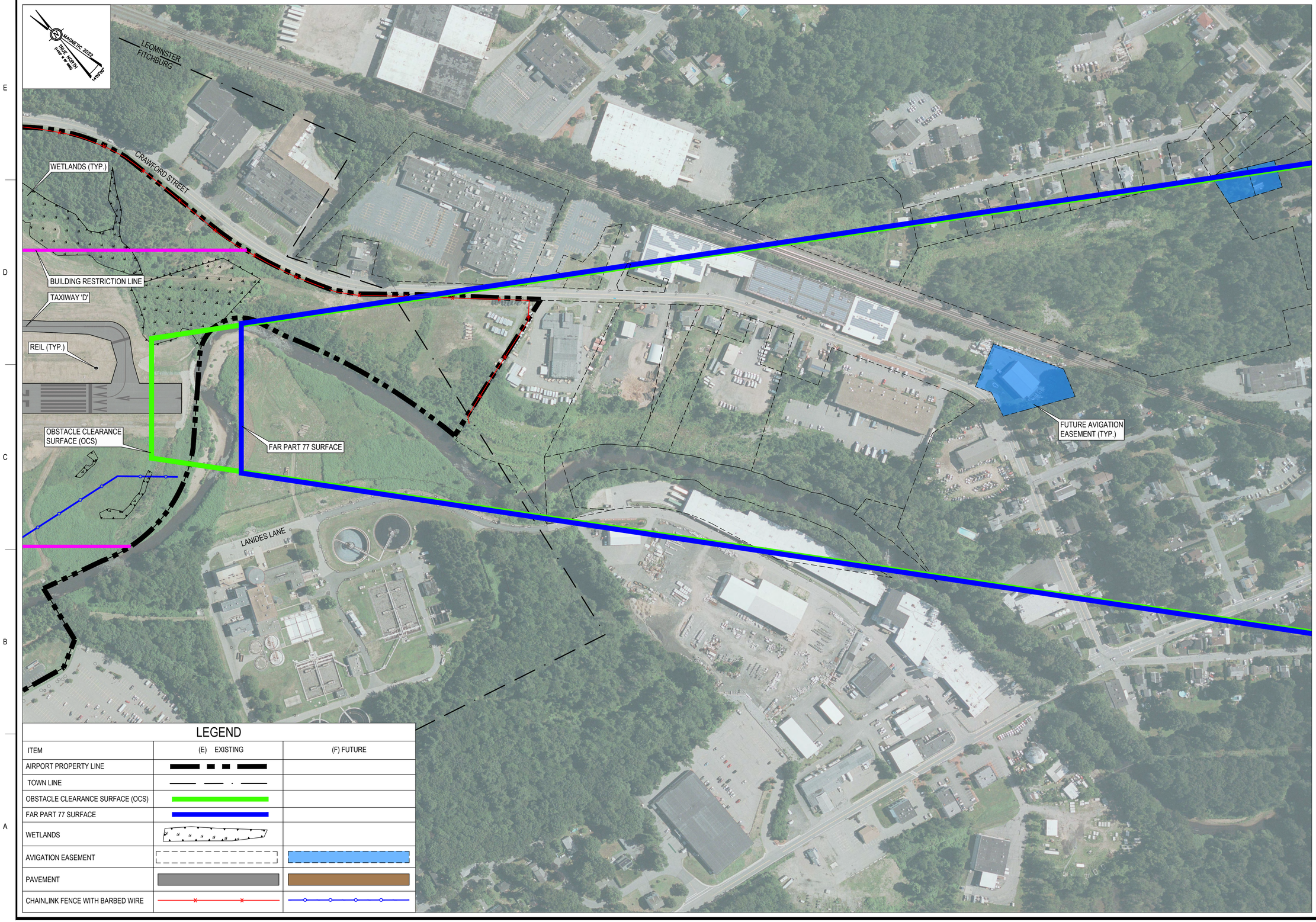
- Secure documents, permissions, and rights necessary to obtain eligibility for future vegetation clearing efforts and address a known safety issue at the airport by preventing future development of obstructions that are deemed incompatible with airport operations.
- Maintain compliance with FAA Grant Assurances, specifically #19 *Operation and Maintenance* and #20 *Hazard Removal and Mitigation.*[2]

The three (3) off-airport parcels have been identified as being sparsely vegetated with isolated areas of vegetative obstructions affecting the approach surface. A description of each parcel along with its vegetative characteristics is provided in Table 1.

Parcel ID	Address	Parcel Description	Vegetation Characteristics	Size of Parcel	Approximate Area Containing Vegetation
227-5D	89 Crawford Street, Leominster, MA	Multi-Use Commercial	Deciduous Upland Forest with Mixed Pine	1.08 ac	0.32 ac
245-10	13 Kinsman Avenue, Leominster, MA	Residential	Upland Forest	.25 ac	Isolated Trees, approximately 1-3 trees
245-7A	Kinsman Avenue, Leominster, MA	Residential	Upland Forest	0.2298 ac	Isolated Trees, approximately 2-4 trees

2.2 Removal of Vegetative Obstructions: This project removes isolated vegetation in accordance with the Massachusetts Wetland Protection Act 310 CMR 10.53(n)[3] from three (3) off-airport parcels located in the Runway 32 end (see Figure 1). Estimates of the area containing vegetative obstructions to be removed from each parcel is based on an obstruction analysis

[1] https://www.faa.gov/documentLibrary/media/Advisory_Circular/150-5300-13B-Airport-Design.pdf
[2] https://www.faa.gov/sites/faa.gov/files/airports/new_england/airport_compliance/assurances-airport-sponsors-2022-05.pdf
[3] https://www.mass.gov/regulations/310-CMR-1000-wetlands-protection-act-regulations#current-regulations



LEGEND

ITEM	(E) EXISTING	(F) FUTURE
AIRPORT PROPERTY LINE		
TOWN LINE		
OBSTACLE CLEARANCE SURFACE (OCS)		
FAR PART 77 SURFACE		
WETLANDS		
AVIGATION EASEMENT		
PAVEMENT		
CHAINLINK FENCE WITH BARBED WIRE		

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PROJECT

ENVIRONMENTAL ASSESSMENT AND WILDLIFE HAZARD ASSESSMENT
AIP NO. 3-25-0018-034-2023

OWNER

FITCHBURG MUNICIPAL AIRPORT
CITY OF FITCHBURG, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

PROJECT NO.	777118
CADD FILE	777118 - FIT- PROP
DESIGNED BY	DCQ
DRAWN BY	DCQ
CHECKED BY	JCM
DATE	NOVEMBER 2023
DRAWING SCALE	

GRAPHIC SCALE

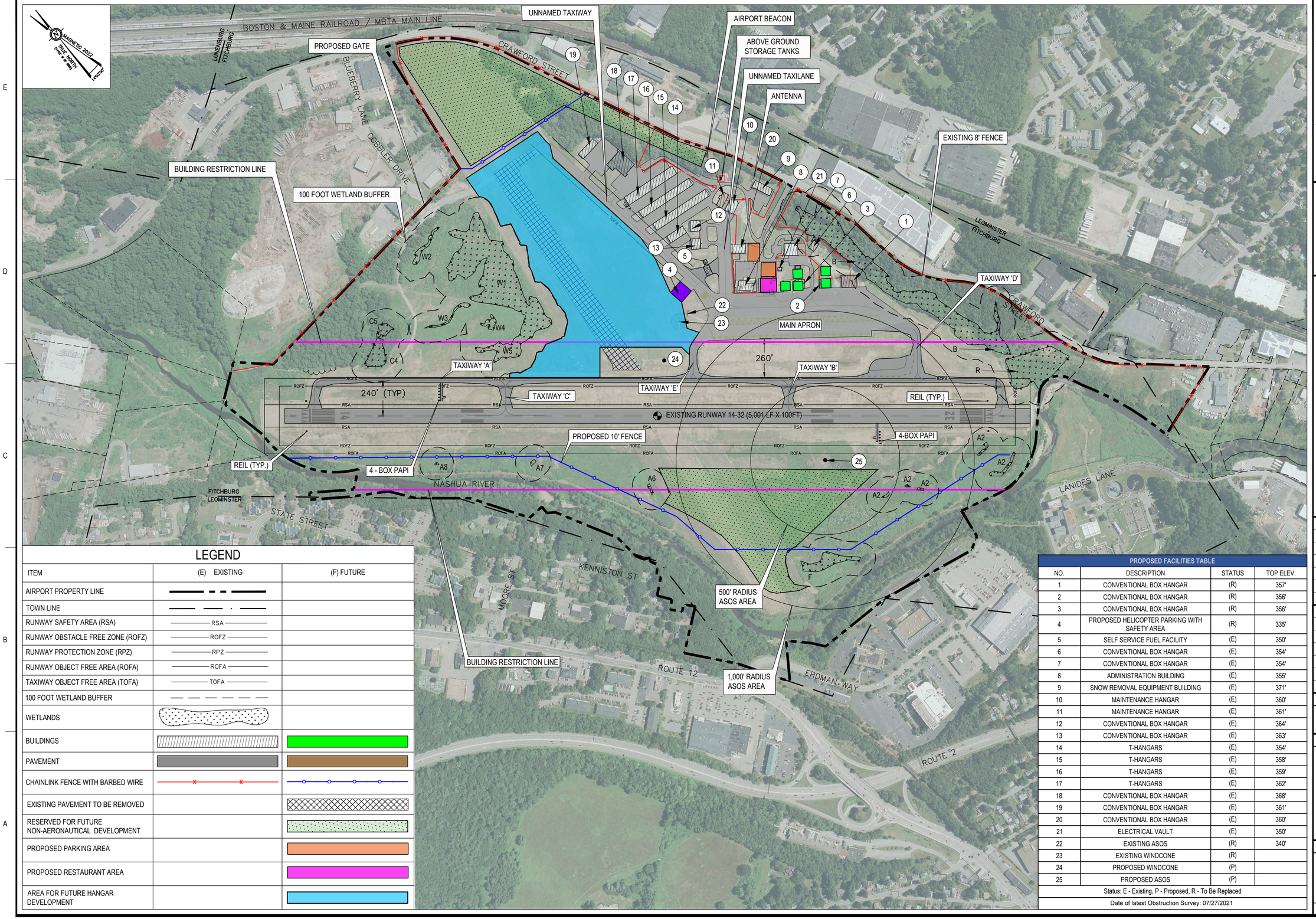
75 150 300
SCALE: 1" = 150'

SHEET TITLE

PROPOSED ACTIONS - OFF AIRPORT

DRAWING NO.

FIG. 1



LEGEND

ITEM	(E) EXISTING	(F) FUTURE
AIRPORT PROPERTY LINE		
TOWN LINE		
RUNWAY SAFETY AREA (RSA)	RSA	
RUNWAY OBSTACLE FREE ZONE (ROFZ)	ROFZ	
RUNWAY PROTECTION ZONE (RPZ)	RPZ	
RUNWAY OBJECT FREE AREA (ROFA)	ROFA	
TAXIWAY OBJECT FREE AREA (TOFA)	TOFA	
100 FOOT WETLAND BUFFER		
WETLANDS		
BUILDINGS		
PAVEMENT		
CHAINLINK FENCE WITH BARBED WIRE		
EXISTING PAVEMENT TO BE REMOVED		
RESERVED FOR FUTURE NON-AERONAUTICAL DEVELOPMENT		
PROPOSED PARKING AREA		
PROPOSED RESTAURANT AREA		
AREA FOR FUTURE HANGAR DEVELOPMENT		

PROPOSED FACILITIES TABLE

NO.	DESCRIPTION	STATUS	TOP ELEV.
1	CONVENTIONAL BOX HANGAR	(R)	357'
2	CONVENTIONAL BOX HANGAR	(R)	356'
3	CONVENTIONAL BOX HANGAR	(R)	356'
4	PROPOSED HELICOPTER PARKING WITH SAFETY AREA	(R)	335'
5	SELF SERVICE FUEL FACILITY	(E)	350'
6	CONVENTIONAL BOX HANGAR	(E)	354'
7	CONVENTIONAL BOX HANGAR	(E)	354'
8	ADMINISTRATION BUILDING	(E)	355'
9	SNOW REMOVAL EQUIPMENT BUILDING	(E)	371'
10	MAINTENANCE HANGAR	(E)	360'
11	MAINTENANCE HANGAR	(E)	361'
12	CONVENTIONAL BOX HANGAR	(E)	364'
13	CONVENTIONAL BOX HANGAR	(E)	363'
14	T-HANGARS	(E)	354'
15	T-HANGARS	(E)	358'
16	T-HANGARS	(E)	359'
17	T-HANGARS	(E)	362'
18	CONVENTIONAL BOX HANGAR	(E)	368'
19	CONVENTIONAL BOX HANGAR	(E)	361'
20	CONVENTIONAL BOX HANGAR	(E)	360'
21	ELECTRICAL VAULT	(E)	350'
22	EXISTING ASOS	(R)	340'
23	EXISTING WINDCONE	(R)	
24	PROPOSED WINDCONE	(P)	
25	PROPOSED ASOS	(P)	

Status: E - Existing, P - Proposed, R - To Be Replaced

Date of latest Obstruction Survey: 07/27/2021

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DRAWING SCALE	

GRAPHIC SCALE

150 300 600

SCALE: 1" = 300'

SHEET TITLE

PROPOSED ACTIONS - ON AIRPORT

DRAWING NO.

FIG. 2

conducted as part of the 2022 Airport Master Plan project and subsequently confirmed as part of this project. Aerial mapping and the obstruction analysis show that all three (3) parcels contain isolated vegetative obstructions only, meaning that select trees are proposed to be eliminated and the parcels do not need to be clear-cut. Based on the density of vegetation on each parcel, an estimate of the area (in acres based on the canopy of trees) requiring tree clearing was calculated. Selective tree clearing is estimated to occur within an area approximately 1.55 acres in size off-airport property in the Runway 32 end.

2.3 Corporate and General Aviation (GA) Hangar Development Including Associated Taxilanes: This project includes the designation of former Runway 20 for future hangar development, with associated taxilanes, and vehicle parking. This EA includes the evaluation of approximately 10 hangars (anticipated to house 10 aircraft), which are expected to be constructed in the short-term. (see Figure 2).

2.4 Perimeter Fencing: This project includes the replacement of existing fencing (approximately 11,763 LF), where necessary to meet recommended wildlife hazard deterrent fencing standards, and the installation of approximately 5,195 LF of new wildlife deterrent fencing southwest of Runway 14-32. (see Figure 2).

2.5 Terminal Area Development: This project includes the construction of approximately three (3) hangars and a restaurant building in the existing terminal area, adjacent to the existing Administration Building (see Figure 2).

2.6 Non-Aeronautical Use Development: This project includes the designation of two areas on-Airport property for future non-aeronautical use. The first area is located south of existing Runway 14-32 in the area of the former Runway 20 end (see Figure 2). The second area is located north of the proposed corporate and T-hangar development area in the former Runway 02 area, along Crawford Street (see Figure 2).

2.7 ASOS Relocation: This project includes the relocation of the existing ASOS located adjacent to the main apron, to an area south of Runway 14-32 in the former Runway 20 area. The relocation of the ASOS will allow for future hangar development in the former Runway 02 area as noted in Section 2.3 and provide for unobstructed ASOS radius to the extent practicable (see Figure 2).

