ENVIRONMENTAL ASSESSMENT

L.G. Hanscom Field,
Aviation Facility Improvements Project

Bedford, Massachusetts

Prepared by:

Massachusetts Port Authority
and
Epsilon Associates, Inc.

September 26, 2018

This Environmental Assessment (EA) becomes a Federal document when evaluated, signed, and dated by the Responsible FAA official.

Responsible FAA Official

September 25, 2018

Date

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT

Hanscom Field
Bedford, Concord, Lincoln, Lexington, Massachusetts

Purpose and Need

The purpose of the project is to meet both current demand and the anticipated increased demand that is likely to result from continued strong growth in the business aviation sector in the coming years. As a result of the proposed redevelopment, Hanscom Field's Airport Layout Plan (ALP) will be revised. The FAA approval of the ALP is a federal action, which requires review and approval under the National Environmental Policy Act.

Proposed Action and Reasonable Alternatives

Massachusetts Port Authority (Massport) plans to offer two development areas at Hanscom Field for hangar redevelopment. The proposed action and alternatives are described in Section 3 of the L.G. Hanscom Field, Aviation Facility Improvements Project Environmental Assessment (EA).

The **Pine Hill Area** is located on the western side of the airfield, proximate to Taxiway M and Virginia Road, in Concord (see Figure 3-1 in the EA). To accommodate site redevelopment, Massport proposes to replace the three existing Pine Hill Area T-hangar buildings, comprising approximately 55,000 sf of hangar space, on the northern side of the airfield between Taxiway R and the Hartwell Road entrance in Bedford. New commercial aviation hangar space totaling approximately 60,000 sf and approximately 160,000 sf of new apron space would be constructed along Taxiway M.

The **North Airfield Area** is located on the northern side of Hanscom Field, north of Taxiway R, and consists of approximately 15 acres which can support roughly 165,000 sf of hangar space (see Figure 3-2 in the EA). The North Airfield Area has been separated into two development areas. The first development area (approximately seven acres) will accommodate replacement of the three Pine Hill Area T-hangars in two or three buildings comprising approximately 55,000 sf of hangar space. The second redevelopment area at the North Airfield Area (approximately seven acres) is proposed to be redeveloped into approximately 110,000 sf of hangar space. As with the planned redevelopment at the Pine Hill Area, the additional hangars in the North Airfield Area would also have some additional administrative/support space. An additional 100,000 sf of associated apron space as well as vehicle parking would also be constructed.

Alternatives are described in Section 3.3 of the EA, which includes a No Action Alternative, the Pine Hill Area Alternative 1, the Pine Hill Alternative 2 (Proposed Action), North Airfield Alternative 1 and the North Airfield Alternative 2 (Proposed Action). Both Pine Hill Area alternatives propose 60,000 sf of hangar space, and additional associated support space that would be accessed via the existing roadway and access control gate at Virginia Road. The North Airfield Area alternatives comprise two redevelopment areas (totaling 15 acres); one is a corporate hangar development area and the other is a development site for the T-hangars that

are proposed to be relocated from the Pine Hill Area and which will be accessible on the landside via Hartwell Road.

Assessment

The environmental consequences of the proposed action are described in Section 5 of the EA. The areas of greatest public concern have been construction traffic, aircraft noise and hazardous contamination in the groundwater.

The airfield has seen considerable construction activity over the years, particularly from its growth and development as an Air Force base in the 1940s and 50s. Recently, there has been public concern about the impacts of **construction** vehicles on nearby neighborhoods. This concern is based on experience with a large runway reconstruction project completed last year. This type of hangar redevelopment now under consideration is considerably different, and smaller in scale, than that previous construction activity. The use of construction best management practices, and ongoing communication with neighbors and municipal governments, should help minimize the potential for negative construction impacts.

The potential impacts of hangar developments usually focus on the **noise** from future aircraft flights that could be generated or served by the hangars, not from the construction of the hangars themselves. Massport conducts ongoing planning efforts that result in the publication of regular Environmental Status and Planning Reports (ESPR). Past ESPR documents are typically used to assess impacts of potential airport development, such as these hangar developments. Review of this EA, annual reporting from Massport, and those ESPR documents show the number of flights into/out of this airport has decreased from a high of approximately 300,000 annual operations in 1970, to 166,000 in 2012, to 129,000 in 2017. The types of aircraft have also changed over time. Few military aircraft currently operate at the airport. Newer, quieter private aircraft, with declining numbers overall, have caused the noise contours around the airport to shrink. According to the 2012 ESPR, and thenoise technical appendix (attachment C in the EA), there are no nearby homes experiencing noise that is incompatible with residential land use. FAA does not anticipate noise levels will rise to significant levels as a result of these hangar developments, since the ESPR analyses show higher levels of aircraft operations, and still the 65DNL noise contour does not reach residential areas. Annual noise reports developed by Massport will continue to inform the public, the FAA and other agencies on this important issue.

Some concern has been expressed on past **groundwater contamination**, and how this future development may contribute to it. Modern, civilian aviation development bears little resemblance to the past research and military activity at Hanscom Field. Past contamination continues to be treated, and monitored by the EPA. Efforts should be made to convey the monitoring results to the public, so they can see how this progresses. FAA does not anticipate private hangar developments will contribute to groundwater contamination. Modern aviation fueling activities are highly regulated, and no research activities are anticipated.

Mitigation Measures

Section 6 of the EA discusses mitigation measures. Project-related impacts have been mitigated to the maximum extent practicable, such that project implementation will have no long-term effects to natural resources. Some of the anticipated mitigation measures are described below.

	Mitigation Measure
Noise	Overall noise levels at Hanscom Field have decreased over time, due to the use of newer/quieter aircraft, and fewer aircraft overall. The Proposed Action will not change this trend. Current and anticipated noise levels indicate no noise mitigation measures are required. Massport is encouraged to continue to minimize the impacts of noise on surrounding areas.
Water Quality	A Stormwater Pollution Prevention Plan will be developed for construction-related activities. Controls to minimize erosion and sedimentation may include: temporary stabilization, temporary seeding, permanent seeding, dust control, temporary sediment basins and check dams, diversion swales, catch basin inlet protection, and dewatering filters. During operation, consistency with MassDEP's Stormwater Regulations and Massport's stormwater policy through measures including infiltration, peak runoff rate and volume control, and total suspended solids removal. Combined with airfield pavement removed in the summer of 2017 and any additional pavement to be removed as part of this project, there will be no net gain in impervious surface on the airfield.
Hazardous Materials	Any hazardous materials encountered during demolition of Hangars at the Pine Hill Area would be removed or will be managed pursuant to applicable laws. Best Management Practices will be implemented in accordance with local, state and federal regulations to ensure compliance.
Wetlands	The project is designed to avoid impacts to wetland resource areas. Wetlands will be protected from direct impacts (including erosion and sedimentation) during construction.
Construction	Implementation of measures to avoid or minimize environmental impacts during project construction, including: ♦ Ongoing communication with local municipalities and abutters ♦ Compliance with the SWPPP ♦ Implementation of MassDEP and EPA Best Management Practices ♦ Equipment maintenance to minimize noise ♦ Low sulfur or ultra-low sulfur diesel fuel use by contractors ♦ Designated truck routing ♦ Limited truck idling ♦ Site housekeeping, such as water use for dust suppression, and interim stabilization of surfaces not being worked ♦ Flashing lights on construction vehicles used only when on airport property ♦ Recycling and waste reclamation where possible
Wildlife Habitat	Avoidance of airfield grassland habitat where possible; pavement removal to offset any unavoidable habitat impact.

Federal Finding

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed federal action is consistent with existing national policies and objectives as set forth in Section 101 of the National Environmental Policy Act (NEPA) and other applicable environmental requirements and will not significantly affect the quality of the human environment or otherwise include any condition requiring consultation pursuant to Section 101(2) (c) of the NEPA.