3.0 Purpose and Need

The following proposed actions are needed to enhance overall operational safety and efficiency at the airport, accommodate existing and future demand by the critical aircraft, meet FAA and MassDOT safety and security requirements, and increase the Airport's financial self-sufficiency[4]:

- Acquisition of Avigation Easements and Removal of Vegetative Obstructions: to comply with FAA airport safety design standards and to provide for the aeronautical needs of the Airport and Airport users by removing trees and objects that obstruct the Airport's protected surfaces as defined in FAA AC 150/5300-13b.
- Corporate and General Aviation (GA) Hangar Development including associated Taxilanes: to define areas at the Airport suitable for construction of hangars and associated infrastructure needs to access the hangars in an effort to meet the growing demand for hangars at the Airport. Development of hangars will allow the Airport to generate additional revenue to aid the Airport in becoming as self-sustaining/self-sufficient as possible, in accordance with FAA Grant Assurance 24.
- Perimeter Fencing: to add additional fencing to provide security from unwanted persons and wildlife. The Airport has experienced an uptick in wildlife activity, according to the preliminary findings for the ongoing Wildlife Hazard Assessment, which has documented three wildlife strikes (2 deer and 1 coyote) within the past 2-3 years, according to airport personnel. Wildlife on the airfield represents a safety hazard for pilots and passengers.
- Terminal Area Development: to define areas at the Airport suitable for construction of hangars and a future restaurant along with associated infrastructure needs to access the hangars in an effort to meet the growing demand for hangars at the Airport.
- Non-Aeronautical Use Development: to enable the Airport to market two (2) distinct aeras on-airport property that are not suitable for aeronautical use for future non-aeronautical development, which has the potential to provide to the Airport with additional revenue to aid the Airport in becoming as self-sustaining/self-sufficient as possible, in accordance with FAA Grant Assurance 24. Future development of these parcels may require follow-on NEPA, which is beyond the scope of this project.
- ASOS Relocation: to relocate the ASOS, which will allow for future hangar development in the former Runway 02 area as noted in Section 2.3 and provide for unobstructed ASOS radius to the extent practicable.

[4] For the purposes of this EA, the terms self-sufficient and self-sustaining are used interchangeably.

4.0 Project Alternatives

4.1 Acquisition of Avigation Easements and Vegetation Obstruction Removal

4.1.1 Alternative 1- No Action Alternative

Assumptions

- The Airport does not secure documents, permissions, and/or rights necessary to obtain eligibility for future vegetation clearing efforts.
- The Airport does not conduct tree clearing activities within the Airport's protected surfaces.

Airport Impacts

- The Airport fails to comply with FAA design and safety standards.
- The Airport violates its federal obligation with respect to grant assurances, specifically Grant Assurances #19 *Operation and Maintenance* and #20 *Hazard Removal and Mitigation* and jeopardizes the Airport's eligibility to receive future federal funding assistance.
- Vegetative obstructions continue to negatively affect the Airport's protected surfaces, resulting in a continued threat to the safety of airport users and neighboring properties.

Summary of Alternative 1

- Trees continue to obstruct the Airport's protected surfaces.
- Fails to address a known safety condition and violates federal obligations.
- This alternative does not meet the stated purpose and need.
- This alternative does not comply with the requirements of FAA AC 150/5300-13b.
- **This alternative does not meet the purpose/need/goals of the project.**

4.1.2 Alternative 2- Acquire Avigation Easements and Remove Vegetative Obstructions

Assumptions

- The Airport seeks avigation easements over three (3) parcels in the Runway 32 end containing trees that obstruct the Airport's protected surfaces.
- The Airport secures documents, permissions, and/or rights necessary to obtain eligibility for future obstruction clearing efforts to maintain its existing approach surface in accordance with FAA AC 150/5300-13b.

Airport Impacts

- The Airport eliminates trees that have a negative and unsafe effect on the Airport's existing 20:1 OCS (obstacle clearance surface) approach surfaces.
- Enhances safety for pilots, passengers, neighboring properties, and aircraft due to the removal of trees.
- The Airport maintains compliance with FAA Grant Assurances.

Summary of Alternative 2

- Vegetative obstructions are removed, eliminating the negative and unsafe effect they present to the Airport's approach surface.
- Enhanced safety of pilots, passengers, and neighboring residential and commercial properties.
- This alternative meets the stated need and purpose.
- **This alternative meets the purpose/need/goals of the project and therefore considered the "Preferred Alternative."**

4.2 Corporate and General Aviation (GA) Hangar Development Including Associated Taxilanes

4.2.1 Alternative 1- No Action Alternative

Assumptions

- Additional hangars and associated taxilanes are not constructed at the Airport.

Airport Impacts

- The Airport continues to lack the adequate infrastructure necessary to meet the existing demand for hangar units.
- The Airport misses out on the opportunity for additional sources of revenue and the ability to contribute towards becoming self-sufficient.
- Aircraft stored outdoors continue to be exposed to the elements, particularly during winter conditions. Aircraft exposed to the elements have an increased potential for damage, which in turn has the potential to create a safety hazard.

Summary of Alternative 1

- The Airport continues to lack the adequate infrastructure necessary to meet the existing demand for hangar units.
- The Airport misses out on the opportunity for additional sources of revenue and the ability to contribute towards becoming self-sufficient.
- **This alternative does not meet the stated purpose and need.**

4.2.2 Alternative 2- Development of Hangars

Assumptions

- The Airport designates the former Runway 20 end for future development of corporate and GA (General Aviation) hangar development and plans for the construction of approximately 10 hangars over the short term.
- Hangars development will be both privately owned and Airport owned.
- Requires associated taxilanes and vehicle parking.

Airport Impacts

- Designating areas for hangar development meets the growing need of the Airport's hangar demand.
- Additional taxlianes result in additional maintenance costs, including snow removal during winter operations.
- Provides for the storage and security of based aircraft.
- Provides the Airport with additional sources of revenue.

Summary of Alternative 2

- The Airport designates vacant compatible land for future hangar development to meet the growing hangar demand.
- Hangar development will occur in previously disturbed areas (former Runway 20) and/or wetland impacts will be avoided.
- **This alternative meets the purpose/need/goals of the project and therefore considered the "Preferred Alternative."**

4.3 Perimeter Fencing

4.3.1 Alternative 1- No Action Alternative

Assumptions

- The Airport does not address the need for enhanced security and the need to reduce the risk of wildlife and/or human intrusions on the airfield.

Airport Impacts

- The need for safety and security improvements remains unaddressed.

Summary of Alternative 1

- The Airport neglects to address safety and security needs, particularly those identified in the Wildlife Hazard Assessment.
- **This alternative does not meet the purpose/need/goals of the project.**

4.3.2 Alternative 2- Fencing Installation along Southwest Property Line

Assumptions

- The Airport constructs fencing along the southwestern boundary of Airport property, following the general contour of the Nashua River, as well as fencing between the proposed non-aeronautical use area and Airport property, north of the former Runway 20 end.
- This alternative constructs approximately 5,195 LF of new 10-foot, chain-link fencing.
- This alternative also repairs/replaces existing fencing and gates (approximately 11,763 LF) required to comply with the preliminary recommendations of the Wildlife Hazard Assessment.

Airport Impacts

- Enhances safety and security needs as identified in the Wildlife Hazard Assessment.
- Delineates non-aeronautical uses from aircraft movement areas.

Summary of Alternative 2

- The Airport installs approximately 5,195 LF of 10-foot, chain-link fencing to enhance safety and security at the Airport.
- While this alternative includes construction of approximately 1,500 LF of fencing in wetland buffers, it avoids direct wetland impacts, and is therefore not considered a triggering threshold according to 301 CMR 11.00: MEPA Regulations, Section 11.03 (3).
- This alternative addresses recommendations identified in the Wildlife Hazard Assessment.
- **This alternative meets the purpose/need/goals of the project and therefore considered the "Preferred Alternative."**

4.4 Terminal Area Development

4.4.1 Alternative 1- No Action Alternative

Assumptions

- The Airport does not address the need for additional hangar demand and a proposed restaurant in the existing terminal area.

Airport Impacts

- Vacant available land within the terminal area remains unused.

Summary of Alternative 1

- The Airport does not take advantage of readily available land ready for construction in the existing terminal area.
- **This alternative does not meet the purpose/need/goals of the project.**

4.4.2 Alternative 2- Terminal Area Development

Assumptions

- The Airport designates available land in the existing terminal area suitable for construction of hangars and a future restaurant along with associated infrastructure needs to access the hangars in an effort to meet the growing demand for hangars at the Airport.

Airport Impacts

- Designation of land for future hangar and restaurant development meets the growing needs of the Airport.
- An onsite restaurant provides a desirable amenity for pilots and the community, which is anticipated to attract additional air traffic and support the Airport's goal of self-sustainability.

Summary of Alternative 2

- The Airport takes advantage of existing available land in the terminal area and markets it for development.
- The increase in hangar development meets the need of existing based aircraft and demand at the Airport.
- **This alternative meets the purpose/need/goals of the project and therefore considered the "Preferred Alternative."**

4.5 Non-Aeronautical Use Development

4.5.1 Alternative 1- No Action Alternative

Assumptions

- The Airport does not pursue or explore opportunities to increase revenue from non-aeronautical uses in two distinct areas prime for development.

Airport Impacts

- The Airport misses out on opportunities to increase revenue and work towards its goal of becoming self-sufficient.

Summary of Alternative 1

- The Airport fails to take advantage of available land that is prime for non-aeronautical uses, thereby missing out on revenue generation for the Airport.
- The Airport is unable to market the available land and earn revenue to comply with FAA Grant Assurances of making the airport as self-sustaining as possible.
- **This alternative does not meet the purpose/need/goals of the project.**

4.5.2 Alternative 2- Designation of Land of Non-Aeronautical Use Development

Assumptions

- The Airport designates two areas of land for non-aeronautical use:
  - Vacant land to the southwest of Runway 14-32 (former Runway 02 end).
  - Vacant land to the north of the proposed GA (General Aviation) hangar development (former Runway 20 end).

Airport Impacts

- The Airport is able to pursue future non-aeronautical developments (e.g., solar, business park, compatible storage, etc.).
- This gives the Airport the ability to generate additional revenue from land leases.

Summary of Alternative 2

- The Airport seeks to designate two areas on-Airport property for future non-aeronautical development.
- Non-aeronautical development provides the Airport with additional revenue.
- This alternative supports the Airport efforts to become self-sustainable.
- **This alternative meets the purpose/need/goals of the project and therefore considered the "Preferred Alternative."**

4.6 ASOS Relocation

4.6.1 Alternative 1- No Action Alternative

Assumptions

- The Airport does not relocate the ASOS.

Airport Impacts

- The ASOS in its current location prevents the development of hangars in the former Runway 20 end.
- Prevents the Airport from capitalizing on additional revenue from the lease of land for hangars.

Summary of Alternative 1

- The Airport leaves the ASOS in its existing location, which hinders future hangar development in the Runway 20 end.
- This alternative is contrary to the Airport efforts to become self-sustainable.
- **This alternative does not meet the purpose/need/goals of the project.**

4.6.2 Alternative 2- ASOS Relocation

Assumptions

- The Airport relocates the ASOS to the southwest of Runway 14-32, outside of all safety areas.

Airport Impacts

- Relocation of the ASOS allows the Airport to develop the form Runway 20 end with hangars, which has the potential to generate additional revenue for the airport and meet the growing hangar demand at the Airport.

Summary of Alternative 2

- The Airport relocates the ASOS to an area southwest of Runway 14-32 to allow for the development of former Runway 20 with additional hangars.
- **This alternative meets the purpose/need/goals of the project and therefore considered the "Preferred Alternative."**

5.0 Selection of Preferred Alternatives

The alternatives analysis presented in Section 4 of this document resulted in the selection of the following:

5.1 Acquisition of Avigation Easements and Vegetation Obstruction Removal

The preferred avigation easement acquisition and vegetation obstruction removal alternative (Alternative 2) includes removing trees from the Airport's protected surfaces, on- and off-Airport property where property rights exist and seeking to acquire approximately 3 avigation easements for future obstruction removal where obstructions have been identified in the approach surfaces.

5.2 Corporate and General Aviation (GA) Hangar Development Including Associated Taxilanes

The preferred hangar development (Alternative 2) includes the designation of the former Runway 20 land area for future corporate and general aviation hangar development..

5.3 Perimeter Fencing

The preferred fencing alternative (Alternative 2) includes the installation of perimeter fencing along the Southwest property line, where currently there is no security/wildlife fencing, and repair or replacement of existing damaged perimeter fencing.

5.4 Terminal Area Development

The preferred terminal area development (Alternative 2) includes the designation of land in the existing terminal area for future construction of hangars and a restaurant along with associated infrastructure needs to access the hangars, to meet the growing demand for hangars at the Airport.

5.5 Non-Aeronautical Use Development

The preferred alternative (Alternative 2) designates two areas of land for non-aeronautical uses: vacant land to the southwest of Runway 14-32 (former Runway 02 end), and vacant land to the north of the proposed GA (General Aviation) hangar development (former Runway 20 end).

5.6 ASOS Relocation

The preferred alternative (Alternative 2) includes the relocation of the Airport's existing ASOS southwest of Runway 14-32, outside of all safety areas. This relocation enables the Airport to redevelop Runway 20 end with aeronautical uses.

6.0 Affected Environment/Environmental Consequences

FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, effective July 16, 2015, provides requirements for compliance with the National Environmental Policy Act (NEPA). Order 1050.1F requires that Airport sponsors evaluate all proposed actions against the following Impact Categories:

- Air Quality
- Biological resources (including fish, wildlife, and plants)
- Climate
- Coastal resources
- Department of Transportation Act, Section 4(f)
- Farmlands
- Hazardous materials, solid waste, and pollution prevention
- Historical architectural, archaeological, and cultural resources
- Land use
- Natural resources and energy supply
- Noise and compatible land use
- Socioeconomics, environmental justice and children's environmental health and safety risks
- Visual effects (including light emissions)
- Water resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers)

An assessment was performed for each potential environmental impact category identified per Order 1050.1F, *Environmental Impacts: Policies and Procedures,* July 16, 2015, and the *1050.1 Desk Reference*. Of the 14 FAA categories, six (6) are not discussed in this EA because they are either not present in the Area(s) of the Proposed Action(s), or if present would not be affected by the activities associated with the alternatives evaluated. Table 2 lists the categories excluded in the discussion with this EA and the rationale for exclusion.

Impact Category	**Rationale for Exclusion**
Coastal Resources	This project is not located within the defined Massachusetts coastal zone and will not have impacts to the coast zone.
Department of Transportation Act, Section 4(f)	No publicly-owned parks, recreational areas, conservation areas, wildlife or waterfowl refuges, national or state forests or historic sites, wilderness areas, wild and scenic rivers, or designated nationwide rivers will be affected by the proposed project(s).
Farmlands	As noted in the 2011 Environmental Assessment/ Draft Environmental Impact Report for the reconstruction and realignment of Runway 14-32, while there are small pockets of soil that are classified as prime farmland or farmland of statewide importance, they are relatively small in size and located in areas where access would be extremely difficult, including crossing of an existing runway.

Hazardous Materials, Solid Waste, and Pollution Prevention	The Proposed Action(s) is not anticipated to generate, disturb, transport, or treat, or store or dispose of, hazardous material, pollution, or solid waste.
Land Use	The Airport is located in the City's Adaptive Industrial District. South and west of the Airport, in the City of Leominster are small pockets of Residential B land use. In the City of Fitchburg, land uses surrounding the Airport include Commercial and Industrial uses.
Wild and Scenic Rivers	There are no wild and scenic rivers within designated in the National Wild and Scenic Rivers Systems in the project area.

6.1 Air Quality

A review of the Environmental Protection Agency's list of counties designated as "nonattainment" areas for National Ambient Air Quality Standards (NAAQS) revealed that that Worcester County meets primary and secondary NAAQS. In additional, all of Massachusetts is in attainment for all the NAAQs The Proposed Action(s) (Avigation Easements, Perimeter Fencing, ASOS Relocation, and Non-Aeronautical Development designation) are projects that are not anticipated to change the operating characteristics of the airport. There will be no changes in activity levels, aircraft types or other facilities as a result of the implementation of these projects, and as such, there will be no changes in air quality as a result of this work.

The development of approximately 10 hangars and the terminal area is intended to meet the demand of based aircraft owners. It is important to note that while the development of hangars has the potential to attract new based aircraft, the demand for hangars is being driven by existing based aircraft owners who have expressed a desire in recent years to construct hangars at the Airport. Therefore, the project does not anticipate measurable impacts or changes to the type/volume of surface traffic to/from the Airport. The type of aircraft anticipated to be housed in these hangars will include B-II type aircraft and smaller, in line with the Airport's existing fleet mix. No change to the Airport's critical aircraft is expected as a result of new hangars being built.

According to the Airport's most recent Master Plan Update, FIT reported 114 based aircraft in 2021, with the forecast predicting based aircraft to increase to 125 by the end of the planning period (2041). By comparison, in 2017, the airport reported 135 based aircraft, with an annual average of 127 based aircraft from 2011-2020. Further, from 2000-2010, it is reported that FIT averaged 133,429 operations per year. The average number of operations reported from 2011-2020 dropped significantly to 61,753. According to the recent Master Plan Update, the Airport is expected to experience a modest recovery in operations reaching 63,854 in the short-term, 66,449 in the mid-term, and 71,961 by the end of the planning period in 2041. These operation levels are expected to remain significantly below previously reported operation levels of 133,429. The number of based aircraft and operations associated with the

development of hangars are not anticipated to change the characteristics, activity levels, aircraft types, or result in changes to air quality above levels currently experienced at the Airport.

Temporary, minor construction activity is required for the development of hangars and the site work associated with parking and building site preparation. Minor impacts to air quality typically associated with construction activities, including odors generated by the use of heavy equipment, may result during the construction of hangars, but will be limited to the duration of construction and localized to the construction site. The foreseeable environmental impacts and impact on air quality associated with the development of hangars and increase in operations from the additional based aircraft are anticipated to be at or below the level of detection and are not anticipated to result in any measurable or precipitable consequences.

6.2 Biological Resources (including fish, wildlife, and plants)

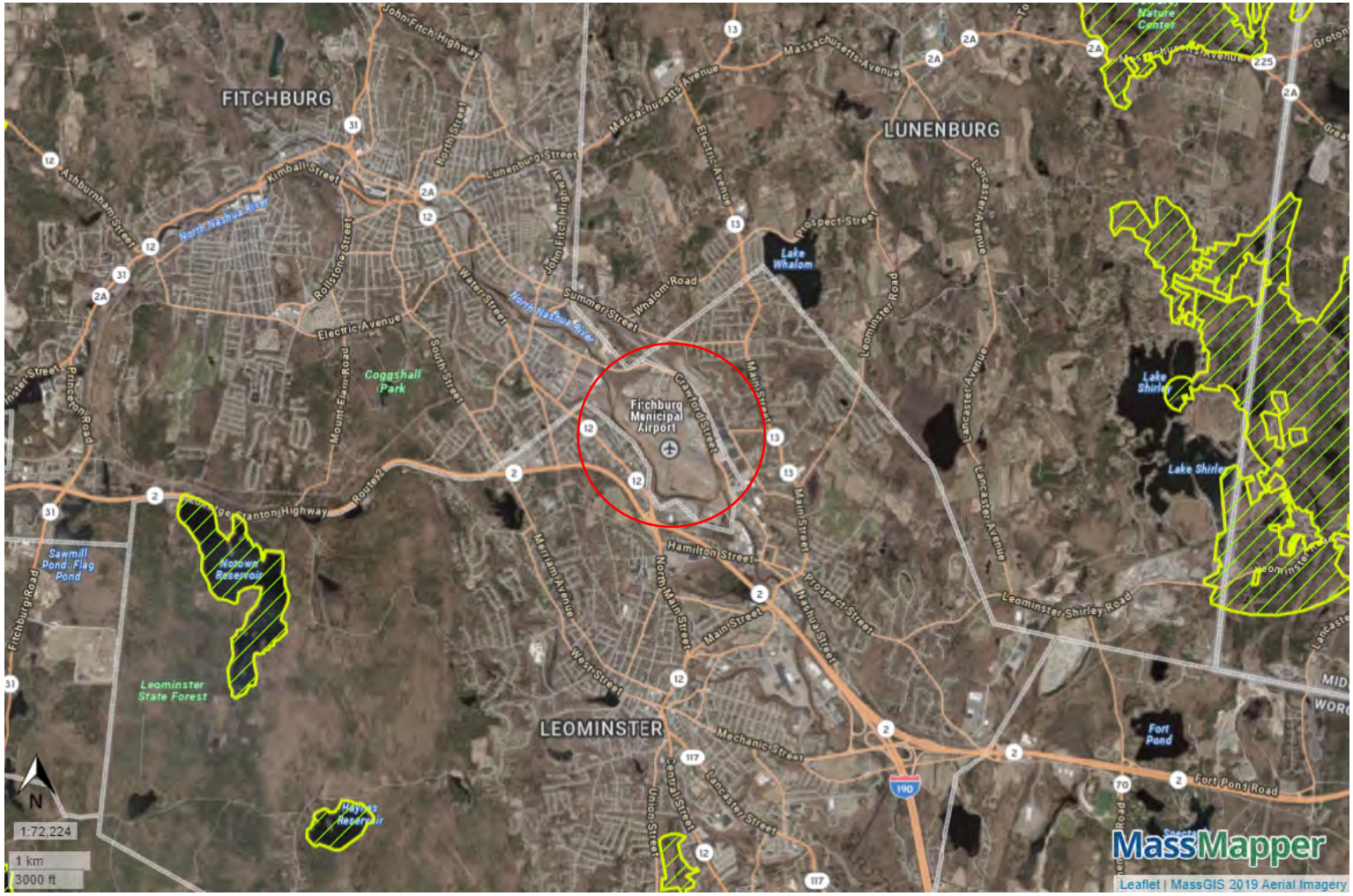
Activities involving or affecting terrestrial and aquatic plant and animal species, game and non-game species, special status species (state or federally listed threatened or endangered), species of concern, or environmentally sensitive or critical habitat need to be reviewed for impacts. According to the Massachusetts Natural Heritage & Endangered Species Program, airport property does not contain priority habitat (see Figure 3). According to the US Fish and Wildlife Service, two species are potentially impacted by activities in the "proposed action area." These species include the Northern Long-Eared Bat (Endangered Species Status) and the Monarch Butterfly (Candidate Species Status). (see Appendix A for USFWS IPaC Official Species List) In addition, a Northern Long-eared Bat (NLEB) Rangewide Determination Key was completed, which revealed that the proposed action will have no effect on the Endangered northern long-eared bat because the proposed action does not intersect an area where the NLEB is likely to occur. See Appendix B for the Consistency Letter outlining the Determination Key Result, and Appendix C for the NHESP Map showing locations of NLEB maternity roost trees and winter hibernacula sites across Massachusetts. This map shows that no sites are known to occur in the project area.

Easement acquisitions and designation of land for non-aeronautical purposes are administrative in nature and are therefore not anticipated to have impacts to wildlife. Future construction/development in non-aeronautical designated areas may require further environmental review when plans for development commence. Tree clearing will remain limited to selective clearing of isolated trees and is not anticipated to have a significant impact to plant or animal species.

Proposed fence construction (approximately 5,195 LF) and fence replacement (approximately 11,763 LF) are located outside of areas identified as NELB maternity roost trees and winter hibernacula sites as noted above. Fence construction and replacement will not be constructed within any known or previously delineated wetland habits. New fencing construction is proposed in areas previously disturbed (former Runway 20) and areas that are frequently mowed by Airport personnel and is therefore unlikely to provide sufficient habitat for the Monarch Butterfly. The existing fencing is expected to be replaced in-kind and replacement will be limited to the exiting footprint that is maintained by the Airport.

Further, construction of the majority of hangars and taxilanes and relocation of the ASOS will be limited to previously disturbed/cleared areas and are therefore not anticipated to have significant impacts to

Figure 3 - NHESP Priority Habitat Map



NHESP Estimated Habitats of Rare Wildlife

NHESP Priority Habitats of Rare Species

Map Features for Imagery

Airport Property

wildlife. Although no USFWS coordination is required for Candidate Species, it should be noted that most of the open grassy areas at the Airport are routinely mowed and maintained for safety purposes and are therefore unlikely to provide sufficient habitat for the Monarch Butterfly.

Therefore, the Proposed Action(s) are anticipated to be at or below the level of detection and are not anticipated to result in any measurable or precipitable consequences on biological resources.

6.3 Historical, Architectural, Archaeological, and Cultural Resources

In 2003, an archaeological reconnaissance of the entire Fitchburg Airport property was completed by Archaeological Services at the University of Massachusetts-Amherst (Massachusetts State Permit Number 2163). The reconnaissance survey found that the property generally possesses low potential to contain intact archaeological resources due to its widespread ground disturbance that occurred when the airport was constructed, and the main channel of the North Nashua River was redirected. During the survey, three relatively undisturbed areas (one being the area south of Cobbler Drive, proposed for hangar development) were thought to possess moderate to high archaeological sensitivity. However, a follow-up study conducted in 2006 (MHC #RC.640), revealed that the degree of cutting, filling, and grading incurred by the airport construction was more extensive than previous reconnaissance studies had suggested. It was ultimately determined that the proposed undertakings associated with the runway improvements would have no negative effects on the archaeological heritage of Fitchburg.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the impacts of their undertakings on historic properties. At the onset of this environmental assessment process, in accordance with section 800.3(c) of the Advisory Council on Historic Preservation's regulations (36 CFR 800), the Airport sent a letter to consult with the Massachusetts State Historic Preservation Officer to initiate section 106 consultation. The letter outlined the proposed actions to construct hangars and taxilanes and acquire easements for tree clearing and stated that much of the proposed development would occur in previously disturbed areas, and highlighted measures to avoid ground disturbance during tree clearing. Efforts to identify cultural resources in the study area are noted above, which considered the same general area as those being considered in this environmental assessment. No archaeological resources or historic structures were identified in the study area. The FAA has determined that that implementation of the proposed actions would have no effect on historic properties. In a letter dated May 16, 2022, the State Historic Preservation Officer concurred that no historic properties would be affected by the proposed action (see Appendix D).

6.4 Natural Resources and Energy Supply

The FAA has not established a significance threshold for natural resources and energy supply in FAA Order 1050.1F; however, the FAA has identified a factor to consider when evaluating the context and intensity of potential environmental impacts for natural resources and energy supply. Current natural resource and energy suppliers to the Airport include water, supplied by the Fitchburg Water Department; electricity, supplied by Unitil; and natural gas, supplied by Unitil. Natural resources and supplies required for hangar and taxilane construction will be derived from local contractors whenever possible. While hangar development may require electricity, water, and heating sources (such as natural gas), it is assumed that new hangars will be constructed in accordance with local zoning regulations and are not anticipated to cause demand to exceed available for future supplies of these resources.

Easement acquisitions and designation of land for non-aeronautical purposes are administrative in nature and are therefore not anticipated to have impacts to natural resources or energy supply. Future construction in the non-aeronautical area may require further environmental review when plans for development commence. Tree clearing will remain limited to selective clearing of isolated trees and is not anticipated to have a significant impact to natural resources or energy supply.

6.5 Noise and Noise-Compatible Land Use

Surrounding land uses within 1 mile of the airport include industrial, commercial, and adaptive industrial areas in the City of Fitchburg, and industrial, commercial, mixed-use, and residential areas in the City of Leominster. In general, land uses in proximity to the Airport are compatible with aviation facilities. Other modes of transportation that contribute to noise are located in the surrounding area, including Massachusetts Highway Route 2, which is located to the south of Airport property and runs through the communities of Fitchburg and Leominster, and the Massachusetts Bay Transportation Authority Commuter Rail line, which is located to the north of Airport property and runs through the communities of Fitchburg and Leominster. According to the USDOT Federal Highway Administration, "levels of highway traffic noise typically range from 70 to 80 dB(A) at a distance of 15 meters (50 feet) from the highway." According to the US Centers for Disease Control and Prevention, approaching trains have a sound level around 100 dB. Other surrounding activities include trucking companies, a wastewater treatment facility, a fire station, and manufacturing facilities, to name a few.

According to the Airport's 2022 Master Plan Update, the critical aircraft for FIT is the Dassault Falcon 50, which is categorized as a B-II jet. The Master Plan Update estimated that the Airport is currently seeing approximately 1,600 annual jet operations (4 operations per day). As previously noted, the addition of approximately 10 hangars is intended to serve existing based aircraft owners, and therefore will not contribute a significant increase to the number of daily operations and noise that the airport and surrounding area is currently experiencing. The average number of annual operations at FIT from 2011-2020 was 61,753, which is a significant decrease from the previous 10-year average of 133,429 operations per year. Further, it is not anticipated that the number of jet operations due to additional hangar capacity will significantly increase noise beyond current levels. Further, per FAA 1050.1 Desk Reference, "No noise analysis is needed for projects involving Design Group I and II airplanes at airports whose forecast operations in the period covered by the National Environmental Policy Act document do not exceed 90,000 annual propeller operations or 700 annual jet operations." Since this project is not anticipated to result in a perceptible increase in aircraft operations, these thresholds are not triggered as a result of the preferred alternatives. The development of hangars and operations associated with the development of hangars are not anticipated to change the characteristics, activity levels, aircraft types, or result in changes to noise levels above those experienced at the Airport. Therefore, the Proposed Action(s) are anticipated to be at or below the level of detection and are not anticipated to result in any measurable or precipitable consequences with respect to noise.

6.6 Socioeconomics, Environmental Justice, and Children's Health and Safety Risks

In the vicinity of the Airport (both in Fitchburg and Leominster) there are *Environmental Justice Populations* as defined by the Massachusetts Executive Office of Energy and Environmental Affairs (see Figure 4). As noted in Section 6.1 *Air Quality and* Section 6.5 *Noise and Noise Compatible Land Use,* The Proposed Action(s) (Avigation Easements, Perimeter Fencing, ASOS Relocation, and Non-Aeronautical Development designation) are projects that are not anticipated to change the operating characteristics of the airport. There will be no changes in activity levels, aircraft types or other facilities as a result of the implementation of these projects, and as such, there are no anticipated direct or indirect effects on environmental justice populations. The development of hangars will meet the need of existing based aircraft owners and has the potential of adding approximately 10 new based aircraft to the Airport in the short term. As noted in Section 6.1, *Air Quality*, operations at the Airport have fluctuated greatly in recent years. While the development of hangars has the potential to draw new based aircraft owners, operation levels are expected to remain significantly below previously reported operation levels of 133,429, as noted above. The development of hangars and operations associated with the development of hangars are not anticipated to change the characteristics, activity levels, aircraft types, or result in changes to air quality above levels previously experienced at the Airport. Further, the Proposed Action(s) will not result in changes to existing airport traffic patterns, nor will it encourage changes to the airport's existing fleet mix as noted in Section 6.1. It should be noted that as part of the Runway 14-32 reconstruction project in 2019, Runway 02-20 was decommissioned and is no longer in use. The removal of Runway 02-20 has eliminated operations over environmental justice populations in the vicinity of the Airport.

The scope of the Proposed Action(s) is relatively small, and except for isolated, selective tree removal activities, the work will occur entirely on airport property. Minor impacts to air quality typically associated with construction activities, including odors generated by the use of heavy equipment, may result during the construction of hangars, but will be limited to the duration of construction and localized to the construction site.

Work to remove approximately six trees of a height that poses a risk to the safety of incoming and outgoing aircraft will cause minor, temporary construction-period impacts on private properties. However, this work will not disrupt or divide the physical arrangement of the established community. This off-airport work will include selective, isolated tree removal procedures. The work will be highly localized and will occur over a short duration (1-3 days is typical for the average size private property). The work will not require any temporary or permanent relocation of people, businesses, or services.

Proposed Action(s) undertaken on airport property may cause minor temporary increase in traffic associated with construction vehicle trip generation and utility tie-in. These impacts will be minimal, and local traffic patterns will not be disrupted as a result of the project. The type of projects proposed under these actions will not induce substantial economic growth either directly or indirectly or change the community tax base.