APPROVED: R Doucette Date: 9/25/18

Richard P. Doucette
Manager, Environmental Programs

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Section 1.0

Introduction

1.0 INTRODUCTION

1.1 Project Overview

In response to a growing demand in general aviation, particularly by corporate jets at L.G. Hanscom Field (Hanscom Field or Hanscom), the Massachusetts Port Authority (Massport) has identified two areas for the future development of additional general aviation and corporate facilities.

The first planned development area is within the north side of the airfield (called the North Airfield or North Airfield Area). This planned development area would consist of two seven acre sections of the planning area, together anticipated to accommodate construction of up to 165,000 square feet (sf) of new hangar space and associated administrative/support space for approximately 10 to 12 new aircraft and 38 relocated aircraft. To facilitate the hangar construction in the North Airfield Area by others, Massport proposes to construct a new taxilane.

The second potential aviation development area is in the western portion of the airfield called the Pine Hill Area. This location is planned for approximately 60,000 square feet of hangar development. To accommodate redevelopment of the Pine Hill Area by others, the three existing T-Hangar buildings (Buildings 37, 38, & 39) would be demolished and then replaced by approximately 55,000 sf of T-Hangar space at a new location in the North Airfield Area.

Massport identified these future aviation development sites initially in the *2005 Environmental Status and Planning Report* (ESPR) and in more detail in the 2012 ESPR as part of the Master Planning Concepts for the Year 2020, and evaluated potential impacts. The 2012 ESPR provides extensive context for redevelopment of these two areas of Hanscom Field, both of which are in current aviation use and have accommodated aviation uses in the past.

Environmental review of Hanscom Field activities is undertaken both on an individual project basis as well as at the airport-wide level through Massport's preparation of the *Environmental Status and Planning Report* (ESPR). The ESPR process provides a public forum to assess the cumulative environmental effects of airport operations and informs Massport and the community regarding the implications of those environmental effects. ESPRs present an overview of the operational environment and planning for future improvements at Hanscom Field and provide long-range projections of environmental conditions against which the effects of individual projects can be compared. The ESPR allows the reviewer to see historical environmental information, current information, and potential future environmental effects at Hanscom Field based on a range of future scenarios. Consistent with that intent, the 2012 ESPR provides the broader cumulative context for review of the Proposed Action in this Environmental Assessment.

As described in the 2012 ESPR [http://www.massport.com/massport/about-massport/project-environmental-filings/hanscom-field/], Massport has previously evaluated both Airfield areas and has conducted extensive operational and environmental analysis of various future operating scenarios. As described in Section 4.2, the 2012 ESPR evaluated the potential environmental effects of increased Hanscom aircraft operations for years 2020 and 2030; both analysis scenarios considered activity levels well above those associated with these planned hangar additions. As part of those analyses, future noise, air quality and ground access conditions were projected and compared to past and current environmental conditions. In all cases, the 2012 ESPR considered much higher levels of activity than would likely be associated with the planned hangar developments considered in the Environmental Assessment (EA).

Concurrent with this environmental review process, Massport is advancing a Request for Public Solicitation to third-party developers to construct and operate new hangars with associated parking, aprons and ramps for both of these locations. Construction of additional corporate hangar facilities evaluated in the EA is consistent with the operational and environmental analyses presented in the 2012 ESPR.

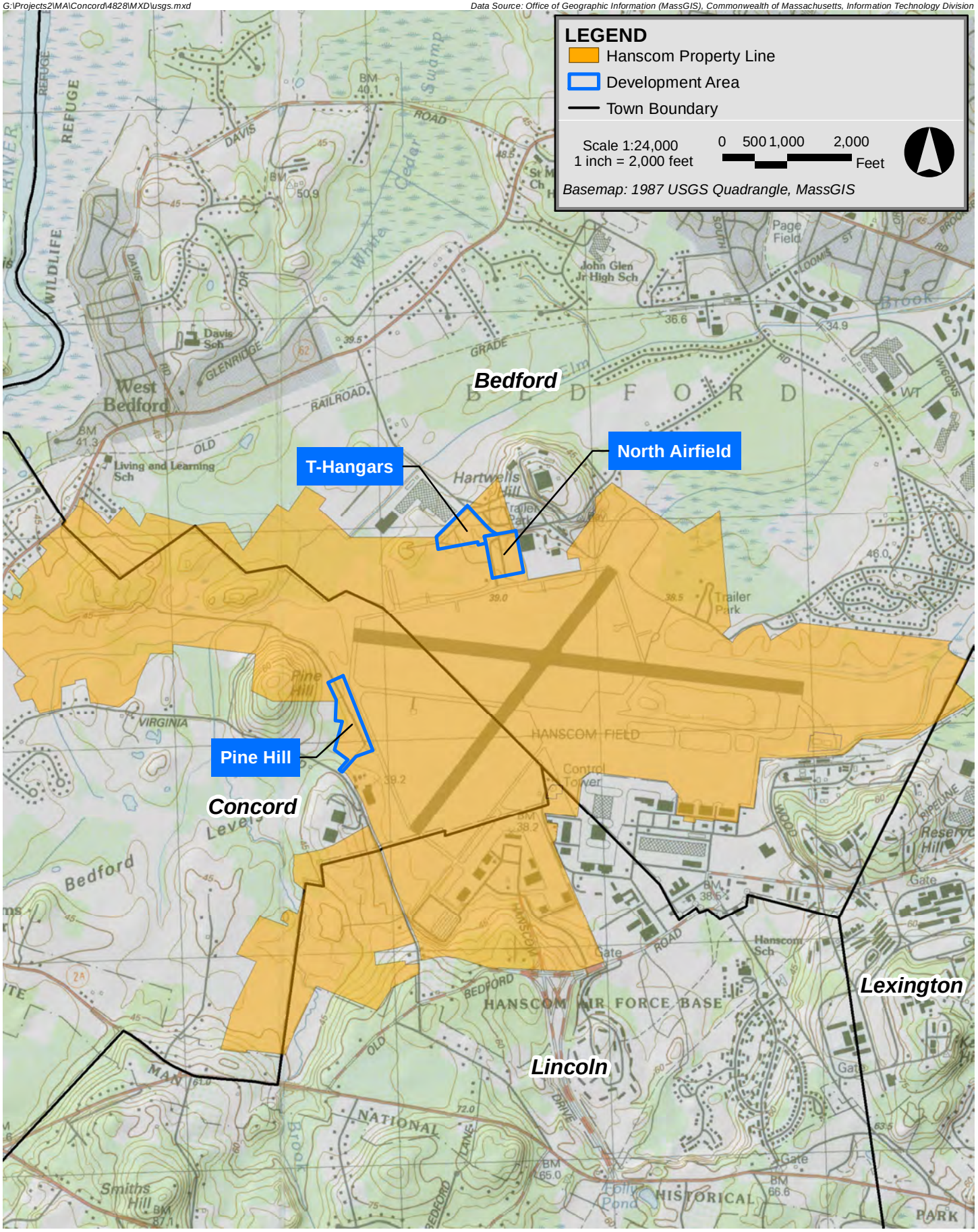
1.2 Project Location

Hanscom Field is comprised of 1,300 acres located in Bedford, Concord, Lexington and Lincoln, Massachusetts (See Figures 1-1 and 1-2). Hanscom is a full-service general aviation airport with convenient access to Eastern Massachusetts. Located about 20 miles northwest of Boston, Hanscom Field plays a critical role as a corporate reliever for Boston Logan International Airport. In 1941, the Commonwealth of Massachusetts purchased land northwest of Boston to build "Laurence G. Hanscom Field, Boston Auxiliary Airport at Bedford". Control of Hanscom Field passed to a number of different agencies until 1956, when the legislature placed Hanscom Field under Massport's jurisdiction. Although the land was always controlled by the state, the airfield was leased and maintained by the military until 1974.