The nature of the Proposed Action(s) is not anticipated to result in: disproportionately high and adverse effects (human health, economic, or environmental) on minority or low-income populations; disproportionate health and safety risks to children; extensive relocation of residents or community

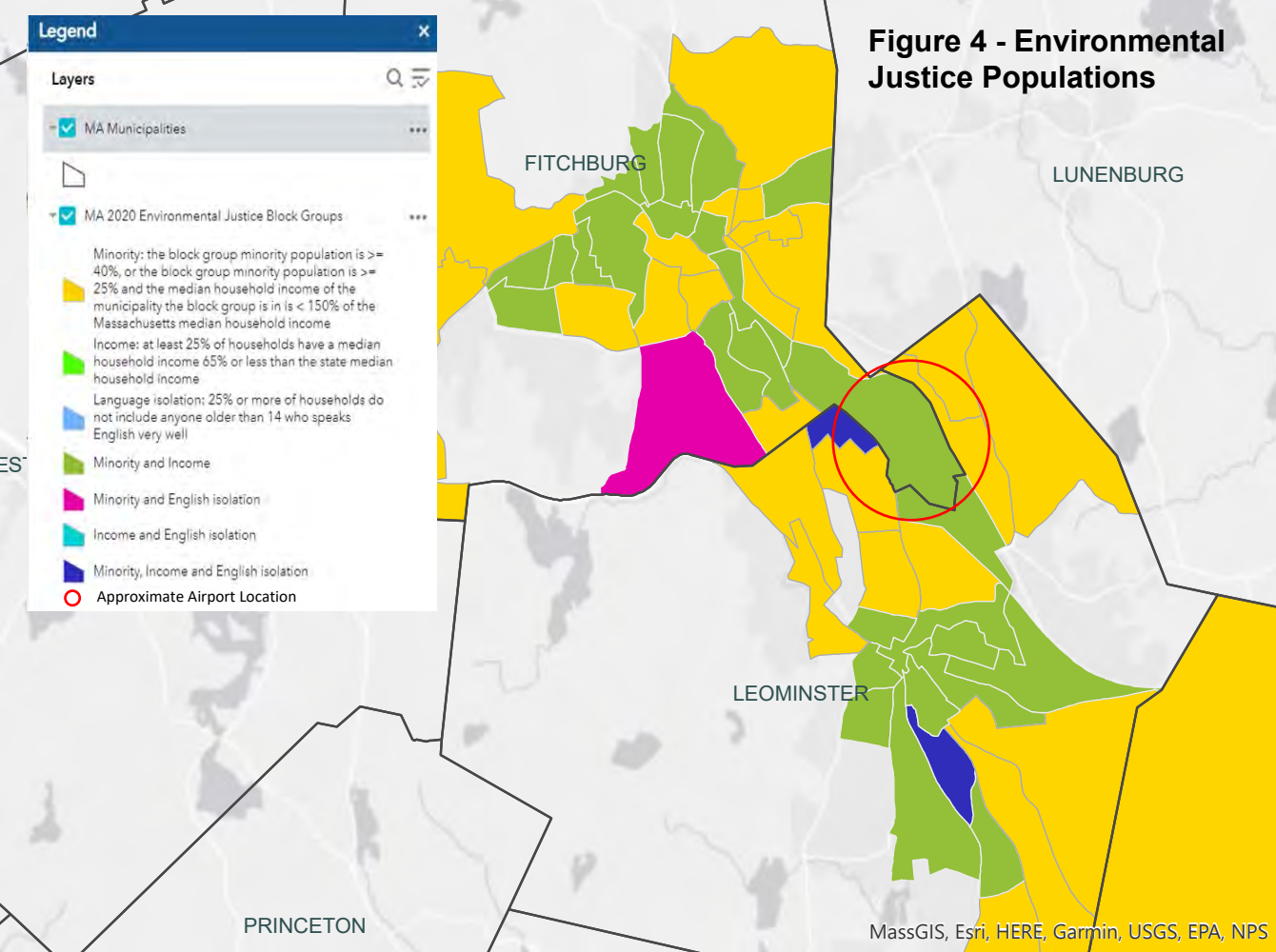


Figure 4 - Environmental Justice Populations

businesses contributing to severe economic hardship for affected communities; or disruption of local traffic patterns thereby reducing levels of service or roads serving the community.

6.7 Visual Resources/Visual Character (including light emissions)

Visual effects include light emissions, visual resources, and visual character. Light emission includes light that emanates from a light source into the surrounding environment. Existing light emissions at the Airport come from the following sources: building area lights, apron area lighting, runway, taxiway edge lighting systems, Runway End Identifier Lights (REILs); airport rotating beacon, and off-Airport obstruction lights.

Visual character refers to the overall visual makeup of the existing environment. The visual character of the area immediately surrounding the Airport includes industrial and commercial properties. The proposed actions have the potential for both construction period and permanent visual effect impacts. All aspects of construction are expected to occur during daylight hours, so construction-period light emissions (including glare) are presumed to not be an issue. Temporary impacts to visual resources and visual character for activities during construction are unavoidable. It is important to note that all project elements of the proposed project(s) are consistent visually with the existing airport environment.

Easement acquisitions and designation of land for non-aeronautical purposes are administrative in nature and are therefore not anticipated to have impacts to visual resources. Future construction in the non-aeronautical area may require further environmental review when plans for development commence.

Tree clearing will remain limited to selective clearing of isolated trees and is not anticipated to result in extensive removal of screening from light emissions. Obstruction removal from the Airport's approach surface is a requirement per the FAA Grant Assurances for safe aircraft operation. Though these impacts are unavoidable, it is expected that any additional light emissions will be minimal. Light emissions from new hangar development, terminal area development, fence construction, and ASOS relocation are not expected to alter the visual character or aesthetic value of visual resources, as all construction would take place on airport property, and the surrounding area consists predominantly of industrial and commercial properties. All project elements are anticipated to be consistent visually with the existing airport environment.

Though FAA has not established a significance threshold for visual effects, it should be noted that the proposed actions will be consistent with the visual character of the area, impacts from light emissions will be minimal, and visual resources will not be permanently obstructed by the proposed actions. Additional hangars are anticipated to be constructed at approximately the same grade as the existing landside facilities and lighting will be of a similar volume and intensity. Due to minimal changes in the light emissions proposed with the alternatives, adverse effects to surrounding land uses are not anticipated. Therefore, this resource is dismissed from further consideration.

6.8 Water Resources

6.8.1 Wetlands

At the time of the Airport's 2000 Vegetation Management Plan (VMP), the Airport had several classes of wetlands and three non-certified vernal pools. Of the 334 acres of Airport property, 19.86 acres were classified as Massachusetts Wetland Protection Act (WPA) jurisdictional Wetland Resource Areas. Another 1.4 acres were Federal jurisdictional wetlands only. There were several wetland complexes in the proposed project areas, which are described below. With the exception of Complex A, each complex was classified as a WPA jurisdictional Wetland Resource Area (see Figure 1).

- Complex A (Airfield Wet Meadows): is comprised entirely of isolated, depressional areas within the vicinity of the runway and has a total area of 1.14 acres.
- Complex B (Tributary Complex): is located on the east side of the study area and is comprised of approximately 4.10 acres of forested wetlands surrounded by forest uplands east of Runway 32.
- Complex C (Isolated Swamps Complex/Vernal Pools): is comprised of approximately 3.01 acres of hydrologically isolated, forested wetlands surrounded by forest uplands between former Runway 20 and Runway 14. Three vernal pools are included in this complex.
- Complex R (Large Riparian Complex) and Complex F (Small Riparian Complex): are contiguous and border the North Nashua River and Baker Brook, which lie primarily south and west of the study area. The riparian complexes include a total of 13.1 acres, with 12.5 acres in the Large Complex and 0.51 acres in the Small Complex.

The 2020 Runway 14-32 reconstruction project necessitated the filling of approximately 700 SF of Complex A wetlands on the Runway 32 end to accommodate the runway shift and associated safety areas. To offset the wetland fill area, 8,300 SF of wetland replication was constructed to the east of newly constructed Taxiway D, expanding Complex B.

Wetlands between the existing Runway 14 end and the former Runway 20 end (Complex C) were re-surveyed by a certified professional wetland scientist (PWS) as part of this Environmental Assessment. A full copy of the "Wetland and Waterbody Survey Report" can be found in Appendix E of this report. The survey revealed that wetlands in this area have expanded in size since the initial evaluation and now consist of the following areas:

- Wetlands W1, W2, and W3: consist of temporarily flooded mixed palustrine forest (PFO)/palustrine scrub-shrub (PSS) community.
- Wetlands W4 and W5: consist of palustrine emergent (PEM) community. If left unmaintained, it is likely that these areas would revert to PSS and eventually PFO communities.

It should be noted that because these wetlands are not adjacent to a navigable waterway, nor do they have a significant permanent nexus to one, they are considered non-jurisdictional under the Federal Clean Water Act. However, per the City of Fitchburg Conservation Commission rules and regulations under the authority of Chapter 178 of the City of Fitchburg code, the Wetlands Protection Ordinance, and the Home Rule Amendment, G.L. c. 128, §1A, of the Constitution of the Commonwealth of Massachusetts, these wetlands would be protected by state and local laws. Additional coordination with the local conservation commission would be required to determine if any exemptions to regulation might be allowed.

The proposed actions to acquire avigation easements and designate land for non-aeronautical purposes are considered administrative in nature and will therefore have no impacts to wetlands. Future construction in the non-aeronautical area may require further review when plans for development commence.

The proposed action to conduct tree clearing will remain limited to selective clearing of isolated trees and is not anticipated to impact wetlands or wetland buffers. A review of Massachusetts Department of Environmental Protection (MassDEP) wetland resources revealed that no wetlands are present on the three off-airport parcels proposed for tree removal.

The proposed actions to relocate the ASOS and construct hangars and associated taxilanes will remain limited to areas outside of wetlands and wetland buffers and will therefore not impact wetland resources.

The proposed action to construct perimeter fencing along the southwestern boundary of Airport property will include wetland buffer impacts as follows:

- Approximately 5,195 LF of fencing will be installed in wetland buffers.

It is estimated that the existing fencing will be replaced in-kind and will occur over multiple phases given the estimated cost for replacement and other short-term priorities at the Airport. The length of fencing to be replaced is approximately 11,763 LF. The existing fencing is not located within any known or previously delineated wetlands at the Airport.

Since the proposed actions are not anticipated to adversely affect the function of any wetland, their impacts are considered to be minimal.

6.8.2 Floodplains

According to the Federal Emergency Management Agency (FEMA), the primary designation which covers the majority of the Airport property is 'Zone A'. Zone A rises in elevation from south to north, from elevation 319 to elevation 342. The description of Zone A according to the FEMA Map Service Center is "areas with 1% annual chance of flooding" (see Figure 5). FEMA's Federal Flood Risk Management (FFRM) guidance identifies projects that are critical actions requiring added flood protection such as increased elevations of facilities. Critical actions are those that could create a risk to human health and safety during a flood. None of the Airport's proposed actions rise to the level of a critical action.

The proposed actions to acquire avigation easements and designate land for non-aeronautical purposes are considered administrative in nature and will therefore have no impacts to floodplains. Future construction in the non-aeronautical area may require further review when plans for development commence.

The proposed action to conduct tree clearing will remain limited to selective clearing of isolated trees and is not anticipated to impact floodplains.

Hangar buildings will be constructed incrementally, over time, as needed to meet the demands of based aircraft owners. Drainage for each building and associated taxilanes will be designed to provide compensatory flood storage as required.

6.8.3 Surface Waters

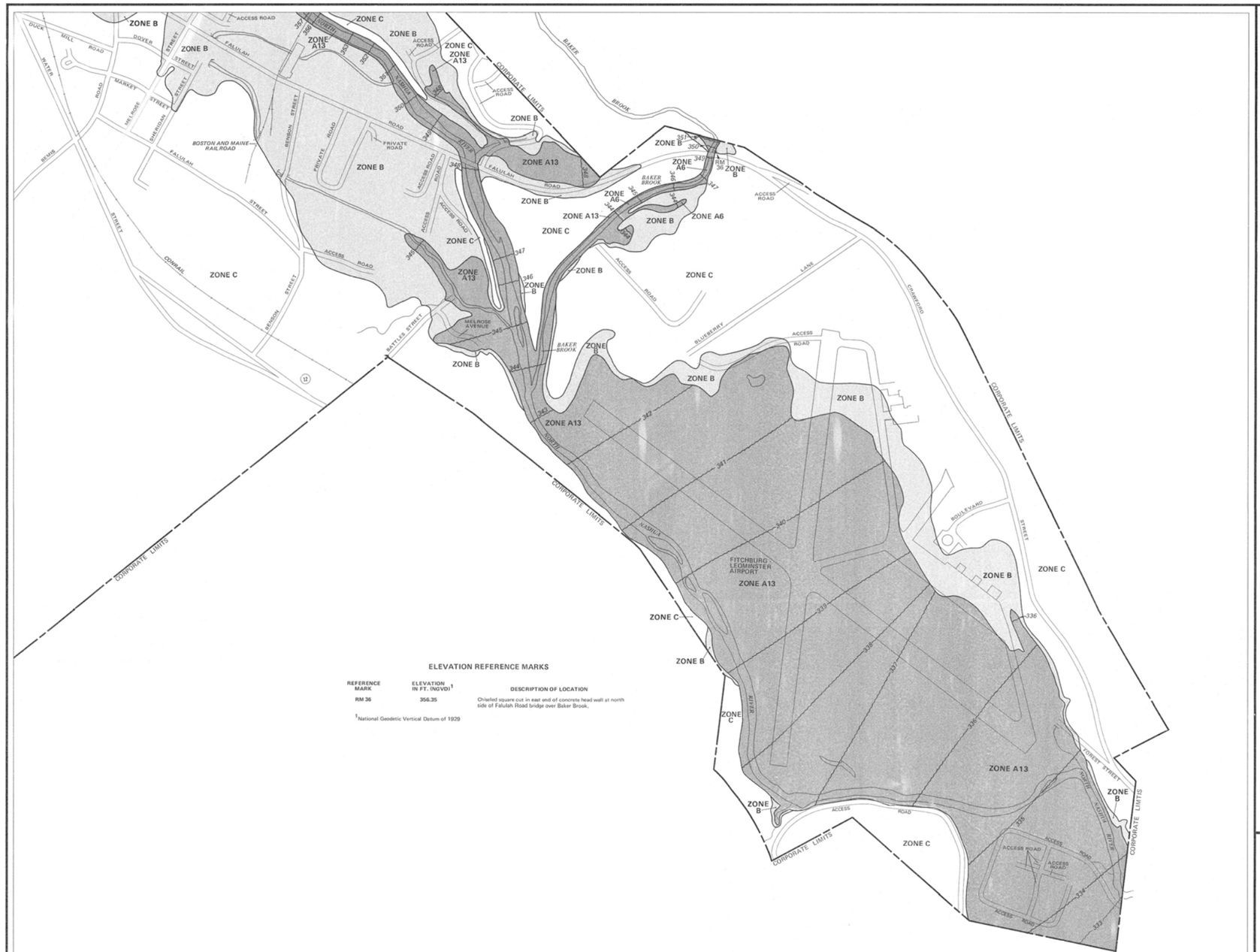
The proposed actions will not impound, divert, drain, control, or otherwise modify the waters of any stream or other body or water.

6.8.4 Groundwater

The Airport is located within the Nashua River Watershed but is not located in the vicinity of a sole source aquifer. Many of the proposed actions do not have the potential to impact groundwater, as they do not propose the addition of impervious surface area. Actions unlikely to impact groundwater include acquisition of easements, removal of select trees within aircraft approaches, relocation of the Airport's ASOS, and construction of fencing. Any construction impacts associated with the aforementioned projects would be temporary and minor in nature. Designation of land for non-aeronautical purposes is considered to be administrative in nature and is therefore not anticipated to have impacts to groundwater. Future construction in the non-aeronautical area may require further environmental review when plans for development commence.

The proposed action to construct hangar buildings and associated taxilanes is anticipated to occur over time, as demand materializes, and a relatively small quantity of materials would be on site at any time. Potential construction impacts from the proposed hangar development would be reduced through the implementation of an erosion and sediment control plan, including stormwater runoff controls and Best

Figure 5 - FEMA Flood Map



KEY TO MAP

500-Year Flood Boundary	ZONE B
100-Year Flood Boundary	ZONE B
Zone Designations*	ZONE A1 / ZONE A5
100-Year Flood Boundary	ZONE B
500-Year Flood Boundary	ZONE B
Base Flood Elevation Line With Elevation In Feet**	513
Base Flood Elevation In Feet Where Uniform Within Zone**	(EL 987)
Elevation Reference Mark	RM7x
Zone D Boundary	
River Mile	•M1.5
Undeveloped Coastal Barriers	

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
AO	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas. The community map repository should be consulted for possible updated flood hazard information prior to use of this map for property purchase or construction purposes.

Coastal base flood elevations apply only landward of 0.0 NGVD, and include the effects of wave action; these elevations may also differ significantly from those developed by the National Weather Service for hurricane evacuation planning.