Since 1978, Massport has managed Hanscom Field as a regional general aviation facility, whose major users are a mix of corporate aviation, recreational pilots, flight schools, as well as some charters and light cargo. Hanscom Air Force Base is located directly adjacent to Hanscom Field and continues to serve as part of the Air Force Life Cycle Management Center.

Land uses adjacent to Hanscom Field include residential, commercial, and protected open space (Minute Man National Historic Park and Great Meadows National Wildlife Refuge). Hanscom Field, along with the aviation-related businesses and facilities, is a vital and significant regional transportation and economic asset. The proposed hangar construction project areas are located in two separate areas of Hanscom Field: Pine Hill Area and North Airfield Area; both areas have been previously developed/altered. Please see Sections 3.3 and 4.1 for a detailed discussion of these areas.

Data Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division



Hanscom Field Environmental Assessment Bedford and Concord, Massachusetts

Epsilon Associates Inc.

Figure 1-1

USGS Locus Map

Hanscom Field Environmental Assessment Bedford and Concord, Massachusetts

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Figure 1-2

Aerial Locus Map

In addition to its many aviation-related benefits, the airport also supports local businesses and industries, provides support to adjacent military facilities, supports tourism, as well as encourages additional business development and expansion for cities and towns throughout the Boston Metropolitan Region. This fact was demonstrated in the Massachusetts Department of Transportation (MassDOT) – Aeronautics Division's 2014 Airport Economic Impact Study Update, which quantified the total aviation and non-aviation related impact of the Hanscom Field (exclusive of military aviation activity) at 1,745 jobs, and a total annual economic output of $348 million in direct and indirect economic activity.

1.3 National Environmental Policy Act (NEPA)

The National Environmental Policy Act (NEPA, Pub. L. 91-190, 42 U.S.C. 4321-4347, January 1, 1970, as amended by Pub. L. 94-52, July 3, 1975, Pub. L. 94-83, August 9, 1975, and Pub. L. 97-258, § 4(b), Sept. 13, 1982) provides an interdisciplinary framework to ensure that federal agency decision-makers consider all environmental effects of a project and the best measures to avoid, minimize and mitigate unavoidable impacts. To address NEPA in airport development, the Federal Aviation Administration (FAA) issued Order 1050.1F, Environmental Impacts: Policies and Procedures, and FAA Order 5050.4b, National Environmental Policy Act Implementing Instructions for Airport Actions. These documents identify three project categories: Actions which are Categorically Excluded (CatEx); Actions requiring an Environmental Assessment (EA); and Actions requiring an Environmental Impact Statement (EIS).

1.4 Environmental Assessment Requirement

The FAA protocols and procedures for implementing NEPA and addressing the requirements set in the Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508, 1978) at airports have outlined airport-specific development actions and the required permitting for each.

The proposed redevelopment requires review under NEPA by the FAA. Because Hanscom receives federal funding and is part of the national airspace system, it is a federally-obligated airport and therefore, the FAA must approve revisions to its approved Airport Layout Plans (ALP). Based on initial review of the planning concepts, FAA has indicated that preparation of an EA is the appropriate NEPA review process for the ALP revisions.

The CEQ states that an EA is a "concise document" that takes a "hard look" at expected environmental effects of a proposed action. In this instance, the proposed federal action includes FAA approval of the proposed revisions to the approved ALP for L.G. Hanscom Field.

1.5 Federal, State and Local Agency Jurisdiction

Based on the Proposed Action for the development of new hangars, Massport will be required to obtain the federal, state, and local permits identified in Table 1-1. Table 1-1 also identifies the agency responsible for issuing the permit, and the standards with which the Proposed Action must comply.

Massport has considered whether the Proposed Action will be subject to review under the Massachusetts Environmental Policy Act (MEPA) and its implementing regulations (301 CMR 11.00 et seq.) Massport has consulted with the MEPA office and has confirmed that the planned redevelopment does not exceed any of the MEPA thresholds at 301 CMR 11.03 and therefore is not subject to MEPA review.

Table 1-1 Permits and Approvals Required for the Proposed Action

Permit	Agency	Measures to Comply with Applicable Performance Standards
Federal		
Coverage under National Pollutant Discharge Elimination System (NPDES) Construction Activities Permit	Environmental Protection Agency	Stormwater Pollution Prevention Plan to be developed and implemented, involving series of construction BMPs to reduce potential for erosion and sedimentation
Coverage under Draft TMDL for Stormwater Pollution	MA Department of Environmental Protection (MassDEP)	No increase in peak runoff in post-construction stormwater management due to Total Maximum Daily Loads established for the Shawsheen River and Elm Brook.
Federal Aviation Administration (FAA) planning, design, and safety Standards: AC 150/5300-13A Airport Design	Federal Aviation Administration (FAA)	The proposed taxilane will be designed to comply with FAA design requirements; new buildings will comply with Part 77 standards.
Section 7 Consultation under U.S. Endangered Species Act	Department of Interior, U.S. Fish and Wildlife Service (USFWS)	The airport is located within the so-called White Nose Syndrome Buffer Zone of the Northern Long Eared Bat. Any required tree removal will be evaluated for review by the USFWS.
State		
MESA	MA Department of Fish and Game (MDFG)	Any alteration of protected habitat will be offset by removal of excess airfield pavement, in addition to 2017 runway 11/29 shoulder removal, in coordination with MNHESP.
WPA	MA Department of Environmental Protection (MassDEP) (local conservation commission)	Any alteration of state wetland buffer zone would require review and approval by the local Conservation Commission.

Section 2.0

Purpose and Need

2.0 PURPOSE AND NEED

2.1 Overview

As described in Section 1.4, the FAA must approve proposed changes to Hanscom's ALP. This approval constitutes a federal action requiring NEPA review. The purpose and need for a project is a key element of the NEPA review. It explains the reason for the action and what the agency expects to achieve. Further, it provides the basis for evaluating the effectiveness of the alternatives, *i.e.* how best each alternative achieves the purpose of the project by addressing the documented needs.

2.2 Purpose and Need

The purpose of the project is to meet both current demand and the anticipated increased demand that is likely to result from continued strong growth in the business aviation sector in the coming years.

Hanscom Field currently accommodates three fixed based operators (FBOs): Signature Flight Support, Jet Aviation of America, and Rectrix Aerodrome Centers. FBOs provide a range of aeronautical support services including fueling, hangaring, maintenance and some passenger services. All three FBOs have reported to Massport that they are currently operating over capacity and have been forced to place customers seeking hangar space for their aircraft on waiting lists. In addition, Massport also has existing customers that desire permanent hangar space that they are currently unable to accommodate.

Further supporting the need for the project is the trend in business aviation at Hanscom. As illustrated in the annual State of Hanscom reports [http://www.massport.com/hanscom-field/about-hanscom/publications-reporting/], although overall operations continue to decline, business aviation has been the fastest growing segment of activity at Hanscom Field, increasing from 20,242 operations in 2000 to 30,380 in 2017. As a result of the growth in these operations and Hanscom's role as the principal airport for the Boston region's corporate and business aviation needs, additional hangar space is needed to securely house these business jets. In addition, the existing tenants and other businesses have expressed interest in developing new hangars at Hanscom for their business jets.