Areas of special flood hazard (100-year flood) include Zones A, A1-A30, AH, AO, A99, V, and V1-V30.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

For adjoining map panels see separately printed Map Index.

INITIAL IDENTIFICATION:
APRIL 5, 1974

FLOOD HAZARD BOUNDARY MAP REVISION:
OCTOBER 3, 1975

FLOOD INSURANCE RATE MAP EFFECTIVE:
MAY 16, 1983

FLOOD INSURANCE RATE MAP REVISIONS:
January 18, 1989 - to increase base flood elevations.
September 18, 1991 - to change base flood elevations, to add special flood hazard areas and to change special flood hazard areas.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620.

APPROXIMATE SCALE
400 0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
FITCHBURG,
MASSACHUSETTS
WORCESTER COUNTY

PANEL 12 OF 12
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
250304 0012 D

MAP REVISED:
SEPTEMBER 18, 1991

Federal Emergency Management Agency

Management Practices (BMPs). Though this project will include construction of impervious areas, it should be noted that, as part of the Runway 14-32 reconstruction project in 2020, an overall reduction in impervious surface area was achieved. The project included the closure of Runway 02-20, which allowed the Airport to remove pavement from the former Runway 02 end, resulting in a net decrease of impervious surface area of 8.16 AC beyond what was required by project permits. Additionally, approximately 5.58 AC of pavement on the Runway 20 end was left in place to offset the construction of future facilities. Although a quantifiable amount of additional impervious surface as a result of these projects is unknown at this time, it is not anticipated that short-term construction will exceed the net 8.16 AC decrease of impervious surface area from the Runway 02 closure and pavement removal.

The City of Fitchburg draws its potable water from Bickford Pond, Wachusett Lake and the Fitchburg, Mare Meadow, Meetinghouse, and Scott Reservoirs. The Proposed Action(s) would not result in groundwater withdrawals or dischargers of wastewater, and would not affect groundwater usage. Therefore, it is considered a Resource Not Affected.

6.9 Climate

Although there are currently no Federal standards for aviation related to Green House Gas (GHG) emissions, it is well established that GHG emissions can affect climate. The proposed alternatives, particularly the development of hangars, have the potential to increase GHG emissions. However, as previously noted, the number of based aircraft as a result of additional hangar units is expected to remain below historic based aircraft counts that the Airport experienced as recently as 2017, with 135 based aircraft reported. Further, operations are expected to remain significantly below previously reported operation levels of 133,429 operations each year on average, and therefore will not contribute to a net increase in GHG emissions beyond historic levels. While the hangars themselves may result in the generation of greenhouse gas emissions through the consumption of electricity as well as the burning of fossil fuels in heating, hot water and cooling systems for each of the proposed buildings, they are anticipated to be minimal, and mitigation measures that would potentially have an environmental benefit will be implemented (See Section 8.0 for a listing of mitigation measures). Further, the conservation land adjacent to the Runway 14 end will continue to provide an overall positive impact on carbon sequestration. The construction to accommodate this growth is expected to fall well below the *de minimis* thresholds, as supported by larger scale construction projects.

7.0 Cumulative Impacts

According to FAA Order 1050.1F Desk Reference, a cumulative impact is an 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.

Past actions that have occurred at the Fitchburg Municipal Airport include:

- Vegetation obstruction removal which occurred over three (3) phases based on available funding from 2014-2017.
- Demolition of the existing 1,826 square-foot administration building, and construction of the existing 4,100 square-foot administration building.
- Extension and reconstruction of Runway 14-32 in 2019.

Outreach to the Cities of Fitchburg and Leominster regarding past actions initiated in the vicinity of the Airport that could impact the same environmental resources revealed the following past action:

  - Expansion of the Pete Store by 3,500 SF, located at 215 Crawford Street, Fitchburg, MA, less than 400 LF from Airport property, as approved by the Fitchburg Planning Board in May of 2023.

Reasonably foreseeable future actions anticipated by the Airport include the following:

- Reconstruction of existing taxiways and taxilanes and main apron.
- Pavement maintenance for Runway 14-32
- Vegetation Management in accordance with Airport's Vegetation Management Plan and Yearly Operational Plan
- Development of non-aeronautical parcels adjacent to the Airport

Outreach to the Cities of Fitchburg and Leominster regarding reasonably foreseeable actions being initiated in the vicinity of the Airport that could impact the same environmental resources revealed the following upcoming project:

  - Construction of a 333,912 SF warehouse facility on a vacant 20.8-acre parcel within the City of Fitchburg, located on Crawford Street ("0 Airport Road") approximately 1,800 LF from Airport property, as approved by the Fitchburg Planning Board in December of 2022.
  - Construction of an approximately 15-unit apartment building at the end of Marcello Avenue, Leominster, MA, located approximately 2,000 LF from Airport property.

Project impacts and/or mitigation associated with the past actions included the following:

- Water Quality- was mitigated during construction activities through the use of erosion and sedimentation control best management practices, including the use of silt fencing, sediment traps, and construction staging. Water quality impacts were mitigated in accordance with

MassDEP stormwater regulations. To the maximum extent practicable, surface water runoff from the site was directed to containment and treatment basins.

- Wetlands- impacts to vegetated wetlands were avoided and minimized to the extent feasible, to a total 4,910± square feet. In accordance with MassDEP regulations, wetland replication occurred with approval by MassDEP and in accordance with an Order of Conditions issued by the local Conservation Commission.
- Vegetation Management- continued maintenance of the Airport's protected surfaces is an on-going endeavor. Vegetation management occurred in accordance with the Airport's Vegetation Management Plan, and through an order of conditions with the local Conservation Commission where applicable.
- Air Quality During Construction- the emission of fugitive dust during construction was mitigated by the use of a water truck, which passed over the construction site on a frequent basis, as needed.
- Construction noise- was mitigated by requiring that all work be done during daylight hours and that the construction of equipment with mufflers to maintain a noise level of 75 decibels (75 dBA) at the perimeter of the project.

The present actions cumulative impacts include the following:

- Acquisition of Avigation Easements and Removal of Vegetative Obstructions: no anticipated impacts as this project is administrative in nature.
- Corporate and General Aviation (GA) Hangar Development including associated Taxilanes: the development of hangars and associated infrastructure will create additional impervious surface However, where there is no firm plans for hangars or sizes at this time, it is unclear how much impervious surface will be added. However, it should be noted that as part of the Runway 14-32 reconstruction project, 8.18 acres of impervious surface was removed from former Runway 02, and there is another 5.58 acres of impervious surface that will be removed from former Runway 20. The development of hangars will meet the need of existing based aircraft owners and likely draw new tenants to the Airport. However, it is anticipated that the number of based aircraft will remain in line with recent historic numbers. Further, the average number of operations at FIT from 2011-2020 was 61,753, which is a significant decrease from the previous 10-year average of 133,429. While the addition of hangars has the potential to attract new based aircraft, the potential increase in operations is expected to fall well below historic operations levels experienced by the Airport and surrounding community. There are no wetland resources anticipated to be impacted by the development of hangars under consideration.
- Perimeter Fencing: This project includes the replacement of existing fencing (approximately 11,763 LF), where necessary to meet recommended wildlife hazard fencing, and the installation of approximately 5,195 LF of new wildlife deterrent fencing southwest of Runway 14-32. The installation of additional perimeter fencing will avoid wetland impacts.
- Terminal Area Development: includes the development of hangars and a future restaurant along with associated infrastructure needs to access the hangars in an effort to meet the growing demand for hangars at the Airport. There are no anticipated resources that will be affected by this action.

- Non-Aeronautical Use Development: the designation of land for non-aeronautical development is administrative in nature and not anticipated to have an individual or cumulative impact. Future development of this land is not within the purview of this EA as any proposed development would be speculative at this time.
- ASOS Relocation: the relocation of the ASOS is not anticipated to have any impact on resources. Further, per FAA 1050.1f, FAA has determined that actions involving equipment and instrumentation installation, repair, or upgrade necessary for operations and safety do not individually or cumulatively have a significant effect on the human environment.

Reasonably foreseeable future actions cumulative impacts include the following:

- Reconstruction of existing taxiways and taxilanes and main apron: reconstruction of existing taxiways and taxlianes are anticipated to occur in place and are generally considered actions that are minor in nature. It is not anticipated that these actions will have an individual or cumulative impact on resources of the human environment.
- Pavement maintenance for Runway 14-32: pavement maintenance is anticipated to occur in place and are generally considered actions that are minor in nature. It is not anticipated that these actions will have an individual or cumulative impact on resources of the human environment.
- Vegetation Management in accordance with Airport's Vegetation Management Plan and Yearly Operational Plan: vegetation management is anticipated to be selective with a limited number of trees removed from residential and commercial property with minimal individual or cumulative impact.
- Warehouse facility construction: the Fitchburg Planning Board approved the Site Plan for this development on 12/15/2022, with several conditions that address environmental concerns. The project is designed to direct and treat stormwater in two underground recharge systems so that no one system would get a sudden surcharge during a storm event. The system is designed to contain the 100-year storm event. Additionally, work hours are limited to 7:00 AM to 5:00 PM on weekdays and 8:00 AM to 2:00 PM on weekends with no queueing of trucks or employee vehicles on Airport Road (Crawford Street). The project is required to comply with the CSPP and install erosion and sediment controls. The project is also subject to obtaining any necessary local, state and federal permits.
- Construction of 15-unit apartment building: At this time, the Airport is unaware of any resource impacts associated with the development or any mitigation measures required by the City of Leominster for this project.

8.0 Mitigation

The Proposed Action(s) involve the construction of T-hangars and corporate hangars as the future need may arise, the acquisition of avigation easements over three (3) off-airport properties for the purpose of future obstruction removal, construction of perimeter fencing, terminal area development, non-aeronautical use development, and ASOS relocation. Because none of the projects appear to meet or exceed the significance thresholds outlined in the *FAA Order 1050.1F Desk Reference*, it is assumed that no mitigation measures are necessary. The Airport will, however, implement the following best management practices and standard operating procedures as part of the proposed actions during construction:

- For all construction activities, staging of equipment and materials will be designated outside of wetland resource areas and their buffers.
- Cutting tree trunks and brush below ground level, without stump removal, minimizing ground impacts.
- Tree cutting and removal will be performed in a manner that causes the least amount of environmental disturbance. Considerations will be given to leave downed trees and branches on site, where practical, to minimize disturbance and create wildlife habitat.
- Using equipment that will perform adequately while minimizing soil disturbance.
- All ground disturbing activity will be halted immediately, and MHC would be notified should evidence of archaeological or historical resources be encountered during obstruction removal activities.
- Vegetation removal activities will be performed during frozen ground, or otherwise dry and stable conditions.
- Vegetation removal activities will be performed between October 15th and April 20th when the NLEB have departed the summer roosting/maternity areas for their winter hibernacula.
- Special care shall be taken that machinery is not being driven, and logs are not being stockpiled/stored within wetlands.
- Use of water conserving fixtures in proposed buildings.
- Use of high efficiency lighting for building exteriors and parking areas.
- Implementation of energy conservation requirements that will reduce energy consumption.
- Avoiding direct wetland impacts with the installation of fencing.
- To reduce noise and emissions, the Airport will implement work hour restrictions, require dust suppression measures, specify contractor haul routes, limit weekend and holiday work, and limit vehicle idling as appropriate.

9.0 List of Preparers

Gale Associates, Inc.
Mr. Matthew Caron, AICP, Director of Aviation
6 Bedford Farms Drive, Suite 101
Bedford, NH 03110

New Earth Ecological Consulting, LLC
Ms. Stacie Grove, CWB, PWS, TSP
169 Watson Mill Road
Saco, ME 04072

10.0 List of Agencies Consulted

Federal Aviation Administration
Ms. Cheryl Quaine, Environmental Protection Specialist
1200 District Avenue
Burlington, MA 01803

Massachusetts Department of Transportation
Aeronautics Division
Mr. James Matz, LSP, NHPG, Environmental Analyst V
Ms. Valerie Johnson, Environmental Analyst
1 Harborside Drive, Suite 205N
East Boston, MA 02128

United States Department of the Interior
Fish and Wildlife Service
New England Ecological Field Services Office
70 Commercial Street, Suite 300
Concord, NH 03301

Massachusetts Historical Commission
Mr. Edward L. Bell, Deputy State Historic Preservation Officer
Senior Archaeologist
220 Morrissey Boulevard
Boston, MA 02125

Massachusetts Department of Environmental Protection
Natural Heritage and Endangered Species Program
MassWildlife Field Headquarters
1 Rabbit Hill Road
Westborough, MA 01581

Appendix A

IPaC Official Species List

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: October 12, 2023
Project Code: 2024-0004190
Project Name: Environmental Assessment for FIT Improvements

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 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: 2024-0004190
Project Name: Environmental Assessment for FIT Improvements
Project Type: Airport - Maintenance/Modification
Project Description: This project is an Environmental Assessment for future improvements at the Fitchburg Municipal Airport as defined by the 2022 Airport Master Plan Update. The purpose of the project is to evaluate proposed actions accordance with FAA Order 1050-1F, Environmental Impacts: Policies and Procedures to explore project alternatives, review environmental conditions, and identify potential impacts to environmental resources. The Environmental Assessment is considered to be administrative in nature, and this request seeks to identify and document federally listed species known to occur in the project area.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.5532449,-71.7570276976339,14z

Counties: Worcester County, Massachusetts

ENDANGERED SPECIES ACT SPECIES

There is a total of 2 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[1], 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.

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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 *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	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: Private Entity
Name: Jacklyn Marks
Address: 6 Bedford Farms Drive
Address Line 2: Suite 101
City: Bedford
State: NH
Zip: 03110
Email jcm@gainc.com
Phone: 6034711887

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Aviation Administration

Appendix B

USFWS NLEB Consistency Letter

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: December 08, 2023
Project code: 2024-0004190
Project Name: Environmental Assessment for FIT Improvements

Federal Action Agency (if applicable): Federal Aviation Administration

Subject: Record of project representative's no effect determination for 'Environmental Assessment for FIT Improvements'

Dear Jacklyn Marks:

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 December 08, 2023, for 'Environmental Assessment for FIT Improvements' (here forward, Project). This project has been assigned Project Code 2024-0004190 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

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 2024-0004190 associated with this Project.

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

1. Name

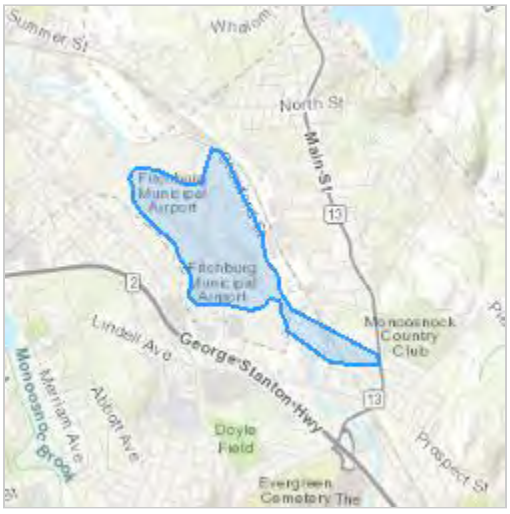
Environmental Assessment for FIT Improvements

2. Description

The following description was provided for the project 'Environmental Assessment for FIT Improvements':

> This project is an Environmental Assessment for future improvements at the Fitchburg Municipal Airport as defined by the 2022 Airport Master Plan Update. The purpose of the project is to evaluate proposed actions accordance with FAA Order 1050-1F, Environmental Impacts: Policies and Procedures to explore project alternatives, review environmental conditions, and identify potential impacts to environmental resources. The Environmental Assessment is considered to be administrative in nature, and this request seeks to identify and document federally listed species known to occur in the project area. Projects explored through this Environmental Assessment include easement acquisitions, vegetation obstruction removal, hangar development, perimeter fencing, terminal development, non-aeronautical use development, ASOS relocation, acquisition of maintenance equipment, and replacement of ageing snow removal equipment.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@42.5532449,-71.7570276976339,14z



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 proposed action does not intersect an area where the northern long-eared bat is likely to occur, based on the information available to U.S. Fish and Wildlife Service as of the most recent update of this key. If you have data that indicates that northern long-eared bats <u>are</u> likely to be present in the action area, answer "NO" and continue through the key.