Thus there is a need to provide additional and or private hangar space to accommodate both existing and anticipated future demand for space, particularly to service business aviation needs. Additionally, increased hangar space may potentially reduce the number of ferrying flights that currently take place due to limited hangar space. As further discussed in Section 4.2, increased operations occur when business aircraft that would otherwise be based at Hanscom Field are instead forced to arrive at Hanscom to drop off or pick up passengers and depart to wait at another facility overnight prior to returning to Hanscom for their passengers. This ferrying effect that results from the lack of hangar space at Hanscom essentially creates four trips with two empty legs, when only two trips would be required,

were there sufficient hangar space to accommodate demand. Massport proposes to redevelop two areas and make them available for hangar construction. All aspects of the project discussed herein considered avoiding and minimizing impacts and reuse of previously developed areas. The first area is approximately 15 acres in the North Airfield Area development area (labeled North Airfield Area on Figure 1-2). The second area consists of approximately 10 acres in the Pine Hill development area (labeled Pine Hill Area on Figure 1-2). Redevelopment of the Pine Hill Area will require the demolition of three existing T-Hangar buildings on the site. Massport proposes to replace these T-Hangars in the North Airfield Area adjacent to the proposed hangar construction site. The existing T-Hangars cannot efficiently or cost-effectively be relocated due to age and structural limitations. New apron space will be added in association with the hangar construction in order to provide areas for the aircraft using the new hangars to maneuver, load, unload, fuel and park temporarily.

2.3 Public Involvement

As part of Massport's environmental review process for each project, public outreach is undertaken to seek input from the community, interested parties and local, state and federal agencies. This effort will continue through permitting of the Pine Hill and North Airfield areas. This EA, along with other key regulatory filings, will be posted on Massport's website at http://www.massport.com/massport/about-massport/project-environmental-filings/ hanscom-field/. Please see Section 7.0 of this document for a circulation list.

Massport has discussed this project in the public Hanscom Field Advisory Commission (HFAC) meetings on a monthly basis starting in January 2017 and the projects will remain on upcoming agendas for public comment following publication of this EA.

Following public notice of the Draft EA on April 19, 2018, there was a 30-day public comment period which ran from April 19th to May 21st, 2018 . Within that comment period, a public meeting on the project and Draft EA was held at the Hanscom Field Civil Air Terminal on April 24, 2018. Notice of the EA public meeting was published in four local newspapers, as follows: the Concord Journal (April 19, 2018), Bedford Minuteman (April 19, 2018), Lexington Minuteman (April 19, 2018), and Lincoln Journal (April 20, 2018) newspapers. Massport and FAA received four comment letters, including those from the Town of Bedford Selectmen, Massachusetts Natural Heritage and Endangered Species Program, and two Bedford residents. Comments are focused on construction traffic, aviation noise as a result of the operations at the proposed new developments, existing contamination at the North Airfield site, and impacts to grassland bird species habitat. This EA addresses each of these comments throughout the document and in Attachment B, Response to Comments. Copies of the four comment letters are also included in Attachment B. Commenters have received a copy of this Final EA Document.

Section 3.0

Proposed Action and Alternatives

3.0 PROPOSED ACTION AND ALTERNATIVES

3.1 Proposed Action

As described below, in an effort to respond to demand for corporate hangar space, Massport plans to offer two development areas at Hanscom Field for redevelopment. It is anticipated that Massport would be constructing the replacement T-Hangars and the North Airfield taxilane. Construction of new hangars and associated apron and parking areas would be by developers in response to a pending Request for Public Solicitation.

3.1.1 Pine Hill Area

The Pine Hill Area is located on the western side of the airfield, proximate to Taxiway M and Virginia Road, in Concord (see Figure 3-1). To accommodate site redevelopment, Massport proposes to replace the three existing Pine Hill Area T-hangar buildings (Buildings 37, 38, & 39), comprising approximately 55,000 sf of hangar space, on the northern side of the airfield between Taxiway R and the Hartwell Road entrance in Bedford (see Section 3.1.2 below).

New commercial aviation hangar space totaling approximately 60,000 sf and approximately 160,000 sf of new apron space would be constructed along Taxiway M. Additional administrative, maintenance and support space is also needed for the 60,000 sf hangar space. The new hangar (or hangars) would be set back from Taxiway M to allow for apron space to be added along the easterly side. Access to this area would be through an existing security gate off Virginia Road. All work is planned to be constructed outside of wetlands and to avoid the associated 100-foot state Wetlands Protection Act buffer zone to the maximum extent practicable. Where feasible, existing impervious surface area will be redeveloped. The existing stormwater management system would be replaced and upgraded in compliance with Massport's stormwater management policy and MassDEP's Stormwater Management Standards to ensure that all standards are met (see Sections 4.3.10 and 5.11).

3.1.2 North Airfield Area

The North Airfield Area is located on the northern side of Hanscom Field, north of Taxiway R, and consists of approximately 15 acres which can support roughly 165,000 sf of hangar space as previously identified in the 2012 ESPR (see Figure 3-2), however, depending on the final design of the Proposed Action, the North Airfield Area may be able to support larger development at a future date. This potential will be further evaluated in the next ESPR. The North Airfield Area has been separated into two designated development areas. The first development area of approximately seven acres will accommodate replacement of the three Pine Hill Area T-hangars in two or three buildings comprising approximately 55,000 sf of hangar space.

Figure 3-1

Pine Hill Development Area – Existing Conditions

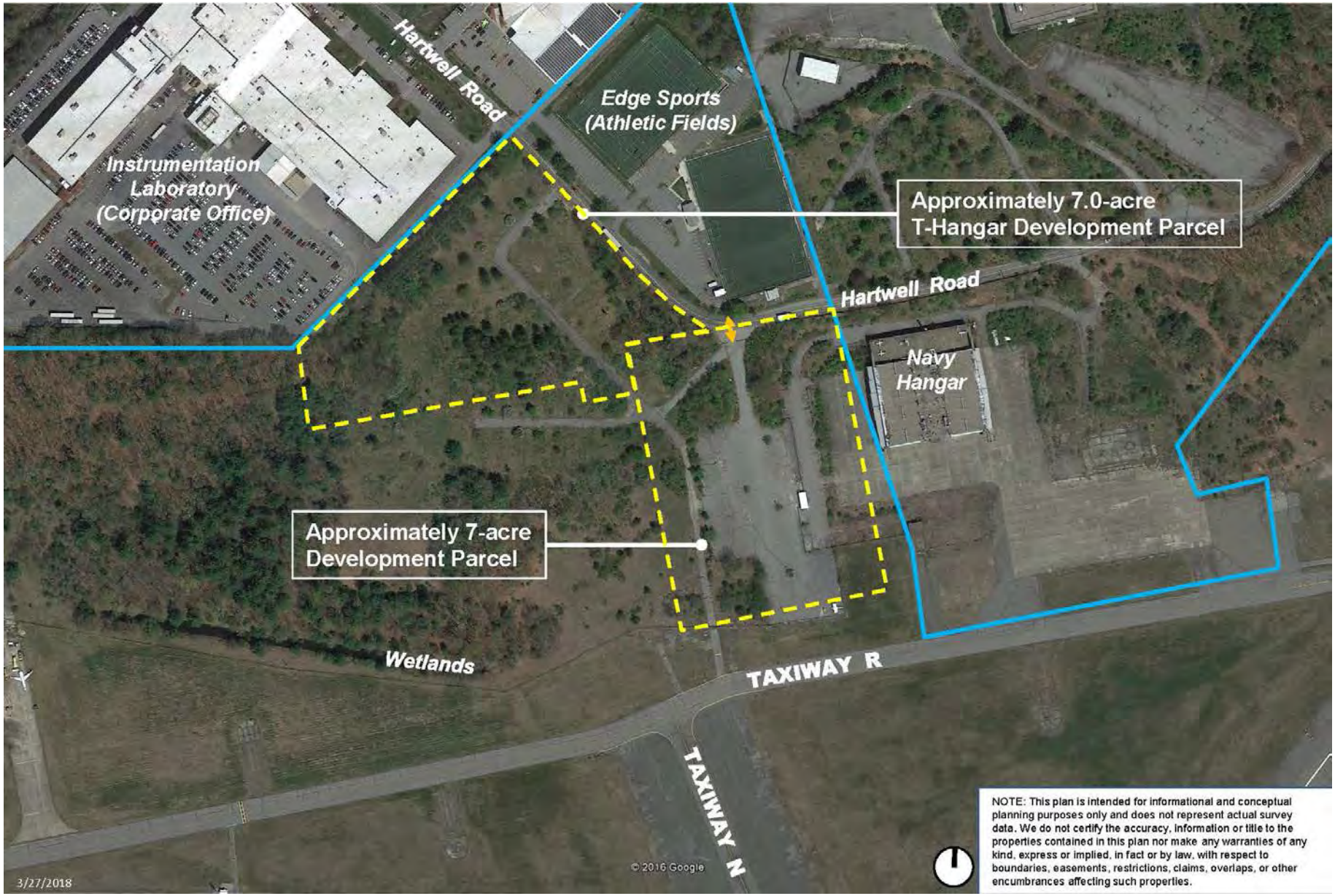


Figure 3-2

North Airfield Development Area – Existing Conditions

A designated apron area and a parking lot of approximately 20-spaces accessible from Hartwell Road would also be constructed. The second redevelopment area at the North Airfield Area (approximately seven acres) is proposed to be redeveloped into approximately 110,000 sf of hangar space. As with the planned redevelopment at the Pine Hill Area, the additional corporate hangars in the North Airfield Area would also have some additional administrative/support space. A portion of the new construction would be in a paved area that was formerly used for parking. An additional 100,000 sf of associated apron space as well as vehicle parking would also be constructed.

To provide access to the airfield, a new taxilane is proposed (approximately 900-feet long by 50-feet wide) to be constructed between the T-hangar units and the new hangar sites, and extending southward to Taxiway R, totaling approximately one acre of disturbance. In compliance with FAA Advisory Circular 150/5300-13A, Massport proposes a slight curve in the taxilane in order to create an indirect connection from the taxilane to the runway via Taxiway R.

Construction in this area is planned to be completed outside wetlands and in the associated 100-foot state buffer zone and in accordance with the National Pollution Discharge Elimination System (NPDES) Construction General Permit (CGP). The site does not currently have a stormwater management system. A new system will be installed, designed to meet or exceed Massport's stormwater management policy and MassDEP's Stormwater Management Standards to ensure that any increase in impervious surfaces on these redevelopment does not increase peak runoff rates and meet infiltration requirements. Similar to Jet Aviation's recent project at Hanscom to build a new FBO facility, increases in impervious surface in these two redevelopment sites have or will be offset by removal of impervious surface elsewhere on the airfield. Please see Sections 4.3.10 and 5.11 for further discussion on existing and proposed stormwater management.

In anticipation of this future development, in the summer of 2017, Massport removed nearly 10-acres of excess airfield pavement including areas in proximity to the proposed redevelopment. As part of upcoming project construction, Massport expects to remove additional excess airfield pavement.

3.2 Sustainable Design

Massport will require that the selected developer of each area meet Massport's *Sustainable Design Standards and Guidelines, Volume 2*, (2011a) as well as the requirements of the *Massport Guide to Tenant Construction* (2009). These documents are components of Massport's overall sustainability program, which include diverse sustainability initiatives ranging from facilities maintenance to innovative partnerships and public incentives.

The Standards apply to new construction projects such as this one, and are intended to be used by architects, engineers, and planners working on tenant alterations on Massport property. Furthermore, the Standards require that new buildings are designed and constructed in accordance with LEED (Leadership in Energy and Environmental Design) Silver certification standards.

3.3 Alternatives

As part of the planning process, and consistent with the aviation scenarios presented in Section 3.4 of the 2012 ESPR and the planning assumptions discussion in Section 4.5 of the 2012 ESPR, alternatives were evaluated for airfield development to provide sufficient facilities to accommodate the current aviation demand. The alternatives are also intended to satisfy the subsequent facility requirements, meet applicable FAA design standards, and provide methods to meet local constraints and address community concerns. Figures 3-3 through 3-6 depict the alternatives that were considered. The alternative layouts described herein primarily considered hangar spaces of 60,000 sf for the Pine Hill Area and 110,000 sf for the North Airfield Area (exclusive of the T-hangars), in accordance with the 2012 ESPR's identification for the need of approximately 170,000 sf of new hangar development for the year 2020, associated apron space and vehicle parking areas, along with access to the airfield via taxiway or taxilane.

3.3.1 Pine Hill Area

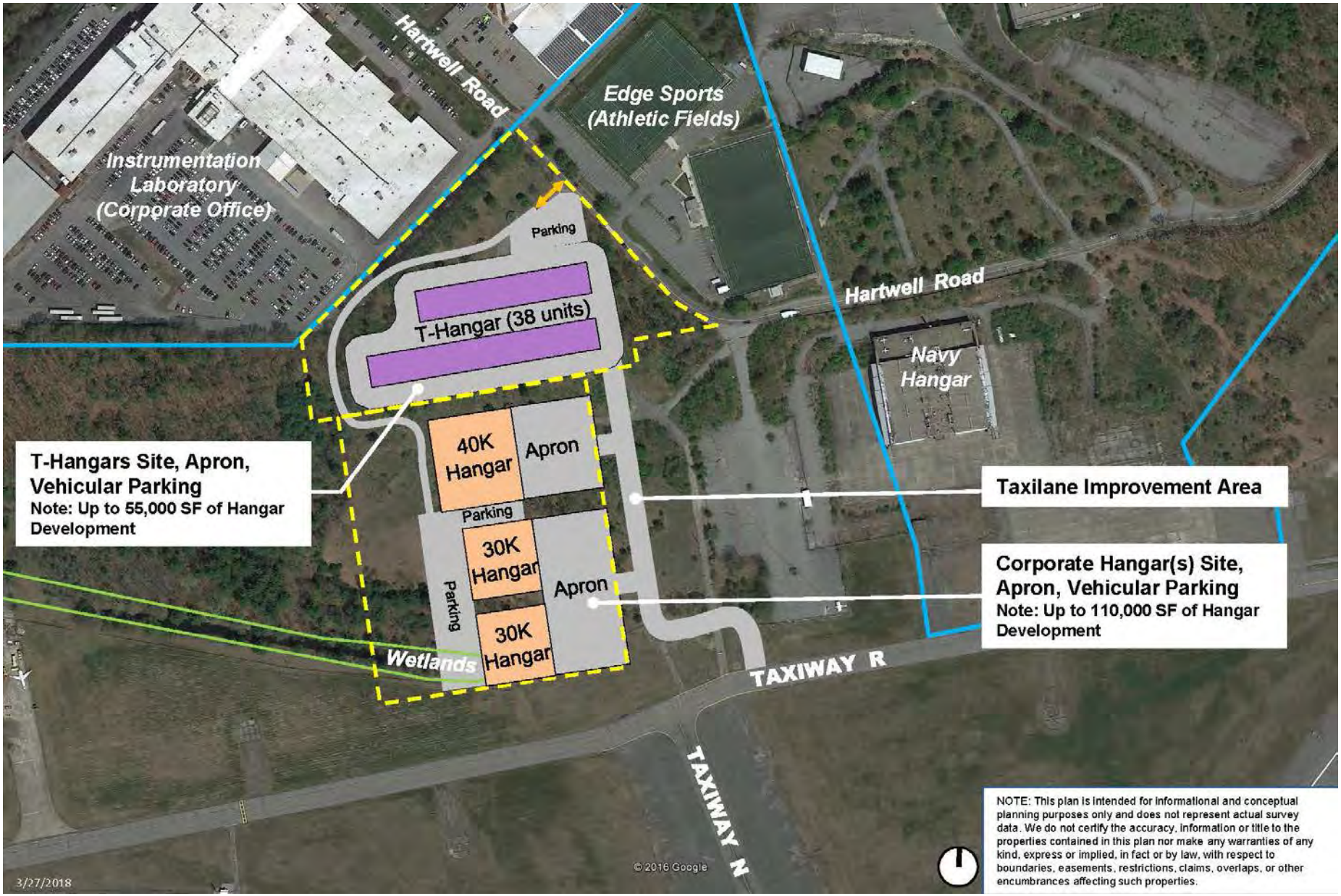
Both Pine Hill Area alternatives propose 60,000 sf of hangar space, and additional associated support space that would be accessed via the existing roadway and access control gate at Virginia Road. The area is adjacent to the Middlesex Green Office Parking Area to the west, a small residential neighborhood to the southwest along Fuller Lane, Taxiway M to the east, and Building 25 owned by Massport and currently leased to the United States Air Force. The Pine Hill Area is approximately 10.3 acres and contains three T-hangar buildings (buildings 37, 38, 39) totaling approximately 55,000 sf, associated paved apron area, and a paved parking area for approximately 17 vehicles. The buildings contain 38 units which can accommodate piston engine aircraft and helicopters. This area is being considered for a new hangar; this would require demolishing existing T-hangar buildings 37, 38, and 39. Under this scenario, there would be an in-kind replacement of the T-hangar units in two or three buildings in the North Airfield Area of Hanscom Field. In addition to no-action, two new hangar layout alternatives for the Pine Hill Area were considered.