   Do you want to make a no effect determination?

   Yes

PROJECT QUESTIONNAIRE

IPAC USER CONTACT INFORMATION

Agency: Fitchburg city
Name: Jacklyn Marks
Address: 6 Bedford Farms Drive
Address Line 2: Suite 101
City: Bedford
State: NH
Zip: 03110
Email jcm@gainc.com
Phone: 6034711887

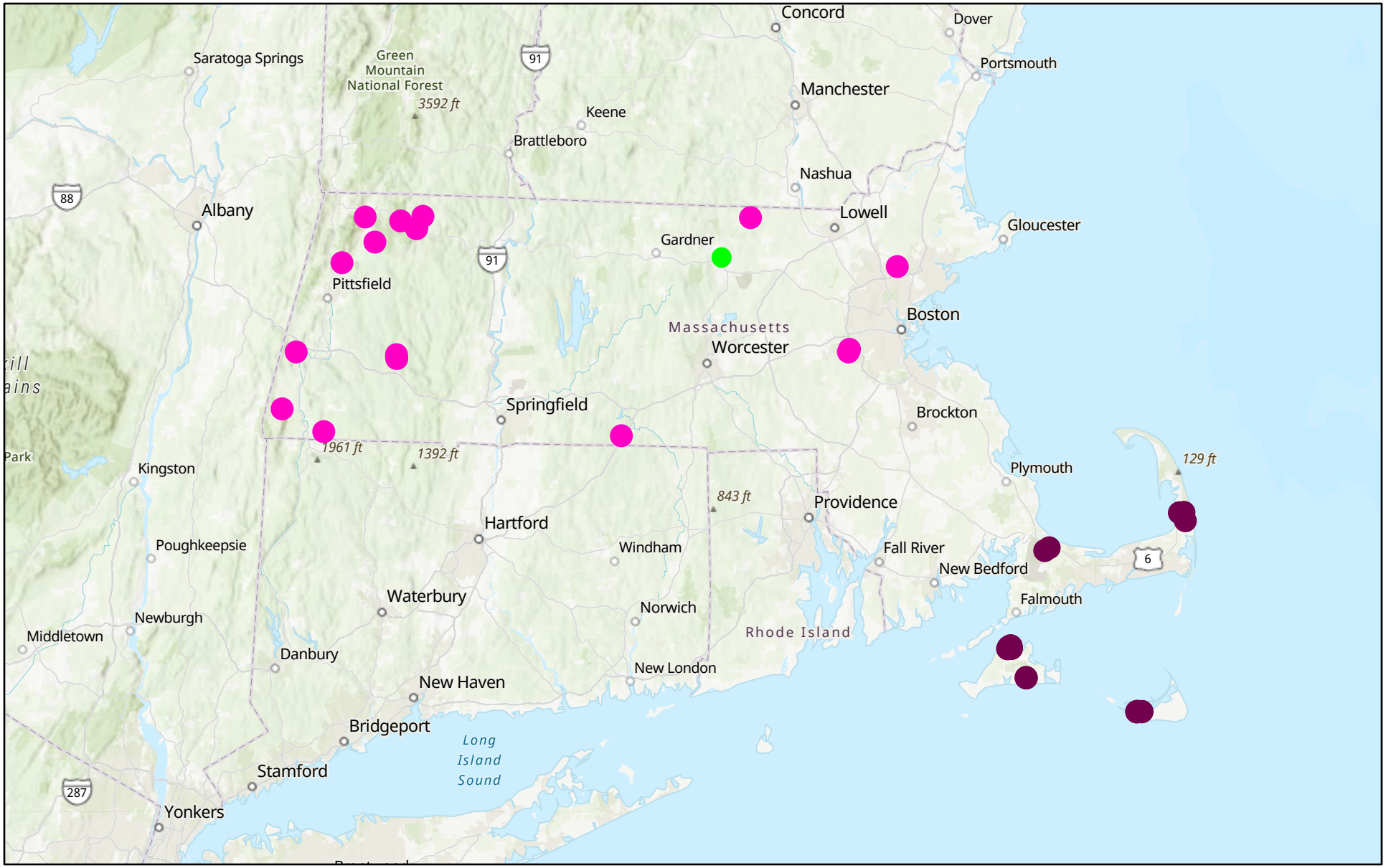
LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Aviation Administration
Name: Cheryl Quaine
Email: Cheryl.J.Quaine@faa.gov

Appendix C

NHESP Map of Maternity Roost Trees and Winter Hibernacula Sites

NHESP No. Long-eared Bat Locations



December 5, 2023

Statewide_NLEB_Symbology

- Maternity Roost Tree
- Hibernaculum

- MA_Northern_Long_eared_Bat_Maternity_Roost_Trees
- MA Northern Long-eared Bat Winter Hibernacula (with ¼ mile buffer)
- Approximate Location of Airport

1:2,311,162

0 15 30 60 mi

0 20 40 80 km

Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS, Esri, USGS

Appendix D

MHC Coordination Letter

May 16, 2022

The Commonwealth of Massachusetts

William Francis Galvin, Secretary of the Commonwealth

Massachusetts Historical Commission

Jacklyn C. Marks
Airport Planner
Gale Associates, Inc.
6 Bedford Farms Drive, Suite 101
Bedford, NH 03110

RE: Fitchburg Municipal Airport Master Plan Improvements, Fitchburg, MA. MHC #RC.640.

Dear Ms. Marks:

Thank you for providing the Massachusetts Historical Commission (MHC) with the information about the project referenced above. The MHC reviewed the information that you provided and the MHC's files.

In addition to the two archaeological reports from 2003 and 2006, there are two other reports pertinent to the airport property:

Sportman, Sarah
2015 *Archaeological Reconnaissance Survey of the Fitchburg Municipal Airport Runway 14 Avigation Easement Acquisitions, Fitchburg, Massachusetts*. Archaeological and Historical Services, Storrs, CT.

Ort, Jennifer C.
2016 *Archaeological Reconnaissance Survey, Fitchburg Municipal Airport Runway 32, Phase 2 and Phase 3 Avigation Easement Acquisitions, Fitchburg, Massachusetts*. Archaeological and Historical Services, Storrs, CT.

As you may know, archaeological reports are "confidential" and "not a public record" (M.G.L. c. 9, ss. 26A & 27C) to protect archaeological locations. The reports and their information should never be included in documents available for public review, such as the Environmental Assessment being prepared for the Master Plan Improvements project.

The Master Plan Improvements project proposes construction of hangars and taxilanes, and avigation easement acquisitions for tree clearing, as indicated on the plan that you provided titled "Airport Master Plan and Airport Layout Plan Updated AIP No. 3-25-0028-030-2021," prepared by Gale Associates, Inc. and dated April 2022.

The MHC does not recommend any archaeological investigation for the project as proposed.

Additionally, the MHC believes that the project is unlikely to affect any significant historic or archaeological resources.

Thank you once again. These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966 as amended and/or M.G.L. c. 9, ss. 26-27C (950 CMR 71). If you have any questions, please contact me.

Sincerely,

Edward L. Bell
Deputy State Historic Preservation Officer
Senior Archaeologist
Massachusetts Historical Commission

xc:
Richard Doucette, Federal Aviation Administration
Clayton Raymond, Fitchburg Municipal Airport Commission

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

Gale Associates, Inc.
6 Bedford Farms Drive, Suite 101 | Bedford, NH 03110
P 603.471.1887 F 603.471.1809
www.galeassociates.com

April 21, 2022

Ms. Brona Simon
State Historic Preservation Officer
Executive Director
Massachusetts Historical Commission
220 Morrissey Boulevard
Boston, MA 02125

Re: Environmental Assessment for Master Plan Improvements, Fitchburg Municipal Airport, Fitchburg, Massachusetts

Dear Ms. Simon,

The Fitchburg Municipal Airport (the Airport), in conjunction with the Federal Aviation Administration and the Massachusetts Department of Transportation/ Aeronautics Division is undertaking an Environmental Assessment to comply with the National Environmental Policy Act for the implementation of Airport Master Plan Projects. Specifically, the Airport is proposing the following:

- Construction of hangars and taxilanes
- Avigation easement acquisitions for tree clearing

Much of the development is proposed in previously disturbed areas previously occupied by Runway 02-20, which has since been closed and taken out of service. Any future tree clearing associated with avigation easements will be conducted during frozen ground or otherwise stable conditions and only include cutting to ground level, with individual stump grinding in place, to minimize ground impacts. Proposed development areas are depicted on Figure 1, attached to this letter.

Additionally, the Airport has initiated two (2) archaeological surveys in the past, which have consisted of the following, as summarized below and attached to this letter for reference:

<u>2003 Archaeological Reconnaissance Survey of the Fitchburg Municipal Airport</u>

This archaeological reconnaissance survey consisted of a walkover survey of the entire airport property and found that the property generally possesses low potential to contain intact archaeological resources. This is due to widespread ground disturbance that occurred when the airport was constructed, and the main channel of the Nashua River was redirected. However, some intact sections of the original river terraces were encountered, which retain high sensitivity. These areas are shown on Figure 16 of the report. Recommendations have been made to provide for archaeological survey work in archaeologically sensitive zones where airport improvement undertakings may be proposed in the future. Also noted in the report were approximate locations of historic house sites (Figures 14 and 17 of the report), and probable historic hangar structures (Figure 15 of the report). Low sensitivity areas include all sections of the airport that are paved, filled, and graded, or have architectural development.

<u>2006 Archaeological Intensive (Locational) Survey for Runway Improvements</u>

This archaeological survey consisted of a Phase 1b intensive (locational) survey of two areas on airport property, as depicted in Figure 4 of the report, which consisted of 68 test pits in two survey units. No pre-contact Native American or European-American cultural materials were recovered from the project

area, and no subsurface cultural features were identified in the project area. No historic foundations, cellar holes, or other historic structural remains were encountered during the survey. No additional survey was recommended for Survey Units 1 and 2.

This information has been provided to the FAA, and the Airport is seeking input from the Massachusetts Historical Commission as to whether an archaeological reconnaissance survey is necessary as part of the Environmental Assessment project, and if so, to what extent.

Should you require additional information, or if you would like to discuss the project in greater detail, please do not hesitate to contact me via phone at 603-471-1887 or email at jcm@gainc.com.

Very Truly Yours

GALE ASSOCIATES, INC.

Jacklyn C. Marks
Airport Planner

cc: Mr. Richard Doucette, FAA
Mr. Clayton Raymond, Commission Chairman

LEGEND

ITEM	PROPOSED
AVIGATION EASEMENT	
BUILDINGS	
PAVEMENT	

Gale Associates, Inc.
Engineers and Planners

6 BEDFORD FARMS DRIVE SUITE 101
BEDFORD, NH 03110
P 603.471.1887 F 603.471.1809

www.gainc.com
Boston Baltimore Orlando Hartford

PROJECT
AIRPORT MASTER PLAN AND AIRPORT LAYOUT PLAN UPDATE
AIP NO. 3-25-0028-030-2021

OWNER
FITCHBURG MUNICIPAL AIRPORT
CITY OF FITCHBURG, MASSACHUSETTS

NO.	DATE	DESCRIPTION	BY

PROJECT NO.	777103
CADD FILE	777103 - FIG. 2-1
DESIGNED BY	ID
DRAWN BY	ID
CHECKED BY	MPC
DATE	APRIL 2022
DRAWING SCALE	

GRAPHIC SCALE
150 300 600
SCALE: 1" = 300'

SHEET TITLE
MAP OF EA AREAS

DRAWING NO.
FIG. 1

OF

Appendix E

Wetland and Waterbody Survey Report

Wetland and Waterbody Resource Assessment Report

Fitchburg Municipal Airport
Fitchburg, Massachusetts

October 27, 2023

Prepared by: NewEarth Ecological Consulting
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GALE

TABLE OF CONTENTS

LIST OF APPENDICES

APPENDIX

1.0 INTRODUCTION

NewEarth Ecological Consulting, LLC (NewEarth) was contracted by Project Engineer, Gale Associates, to assess previously documented wetlands within an approximately 22-acre survey area proposed for development at the Fitchburg Municipal Airport (FIT or Airport) (Appendix A. Figure 1). The reassessment is part of an update to the City of Fitchburg's Airport Master Plan for land use planning.

This report presents the methods used and the wetland and waterbody resources identified in the surveyed area.

2.0 METHODS

Wetland and aquatic resources were originally delineated on FIT in 1998 and 1999 (Smart 2000). As part of this assessment, where necessary, boundaries and descriptions of observed wetland and aquatic resources were adjusted based on current site conditions.

2.1 BACKGROUND INFORMATION REVIEW

Prior to conducting fieldwork a desktop review of existing site information was conducted to aid in the identification of potential protected resources in the Project area, including:

- Google Earth™ high resolution satellite imagery (Google Earth 2022);
- Federal Emergency Management Agency (FEMA) Floodplain Map Viewer (FEMA 1991);
- The Smart Associates, Fitchburg Municipal Airport Final Vegetation Management Plan (VMP) (Smart 2000),
- United States Department of Agriculture (USDA)/Natural Resources Conservation Service (NRCS), online soil survey database Fitchburg Airport, Worcester County, Massachusetts (USDA/NRCS 2022);
- U.S. Geological Survey (USGS) Topographic Quadrangle Map for Fitchburg, Worcester County, Massachusetts (USGS 2021); and,
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps (USFWS 2011).

2.2 ON-SITE FIELD DETERMINATION

2.2.1 Wetland Delineation

Wetlands were delineated pursuant to the currently accepted federal methodology provided in the US Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Version 2.0* (USACE 2012). This method involved collection and review of background information, followed by an on-site survey and delineation.

A certified professional wetland scientist (PWS) from NewEarth performed systematic field surveys within an approximately 22-acre survey area identified as a potential location for the Project on July 20th and August 10th, 2023 (Appendix A, Figure 1). The wetland delineation was initiated with a review of existing resource delineation report from 1990 (Smart 2000) and a walkover inspection of the area. Given the availability of existing data and homogeneity of communities, paired upland and wetland sampling locations were then identified within community types representative of the site and investigated using Level 3 of the Routine On-Site Determination Method and Regional Supplement (Environmental Laboratory 1987, USACE 2012). Additional sampling plots were established as needed within areas where vegetation, soil, or hydrologic conditions were atypical. At each sampling location, Wetland Determination Data Forms were completed to evaluate and document vegetation, soils, hydrology, and general site characteristics.

Boundaries of evaluated areas that exhibited the required USACE parameters for designation as a wetland feature (i.e., hydrophytic vegetation, hydric soils, and hydrology) were demarcated with pink vinyl flagging (flagging was removed following the delineation). Each feature was assigned a wetland cover type classification based on the USFWS classification system for wetlands and deepwater habitats of the United States (Cowardin et al. 1979), and representative photographs of each feature was collected.

2.2.2 Waterbody Identification

Prior to field surveys, USGS topographic quadrangle maps were reviewed to identify waterbodies and topography conducive to transfer of hydrologic flow near the site. This was followed by a site visit, conducted concurrent to the wetland delineation effort. Any waterbodies encountered on the site were demarcated with blue vinyl flagging and evaluated to characterize each feature (flagging was removed following the delineation). If waterbodies were present, photographs were collected, and all data was recorded on a Waterbody Assessment Form.

Waterbodies include both permanent deepwater features such as lakes and ponds as well as linear features such as brooks, creeks, rivers, and streams. Each channelized linear waterbody was evaluated to determine if it met the definition of a stream per the federal Clean Water Act; which means, the feature must be a natural defined channel between defined banks, be created by the action of surface water, and must have two or more of the following characteristics:

A. Feature is depicted as a solid or broken blue line on the most recent edition of the USGS 7.5-minute series topographic map or, if that is not available, a 15-minute series topographic map.
B. Feature contains or is known to contain flowing water continuously for a period of at least 6 months of the year in most years.
C. The channel bed is primarily composed of mineral material such as sand and gravel, parent material or bedrock that has been deposited or scoured by water.
D. The channel contains aquatic animals such as fish, aquatic insects or mollusks in the water or, if no surface water is present, within the stream bed.
E. The channel contains aquatic vegetation and is essentially devoid of upland vegetation.