Figure 3-3

Pine Hill Development Area – Alternative 1 (Expanded Ramp Apron)

Figure 3-4

Pine Hill Development Area – Alternative 2 (Proposed Action)

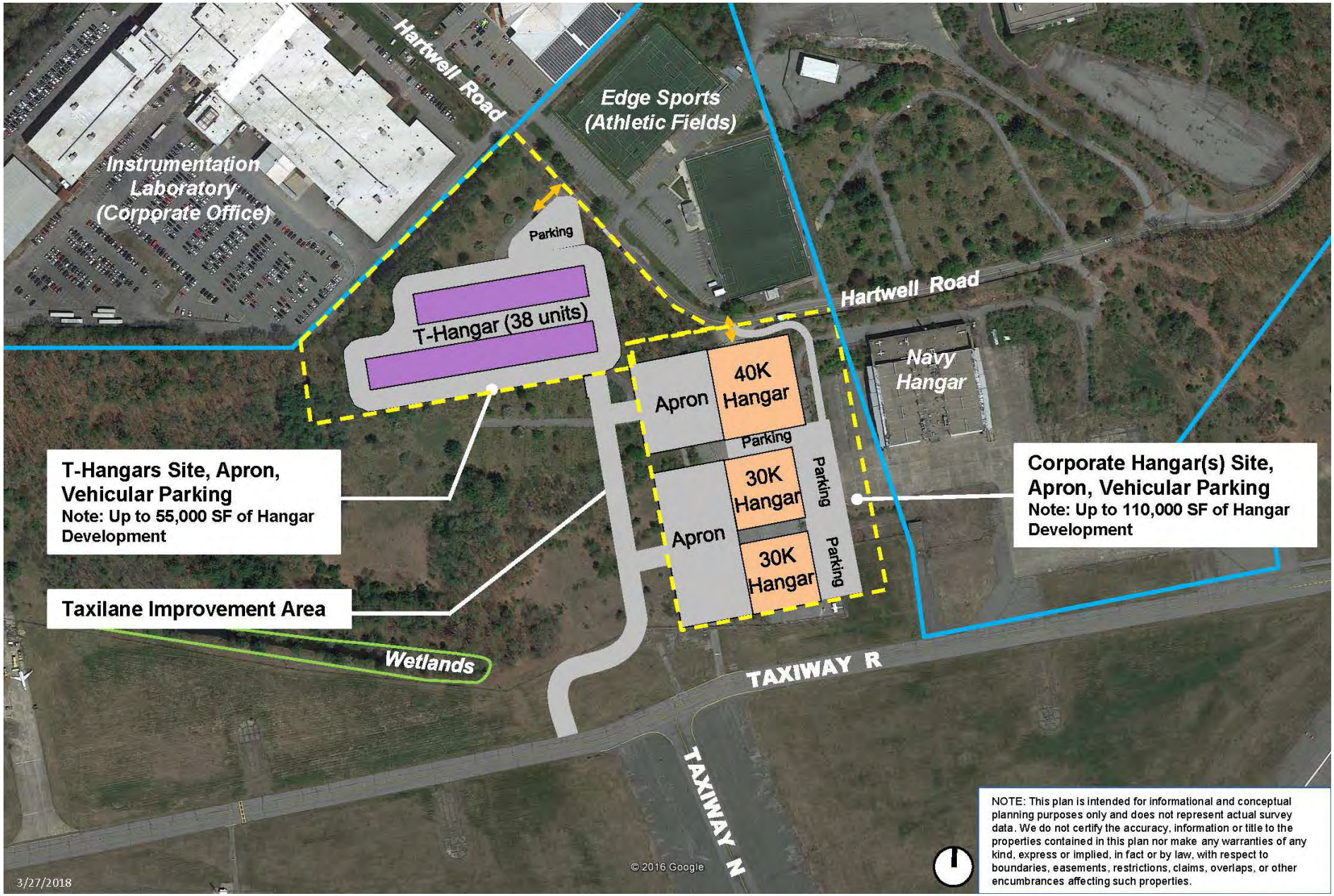


Hanscom Field Environmental Assessment Bedford and Concord, MA

Epsilon ASSOCIATES INC.

Figure 3-5

North Airfield Development Area– Alternative 1 (Western Development)



Hanscom Field Environmental Assessment **Bedford and Concord, MA**

Epsilon ASSOCIATES INC.

Figure 3-6

North Airfield Development Area – Alternative 2 (Proposed Action)

3.3.1.1 No Action Alternative

This alternative would not relocate the T-hangars and no additional corporate hangar space would be constructed. No additional ramp or apron space would be available for development use either. Since this alternative does not meet the purpose and need of meeting demand for additional hangar space, nor reduce unnecessary aircraft ferrying, this alternative was not selected.

3.3.1.2 Alternative 1 – Expanded Ramp

The Pine Hill Area Alternative 1 considered one vehicular parking area, aircraft parking area/ramp, as well as one 60,000 sf Hangar (See Figure 3-3). The layout of the Hangar close to Virginia Road would help to minimize the development impacts further to the north and west of the area because it eliminates the need for an access roadway further into the area. This alternative would require the alteration of approximately 3,700 sf of vegetated wetlands and additional buffer zone area due to the Hangar's layout near the existing vehicle parking area.

3.3.1.3 Alternative 2 - New Hangar and Ramp (Proposed Action)

The Pine Hill Area Alternative 2 considered a 60,000 sf hangar with two vehicular parking areas, each with approximately 30 vehicles (Figure 3-4). The lots would be at both ends of the proposed hangar and aircraft ramp and parking area. Construction of a new roadway connection from the existing access at Virginia Road would be required to access the hangar and adjacent vehicle parking areas. Alternative 2 minimizes environmental impacts by remaining outside the wetland/buffer area located to the west of Hangar Building 37. Additionally, Alternative 2 maximizes the use of the existing impervious area around the T-Hangars which today is used as apron area.

3.3.2 North Airfield Area

The North Airfield Area alternatives comprise two redevelopment areas (totaling 15 acres); one is a corporate hangar development area and the other is a development site for the T-hangars that are proposed to be relocated from the Pine Hill Area and which will be accessible on the landside via Hartwell Road. Both alternatives propose 3 T-hangar units in two or three buildings, and are likely to include at least one 40,000 square foot hangar and two 30,000 square foot hangars with associated vehicle parking areas and aircraft apron and parking. A new taxilane would be constructed off of Taxiway R to access these aviation development areas. Both areas would have landside access via the existing roadway and access control gates at Hartwell Road.