Each linear waterbody that met two or more of the above criteria was also classified as one of the following based on its origin and estimated hydrologic regime as follows:

Ephemeral Stream – is a feature that carries only stormwater in direct response to precipitation with water flowing only during and shortly after large precipitation events. An ephemeral stream has a somewhat-defined channel, the aquatic bed is always above the water table, and stormwater runoff is the primary source of water.

Intermittent Stream – has a well-defined channel that contains water for only part of the year, typically during winter and spring when the aquatic bed is below the water table. The flow may be heavily supplemented by stormwater runoff.

Perennial Stream – has a well-defined channel that contains water year round during a year of normal rainfall with the aquatic bed located below the water table for most of the year. Groundwater is the primary source of water for a perennial stream, but it also carries stormwater runoff.

3.0 SUMMARY OF BACKGROUND INFORMATION

3.1 SITE DESCRIPTION

The Airport is situated within the southeastern region of the City of Fitchburg and is owned, operated, and managed by the City. The facility is nearly surrounded by forestland, open areas, and relatively dense mixed commercial and residential development (Appendix A, Figure 1). The perennial North Nashua River is situated along FITs northern, western, and southern borders, and the perennial Baker Brook flows into the river just north of Airport Runway 14. A third unnamed tributary lies to the west of the western border of FIT and eventually joins the North Nashua River to the south of Runway 32.

FIT is situated within the 340-foot to 350-foot above sea level elevation gradient (Appendix A, Figure 1). Because of its location within the floodplain of the Nashua River (FEMA 1991) (Appendix A, Figure 3), and historic alterations of the site to create the Airport, topography is flat throughout FIT (USGS 2018). Beyond the Airport boundary, elevation gradients increase relatively dramatically on all sides (Appendix B, Photographs).

The portion of FIT examined for this wetland assessment is positioned at the center of the northern section of the Airport, situated immediately south of a commercial recycling center and various other commercial establishments (see Appendix A, Figure 1 and Figure 4). To the north of the surveyed area, there is a former dump site and Airport storage area, while mowed fields border the area on the remaining sides. Roughly half of the area surveyed is enveloped by forest and shrub vegetation, while the rest comprises an open field. This open field is intentionally maintained with low herbaceous cover through regular mowing, as part of the Airport's Vegetation Management Plan (VMP).

3.2 SOILS

Soil mapping reveals various soil units, including Sudbury fine sandy loam with slopes ranging from 0 to 3 percent, urban land, and gravel pits (USDA/NRCS 2022) within the surveyed area (see Appendix A, Figure 2). According to USDA/NRCS (2022), Sudbury fine sandy loam is a hydric soil type that is typically associated with wetland ecosystems. It is also worth noting that much of FIT historically occupied an active floodplain prior to extensive modifications and the deposition of fill material to create the Airport (FEMA 1991). This historical context suggests that FIT likely originally had hydric soil throughout.

3.3 NWI MAPPED WETLANDS

Based on the USFWS National Wetland Inventory and the Federal Emergency Management Agency (FEMA), two freshwater emergent wetlands (USFWS 2011) and floodplains with a 1 percent risk of annual flooding (FEMA 1991) occur within the surveyed area (Appendix A, Figure 3). Much of the NWI and FEMA data have not been field verified, however, presence of NWI wetlands and FEMA designated floodplains are often good indicators that jurisdictional wetlands are likely to occur in an area.

3.4 USGS MAPPED WATERBODIES

According to the most recent USGS topographic quadrangle maps (USGS NHD 2020) no streams or waterbodies are known to exist on the Site (Appendix A, Figure 1 and Figure 3).

4.0 FIELD SURVEY RESULTS

Delineated wetland and waterbody resources were classified into their appropriate category as described above.

4.1 WETLANDS

Five areas meet the criteria for designation as a wetland resource per the USACE's three parameter assessment methodology and were delineated during this survey (Appendix A, Figure 4). These areas meet the criteria for designation as a wetland, but may, or may not, be under the jurisdiction of, or regulated by, local, state, or federal entities.

Several areas of potential vernal pool habitat were also observed within wetlands W1 and W2. Several of these were found to possess vernal pool indicator species during prior survey efforts (Smart 2000). A re-survey during the appropriate spring vernal pool breeding season would be needed to confirm the current status of these potential vernal pools.

Wetlands W1, W2 and W3

Although identified as separate features, wetlands W1, W2, and W3 are characteristically similar. Tree cover (woody species greater than 3 inches in diameter) and shrubs (woody species less than 3 inches in diameter but greater than 3 feet tall) co-dominate, therefore these

wetland features are best described as the temporarily flooded mixed palustrine forest (PFO)/palustrine scrub-shrub (PSS) community type as defined by the Classification of Wetlands and Deepwater Habitats (Cowardin et al. 1979). Also present, but less common, are relatively open areas within the diverse PFO/PSS community where shrub and/or herbaceous cover dominates.

Wetlands W1, W2 and W3 are situated within isolated basins on an otherwise flat area of the airport and are surrounded by upland forest or mowed upland fields (Appendix A, Figure 5; Appendix B, Photographs). Consistent with findings of the previous vegetation assessment on the Airport (Smart 2000), the basins appear to have been created by humans based on the excavated areas, sand and rock deposition piles within and near the wetland complexes, and unnaturally steep berms found throughout the forested area in and surrounding the wetlands.

Vegetation

While the density and arrangement of vegetation fluctuate across each wetland complex, wetlands W1, W2, and W3 primarily consist of an upper canopy layer featuring relatively young mostly early successional trees, suggesting prior land clearing activities. These trees are predominantly situated along the edges of the basins and in slightly elevated areas and berms within the wetlands. Below this tree canopy, dense shrub growth is interspersed, extending toward the centers of the basins. In contrast, open areas within the basins appear to experience longer periods of flooding and lack thick coverage of trees. These areas are characterized by open water surfaces, herbaceous vegetation, and to a lesser extent, woody vegetation less than 3 feet in height, as depicted in Appendix B, Photographs. The vegetation in these wetland resources is dominated by obligate and facultative wetland plants, indicative of growth under inundated/saturated soil conditions.

Within wetlands W1, W2 and W3, the most prevalent tree species observed is the red maple (*Acer rubrum*), with lesser occurrences of gray birch (*Betula populifolia*) and green ash (*Fraxinus pennsylvanica*). Quaking aspen (*Populus tremuloides*), generally considered a non-wetland species, is also relatively common, but appears to be concentrated on slightly elevated areas of extensive fill within the complexes. Dominant shrubs include the wetland species speckled alder (*Alnus incana-rugosa*), silky dogwood (*Cornus amomum*), arrowwood viburnum (*Viburnum dentatum*), white meadowsweet (*Spirea alba*), button bush (*Cephalanthus occidentalis*), and to a lesser extent, pussy willow (*Salix discolor*). The herbaceous cover is diverse, and with some areas exceeding 75% coverage, particularly in and around the edges of open areas that retain standing water for longer periods within the basins of wetland W1. Common herbaceous species include rattlesnake mannagrass (*Glyceria canadensis*), swamp milkweed (*Asclepis incarnata*), marsh seedbox (*Ludwigia palustris*), American bugleweed (*Lycopus americanus*), swamp candles (*Lysimachia terrestris*), soft rush (*Juncus effusus*), bluejoint (*Calamagrostis canadensis*), fringed sedge (*Carex crinita*), lurid sedge (*Carex lurida*), fox sedge (*Carex vulpenoides*), greater bladder sedge (*Carex intumescens*), sensitive fern (*Onoclea sensibilis*), cinnamon fern (*Osmundastrum cinnamomeum*), tall goldenrod (*Solidago altissima*), jewelweed (Impatiens capensis), royal fern (*Osmunda regalis*), blue vervain (*Verbena hastata*), deer tongue grass (*Panicum clandestinum*), wool grass (*Scirpus cyperinus*), common cattail (*Typha latifolia*), and parasol whitetop aster (*Doellingeria umbellate*).

Invasive species in these wetlands includes widespread purple loosestrife (*Lythrum salicaria*), while common reed (*Phragmites australis*) appears to be confined to specific areas within wetland W1.

Vegetation in upland areas surrounding these wetlands also exhibit characteristic similarities (see Appendix A, Figure 4; Appendix B, Photographs). In most upland areas, there is a tree canopy above an exceptionally dense shrub layer, which is predominantly comprised of invasive shrubs and vines. The prevalent tree species include black cherry (*Prunus serotina*), black locust (*Robinia pseudoacacia*), black oak (*Quercus velutina*), bigtooth aspen (*Populus grandidentata*), quaking aspen, balsam fir (*Abies balsamea*), white pine (*Pinus strobus*), and red oak (*Quercus rubra*). Beneath this canopy, the shrub layer is densely covered with the invasive species autumn olive (*Elaeagnus umbellate*), roundleaf greenbriar (*Smilax rotundifolia*), Japanese honeysuckle (*Lonicera japonica*), morrow's honeysuckle (*Lonicera morrowii*), oriental bittersweet (*Celastrus orbiculatus*), alder buckthorn (*Frangula alnus*), and fox grape (*Vitis labrusca*). Native woody species in the shrub layer include saplings of the overstory tree species and staghorn sumac (*Rhus typhina*).

The herbaceous layer, though relatively sparse beneath the dense tree and shrub cover, exceeds 75% coverage along the tree line and the edge of open fields. Many species were difficult to identify due to repeated mowing, but in areas that had not been recently mowed, the most common identifiable species included wrinkle leaf goldenrod (*Solidago rugosa*), lowbush blueberry (*Vaccinium angustifolium*), common cinquefoil (*Potentilla simplex*), spotted knapweed (*Centaurea stoebe*), purple milkwort (*Polygala sanguinea*), spreading dogbane (*Apocynum androsaemifilium*), yarrow (*Achillea millefolium*), silver cinquefoil (*Potentilla argentea*), common ragweed (*Ambrosia artemisiifolia*), large bracted plantain (*Plantago aristate*), hawkweeds (*Pilosella spp*.), and a wide variety of common old field grasses.

Soils

Soils of these wetland complexes generally exhibited evidence of prolonged saturation/inundation and accumulation of organic materials with deep (>24 inches) mucky/peaty hydric soils representative of the Histosol hydric soil indicator. In areas of shorter periods of saturation/inundation, typically closer toward wetland perimeters and berms, soils fell into the depleted matrix hydric soil type comprised of sandy loam soil with depleted matrix of chroma less than 2 and redoximorphic concentrations. Fill material was common throughout.

The soil in adjacent uplands were shallow, with refusal generally at < 6 inches, and comprised primarily of compacted mixed sand and gravel material (presumably fill). The soil was bright reddish-brown to dark brown in color and lacked redoximorphic features, staining, or any other evidence of hydrology.

Hydrology

Hydrologic input to these wetland areas is primarily from a seasonal high-water table, precipitation, and to a lesser extent surface flow from adjacent areas. Observed evidence of

hydrology included areas of inundation, high water table, saturated soils, water marks on trees or rocks, shallow rooted trees, water-stained leaves, and geomorphic position. Inundation or saturation is visible in aerial imagery.

In the uplands, there was no discernible sign of hydrology, except for sporadic standing water in low-lying areas immediately following periods of rainfall.

Wetlands W4 and W5

Wetlands W4 and W5 are also characteristically similar. Due to the prevalence of herbaceous cover and lack of trees and shrubs as a result of repeated mowing, these wetlands are best described as the palustrine emergent (PEM) community type as defined by the Classification of Wetlands and Deepwater Habitats (Cowardin et al. 1979). These seasonally flooded-saturated communities are situated within low-lying areas of open fields (Appendix A, Figure 5; Appendix B, Photographs). It should be noted that while these communities are designated as PEM, they are in this vegetative structure due to repeated mowing, in accordance with the VMP, which did not identify the areas as wetlands.. Unmaintained, these areas would likely revert to PSS, and eventually PFO, community types.

Vegetation

Plants within these wetland areas were much more difficult to identify due to repeated mowing. The most common species that could be identified included sensitive fern (*Onoclea sensibilis*), cinnamon fern (*Osmundastrum cinnamomeum*), deer tongue grass (*Panicum clandestinum*), white meadowsweet (*Sprirea alba*), bentrass species (*Agrostis spp*.), spikerush (*Eleocharis spp*.), pointed broom sedge (*Carex scoparia*), soft rush (*Juncus effusus*), path rush (*Juncus tenuis*).

Soils

Soils were shallow, generally < 7 inches, and in most areas were compacted and perched on bedrock. The sandy-loam soils had a depleted matrix of chroma less than 2 and redoximorphic concentrations. Sand and gravel fill material was commonly encountered.

Hydrology

Hydrologic input is primarily from precipitation and to a lesser extent surface flow from adjacent areas which remains perched above bedrock in shallow low-lying areas. Observed evidence of hydrology included areas of inundation, saturated soils, water-stained leaves, and geomorphic position. Inundation or saturation is visible in aerial imagery.

The vegetation, soils, and hydrology in the upland areas adjacent to these wetlands share the same topographic gradient and characteristics as those described above for wetlands W1, W2, and W3.

4.2 WATERBODIES

Findings from the field survey effort are consistent with the USGS findings that no waterbodies are present in the survey area (Appendix A, Figures 1, 3 and 5; Appendix B, Photographs).

5.0 SUMMARY

Within the approximately 22-acre area surveyed:

- Five areas were identified that meet the USAC's criteria for designation as a wetland resource. These areas may, or may not, meet jurisdictional requirements for regulation by local, state, or federal agencies.

- Consistent with USGS findings, no waterbodies were found.

- Potential vernal pool habitat exists within wetlands W1 and W2. Additional surveys would be necessary to confirm the status of these.

It's noteworthy that the wetland assessment conducted in 1998 (Smart 2000) yielded different results in terms of the number and size of wetlands compared to our recent survey in 2023. Several factors may have contributed to these differences, including the historical filling, and disturbances that have occurred on the site prior to 1998. Over time, it's possible that wetland characteristics have been evolving. Additionally, the observed differences could also be influenced by climatic changes such as increased rainfall amounts and number of extreme weather events, that may be altering site conditions over time (NOAA 2022).