3.3.2.1 No Action Alternative

This alternative would not relocate the T-hangars to the North Airfield Area and no additional hangar space would be constructed. No additional ramp or apron space would be available for corporate use either. Since this alternative does not meet the purpose and need of meeting demand for additional corporate hangar space, nor reduce unnecessary aircraft ferrying this alternative was not selected.

3.3.2.2 Alternative 1 – Western Development

The Hangar site is currently mostly vegetated with grass and contains a small manmade wetland area of approximately 600 square feet that provides drainage relief to the airfield. The three new hangars would be accessed via an access road off of Hartwell Road that would also be used to access the T-Hangar site (see Figure 3-5). Operationally, the layout is ideal for new hangar development due to its easy access from Taxiway R and runways. The T-Hangar site contains some impervious roadway area that remains from its previous use as a United States Air Force (USAF) trailer park. Alternative 1 would impact approximately 600 square feet of vegetated wetlands and associated buffer zone at the western edge of the site and would not make use of the already impervious surface that currently exists adjacent to the Navy Hangar. This alternative utilizes one point of entry for both sites from Hartwell Road. Additionally, the construction of a longer access road to the Corporate Hangar site would have additional impacts by increasing the amount of new impervious surface which would need to be offset by pavement removal or use of other infiltration practices.

3.3.2.3 Alternative 2 – Parking Lot Development (Proposed Action)

The Hangar site is primarily impervious but has some grassed areas. The site was formerly a parking lot and a USAF trailer park, and is occasionally used for construction staging. Remnants of the mobile home foundations and roadway network still remain. The two or three new Hangars would be accessed via an existing curb cut on the site at Hartwell Road (see Figure 3-6). Operationally, the layout is ideal for new hangar development due to its easy access from Taxiway R and runways. The proposed T-hangar site contains a small amount of impervious area from its previous use as the USAF Trailer Park, totaling approximately 4 acres of asphalt. Alternative 2 is configured to maximize operational facilities. The environmental impacts for Alternative 2 are minimized by it being outside the wetland buffer area. The site also makes use of an existing impervious area which limits impacts to the watershed and Massachusetts Natural Heritage and Endangered Species Program (MNHESP) habitat. Alternative 2, while similar to Alternative 1, makes use of existing roadway and gate accesses from Hartwell Road and would therefore offer some construction cost savings. This alternative is the most efficient use of space, given the size of the Proposed Action. The location of the North Airfield Area is ideally situated in order to preserve opportunities for development in the future.

Section 4.0

Affected Environment

4.0 AFFECTED ENVIRONMENT

This section describes existing conditions on and near the proposed redevelopment areas at Hanscom Field. It identifies the resources that may be affected by the proposed actions described above in Section 1. There are 14 possible environmental impact categories identified by FAA Order 1050.1F. As stated in Paragraph of 4-2.c of FAA Order 1050.1F, *"[i]f an environmental impact category is not relevant to the proposed action or any of the reasonable alternatives identified (i.e., the resources included in the category are not present or the category is not otherwise applicable to the proposed action and alternative(s)), this should be briefly noted and no further analysis is required."* It is not the intent of this document to provide detailed discussion or analysis of all categories; rather, only those areas where there is the potential for there to be significant environmental impact caused by the proposed action and alternatives, or where there are uncertainties which require evaluation, are identified in this document. The area of analysis for direct and indirect impacts includes the Pine Hill Area and North Airfield Area, and where necessary, is expanded to include Hanscom Field and the surrounding communities.

Environmental concerns and possible hazards are an important consideration for any public use airport. This environmental overview takes as its guide the requirements of FAA Order 1050.1F. The following sections describe the existing conditions of the NEPA review factors that potentially may be affected by the proposed actions.

This EA also relies on the 2012 Hanscom ESPR for detailed discussion of airport-wide site conditions and overall project context and consideration of cumulative effect. The 2012 ESPR is available here: http://www.massport.com/massport/about-massport/project-environmental-filings/hanscom-field/.

4.1 Project Location

Hanscom Field is comprised of over 1,300 acres within four different municipalities, Bedford, Concord, Lexington, and Lincoln, approximately 20 miles west of Boston. Operated in 1941 as a military facility, civilian operations did not become dominant until 1974 when Massport took over control and military operations declined to approximately one percent. Since then, Hanscom Field is identified as a general aviation facility with a mix of corporate aviation, recreation pilots, flights schools, commuter/commercial air services, with some charter and light cargo.

The proposed hangar development areas are located in two separate, distinct portions of the airfield.

4.1.1 Pine Hill Area

The 10.3 acre Pine Hill Area is in Concord, adjacent to Taxiway M at the western extent of the Hanscom Field. The area is adjacent to the Middlesex Green Office Parking Area to the west, a small residential neighborhood to the southwest along Fuller Lane, Taxiway M to

the east, and Building 25 owned by Massport and currently leased to the United States Air Force. It is currently occupied by three T-hangar buildings (Buildings 37, 38 and 39) comprising 38 units, associated paved apron and ramp space, and borders the western boundary of Hanscom Field by Virginia Road which is comprised of 4.1 acres of existing impervious surface. The western portion of the area is a maintained grassy area with perimeter security fencing; outside the fencing an undeveloped portion consisting of upland wooded and wetland areas. A portion of site including the existing T-hangars, paved apron and driveways, are within an area mapped by MNHESP as protected grassland habitat (see Figure 4-1). See Site Photographs in Attachment A.

4.1.2 North Airfield Area

The North Airfield Area contains two designated hangar development areas totaling 14.0 acres and is located on the north side of Hanscom Field in Bedford, between Taxiway R and Hartwell Road. The North Airfield Area locations are adjacent to the Navy Hangar to the east, Taxiway R to the south, Instrumentation Laboratory (Corporate Office Center) to the northwest, and Hartwell Road to the north. This vacant area consists of primarily scrubby grassland with scattered trees and remnant impervious surfaces from past use as USAF housing and parking. Portions of the site area have been utilized for temporary construction staging of vehicles, trailers, and equipment. There are four acres of existing impervious surface. See Site Photographs in Attachment A.

4.2 Operations and Future Forecasting

Today, Hanscom Airfield is primarily a general aviation (GA) airport, providing local residents and businesses access to the National Air Transportation System. As a gateway to the community, the airport offers an entrance point for business, recreation, and tourism. Aircraft operations include commuter, business, charter, light cargo, personal aircraft, air taxi, medical, military and flight school activity. Many of the major businesses in the area and their customers use the airport. Approximately 67 percent of the aircraft using the facility are two- to twelve-seat single- and twin-engine aircraft. Total activity at the airport was less than 129,000 operations in 2017. At its peak in the mid-1970s, Hanscom Field accommodated over 300,000 annual operations.

It is expected that the new hangars will be occupied by corporate jets including a mix of aircraft already operating at Hanscom and new users. In 2017, Hanscom accommodated approximately 30,380 annual business jet operations; the 2012 ESPR evaluated approximately 35,000 annual business jet operations for the 2020 future scenario and nearly 47,000 annual business jet operations for the 2030 scenario. Any additional operations associated with the new hangar spaces would be expected to fall well within the operational and environmental scenarios evaluated in the 2012 ESPR.

As was described in the Purpose and Need Section in Chapter 2 of this EA, the three FBOs at Hanscom are currently operating over capacity; they are unable to meet the demand for hangar space, particularly for business aircraft, and must turn away potential customers seeking either permanent or day-use space at the field. This results in increased numbers of operations at the field because business aircraft that would otherwise be based at the field to move passengers are instead forced to arrive at Hanscom to drop off or pick up passengers and depart to wait at another facility prior to returning to Hanscom for the passengers. This ferrying effect that results from the lack of hangar space at Hanscom essentially creates four trips with two empty legs, when only two trips would be required, were there sufficient hangar space to accommodate demand. Massport expects that the proposed concepts will accommodate between 10 and 12 aircraft, some of which are already based at Hanscom. Overall, because of the additional hangar space, there may be fewer total business landings and takeoffs than would occur without the new hangar space due to the decreased need to ferry aircraft.