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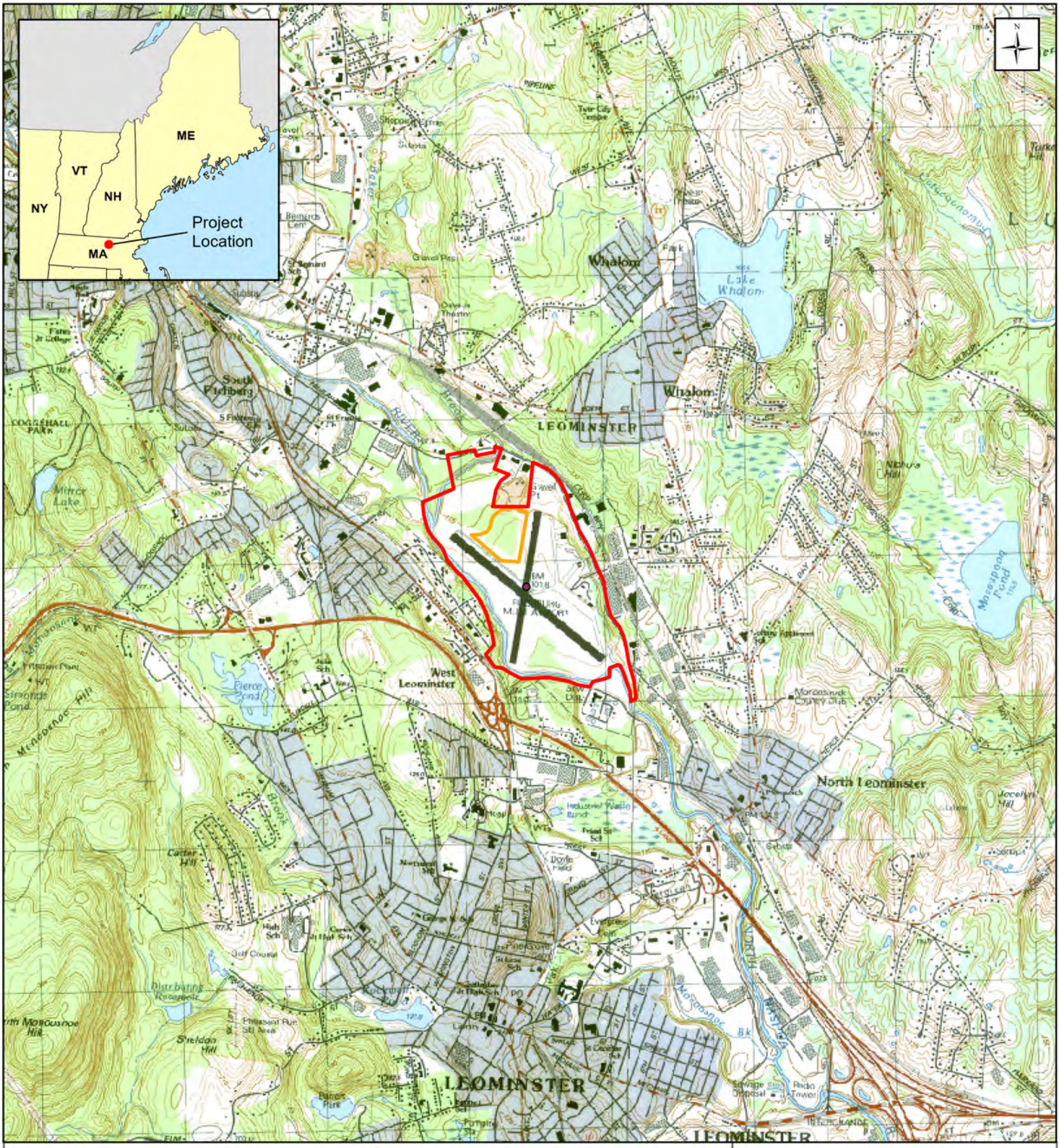
APPENDIX A

FIGURES



Legend

Approximate Property Boundary

Survey Area

Figure 1. Site Location and Topography

Project Name:

Fitchburg Municipal Airport
Wetland Assessment

Prepared By: NewEarth ECOLOGICAL CONSULTING, LLC

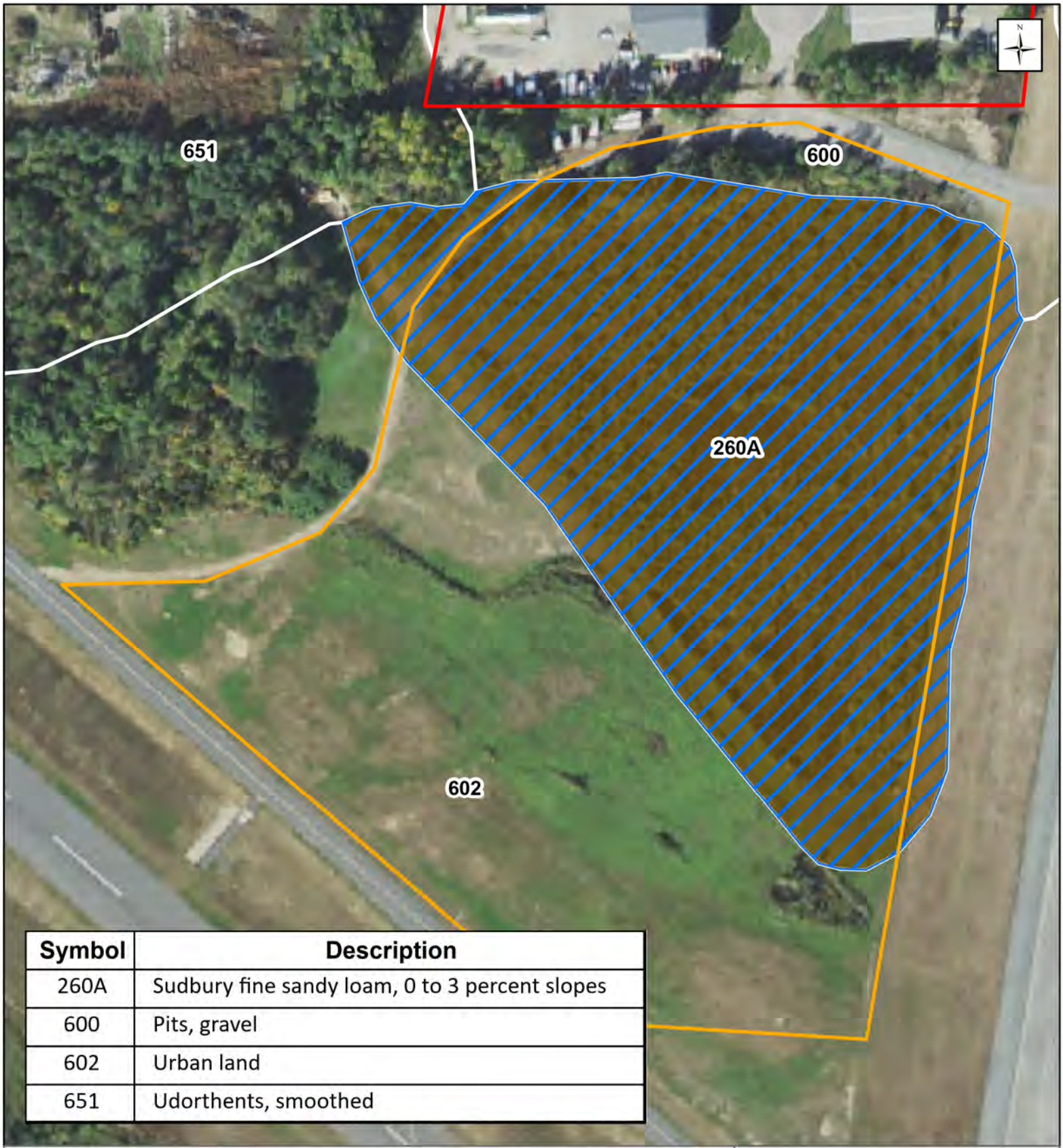
0 0.5 1 Miles

Source: USGS, 2001.

Project Location:
Fitchburg, Massachusetts

Filename: Fitchburg MA Airport

Date: 9/13/2023



Symbol	Description
260A	Sudbury fine sandy loam, 0 to 3 percent slopes
600	Pits, gravel
602	Urban land
651	Udorthents, smoothed

Legend

- Approximate Property Boundary
- Survey Area
- Hydric Soils
- Prime Farmland

Figure 2. Soil Types

Project Name:
Fitchburg Municipal Airport
Wetland Assessment

Prepared By: NewEarth

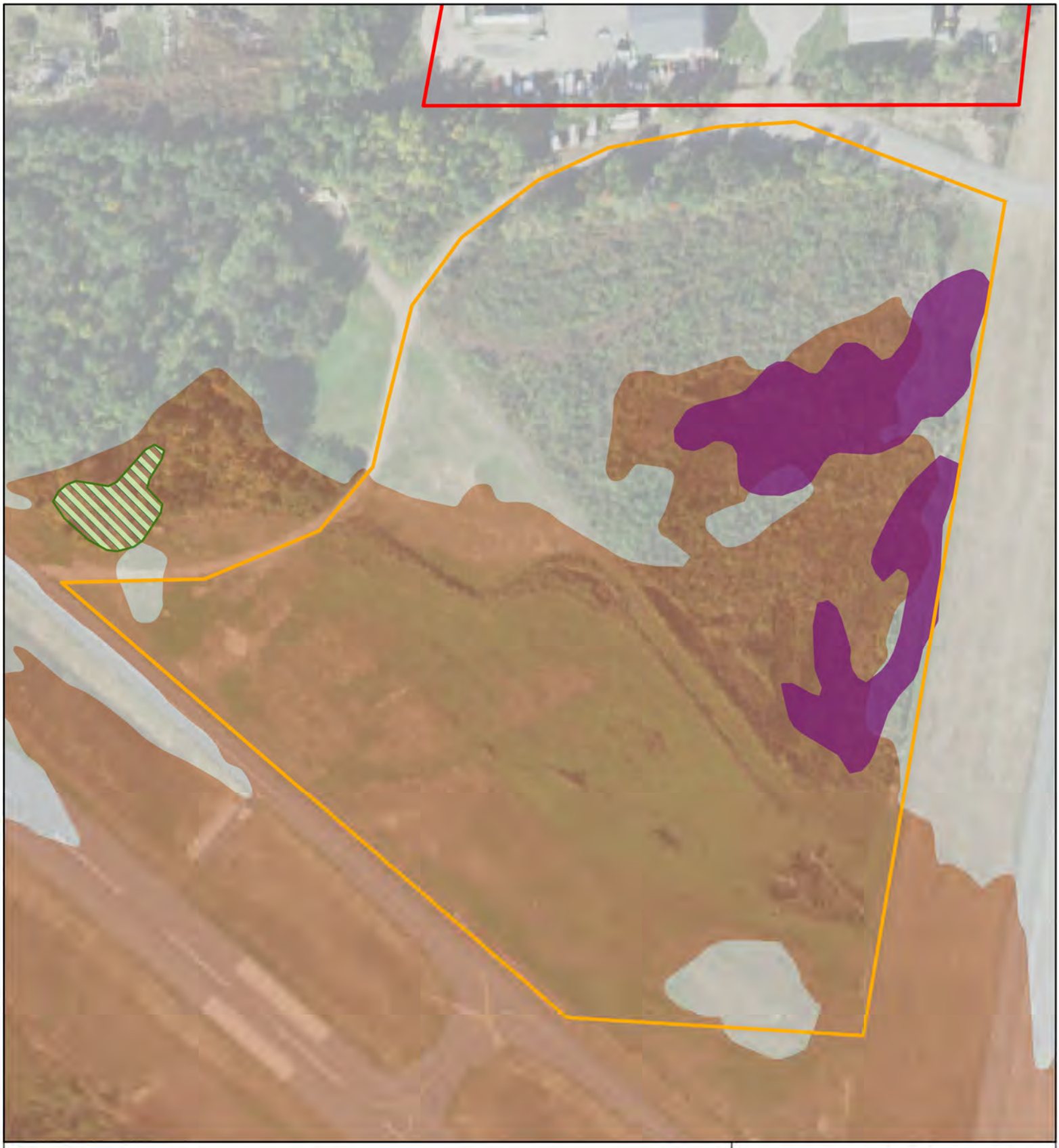
0 250 500 Feet

Project Location:
Fitchburg, Massachusetts

Source: USDA/NRCS SSURGO, 2022; USDA NAIP, 2021

Filename: Fitchburg MA Airport

Date: 9/13/2023



Legend

- Approximate Property Boundary
- Survey Area
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- AE: 1% Annual Flood Risk, with BFE
- X: Areas Outside 500-Year Floodplain

Figure 3. NWI Wetlands, FEMA Floodplains, and USGS Streams

Project Name:

Fitchburg Municipal Airport
Wetland Assessment

Prepared By: NewEarth

0 250 500 Feet

Project Location:
Fitchburg, Massachusetts

Source: USFWS NWI, 2023; USGS/NGP NHD, 2023; FEMA Preliminary Flood Maps, 2023; USDA NAIP, 2021.

Filename: Fitchburg MA Airport

Date: 9/13/2023

Legend

- Approximate Property Boundary
- Survey Area
- Wetland Resources

Figure 4. Delineated Aquatic and Wetland Resources

Project Name:
Fitchburg Municipal Airport
Wetland Assessment

Prepared By: NewEarth Ecological Consulting, LLC

0 250 500 Feet

Source: NewEarth, 2023; USDA NAIP, 2021.

Project Location:
Fitchburg, Massachusetts

Filename: Fitchburg MA Airport

Date: 9/13/2023

APPENDIX B

SITE PHOTOGRAPHS

Representative Photographs of the Fitchburg Airport Wetland Assessment Survey Area, Fitchburg, MA

Wetland W1

Wetland W1

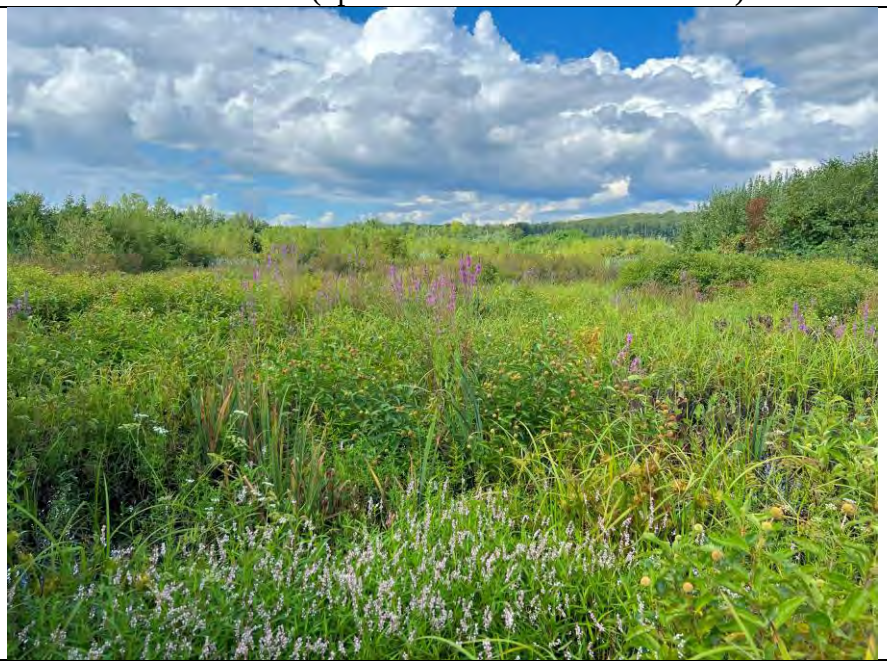
Wetland W1 (open herb and shrub dominated area)

Wetland W1 (Vernal Pool Area)

Representative Photographs of the Fitchburg Airport Wetland Assessment Survey Area, Fitchburg, MA

Wetland W1 (open herb-shrub dominated area)

Wetland W1 (open herb-shrub dominated area)



Wetland 1 (open herb dominated area)

Wetland 1 (open herb dominated area along water main corridor)

Representative Photographs of the Fitchburg Airport Wetland Assessment Survey Area, Fitchburg, MA

Wetland W2 (potential vernal pool area)

Wetland W2 (second potential vernal pool area)

Wetland W3

Wetland W3

Representative Photographs of the Fitchburg Airport Wetland Assessment Survey Area, Fitchburg, MA

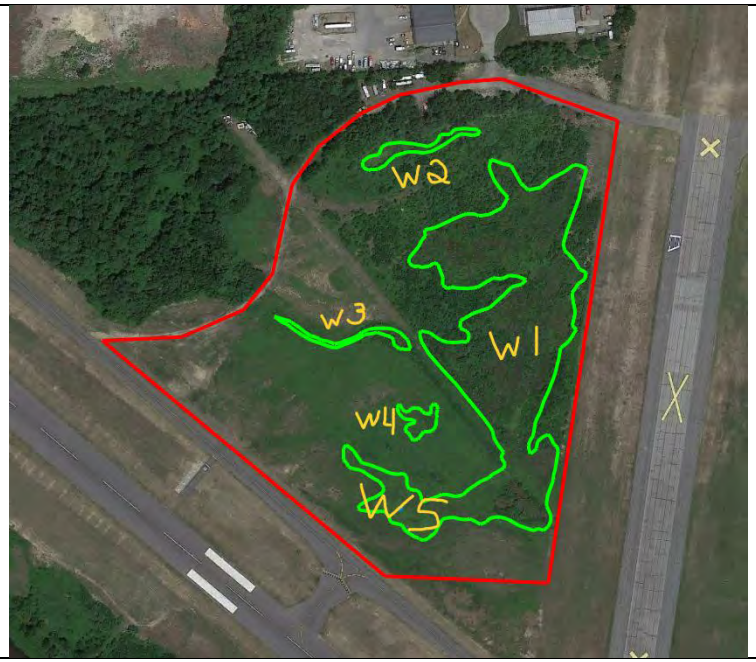
Wetland 4

Wetland 5

Wetland 5

Wetland 5

Representative Photographs of the Fitchburg Airport Wetland Assessment Survey Area, Fitchburg, MA



Survey Area, 2022 Aerial Imagery

Survey Area, 2008 Aerial Imagery

Survey Area, 2000 Aerial Imagery

Survey Area, 1995 Aerial Imagery