4.3 Existing Conditions

4.3.1 Air Quality

Air quality assessments for proposed federal actions may be necessary for compliance with the requirements of NEPA, the Clean Air Act (CAA), and other environmental regulations. In addition to federal requirements, many states and local areas have air quality requirements that may address airports and air bases.

As part of this EA, an air quality impact analysis must be performed for existing conditions and each viable project alternative. This must include an analysis and conclusions which address the attainment and maintenance of established air quality standards.

4.3.1.1 National and State Ambient Air Quality Standards

The 1970 CAA was enacted by Congress to protect the health and welfare of the public from the adverse effects of air pollution. As required by the CAA, the United States Environmental Protection Agency (EPA) promulgated National Ambient Air Quality Standards (NAAQS) for six criteria pollutants: nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM10 and PM2.5), carbon monoxide (CO), ozone (O_3), and lead (Pb). The NAAQS are listed in Table 4-1. Massachusetts has similar standards, referred to as Massachusetts Ambient Air Quality Standards (MAAQS).

The NAAQS presented in Table 4-1 specify concentration levels for various averaging times. The NAAQS includes both "primary" and "secondary" standards. The primary standards are intended to protect human health; whereas, the secondary standards are intended to protect public welfare from any known or anticipated adverse effects associated with the presence of air pollutants, such as damage to vegetation.

Table 4-1 National and Massachusetts Ambient Air Quality Standards

Pollutant	Averaging Period	NAAQS ($\mu g/m^3$)[1]		MAAQS ($\mu g/m^3$)[1]	
		Primary	Secondary	Primary	Secondary
NO_2	Annual (1)	100	Same	100	Same
	1-Hr (2)	188	None	**None**	None
SO_2	Annual (1)(9)	80	None	80	None
	24-Hr (3)(9)	365	None	365	None
	3-Hr (3)	None	1300	None	1300
	1-Hr (4)	196	None	**None**	None
$PM_{2.5}$	Annual (1)	12	15	**None**	**None**
	24-Hr (5)	35	Same	**None**	None
PM_{10}	Annual (1)(6)	None	None	**50**	Same
	24-Hr (3)(7)	150	Same	150	Same
CO	8-Hr (3)	10,000	Same	10,000	Same
	1-Hr (3)	40,000	Same	40,000	Same
Ozone	8-Hr (8)	147	Same	**235**	Same
Pb	3-month (1)	1.5	Same	1.5	Same

Differences in NAAQS and MAAQS are highlighted in **BOLD.**
(1) Not to be exceeded.
(2) 98th percentile of one-hour daily maximum concentrations, averaged over three years.
(3) Not to be exceeded more than once per year.
(4) 99th percentile of one-hour daily maximum concentrations, averaged over three years.
(5) 98th percentile, averaged over three years.
(6) EPA revoked the annual PM_{10} NAAQS in 2006.
(7) Not to be exceeded more than once per year on average over three years.
(8) Annual fourth-highest daily maximum eight-hour concentration, averaged over three years.
(9) EPA revoked the annual and 24-hour SO_2 NAAQS in 2010. However, they remain in effect until one year after the area's initial attainment designation, unless designated as "nonattainment".
Source: http://www.epa.gov/ttn/naaqs/criteria.html and 310 CMR 6.04

The NAAQS also reflect various durations of exposure. The short-term periods (24 hours or less) refer to exposure levels not to be exceeded more than once a year. Long-term periods refer to limits that cannot be exceeded for exposure averaged over three months or longer.

[1] Microgram per cubic meter.

Although not considered a "criteria pollutant" in the traditional sense where there is a concentration standard protective of human health and/or property, carbon dioxide (CO_2) is considered a "greenhouse gas" and analysis of CO_2 emissions are required as part of an air quality analysis.

4.3.1.2 Attainment Status

Section 107 of the 1977 CAA Amendment requires that the EPA publish a list of the geographic areas in compliance with the NAAQS, and those areas not in compliance with the NAAQS. Areas not in NAAQS compliance are deemed non-attainment areas. Areas that have insufficient data to make a determination are deemed unclassified and are treated as being attainment areas until proven otherwise. An area's designation is based on the data collected by the state monitoring network on a pollutant-by-pollutant basis.

The attainment status for each pollutant is shown in Table 4-2.

Table 4-2 Middlesex County Attainment Status

Pollutant	Status
Sulfur Dioxide (SO_2) (1-hour and annual)	Better than national standards (Attainment) EPA is still designating States for the 1-hour SO_2 standard.
Carbon Monoxide (CO) (1- and 8-hour)	Maintenance (moderate) (Only the cities of: Cambridge, Everett, Malden, Medford, and Somerville.)
Ozone (O_3) (8-hour)	Unclassifiable/Attainment (2008) Unclassified (2015)
Particulate Matter (PM10) (24-hour)	Unclassifiable
Nitrogen Dioxide (NO_2) (annual)	Unclassifiable/Attainment
Particulate Matter (PM2.5) (annual and 24-hour)	Unclassifiable/Attainment
Lead (Quarterly)	Unclassifiable/Attainment

Source: 40 CFR 81.322, EPA's "Green Book," and Massachusetts 2015 Air Quality Report

4.3.1.3 State Implementation Plan

Massachusetts is designated as nonattainment for ozone. States with nonattainment areas show their intent to meet the NAAQS by preparing State Implementation Plans (SIP) outlining realistic methods to do so in the required timeframe.

Massachusetts has an approved SIP for 1-hour ozone (from 2002) and an approved SIP for 8-hour ozone (from 2008).

4.3.1.4 Environmental Conditions

The study area for Air Quality includes the entirety of Hanscom Field. The primary air pollutant sources at Hanscom Field are aircraft operations and landside roadway traffic. Other sources include small combustion units such as heating and water boilers and emergency generators, and fugitive emissions from fuel storage spillage, and refueling activities. Prior studies have shown that emissions from these latter sources are very small compared to the aircraft and groundside roadway traffic (Massport 2012 ESPR).

4.3.1.5 Criteria Pollutant Ambient Air Quality Data

To estimate background pollutant levels representative of the area, the most recent data obtained from the Massachusetts Department of Environmental Protection (MassDEP) air quality reports were reviewed. Typically, the use of the latest three years of available monitoring data is representative of the Proposed Action development areas. The data for SO_2, NO_2, PM_{10}, and $PM_{2.5}$, are from the Kenmore Square monitoring station in Boston. The data for CO and Lead are from the Harrison Avenue station, also in Boston. Ozone data are from the monitor at 11 Technology Drive, in Chelmsford.

A summary of the background air quality concentrations is presented in Table 4-3.

For short-term averages (24 hours or less), the highest of the yearly observations are estimated to be the background concentration, with the exception of the PM2.5 24-hour value where the average of the 98th percentile concentrations was used, consistent with the short-term ambient air quality standards. The short-term ambient air quality standards are not to be exceeded more than once per year. For long-term averages, the highest yearly observation was used as the background concentration. Again, with PM2.5, the annual background concentration is the average of the three years.

Table 4-3 Observed Ambient Air Quality Concentrations

Pollutant	Averaging Time	2014	2015	2016	Background Concentration ($\mu g/m^3$)[2]	NAAQS	Percent of NAAQS
SO_2 [(1)(5)]	1-Hour (4)	25.4	14.4	10.7	16.9	196.0	9%
	3-Hour (6)	24.6	11.5	10.0	24.6	1300.0	2%
	24-Hour	13.1	7.6	5.2	13.1	365.0	4%
	Annual	2.5	1.3	1.1	2.5	80.0	3%
PM-10	24-Hour	53.0	30.0	30.0	53.0	150.0	35%
	Annual	14.9	14.2	14.1	14.9	50.0	30%
PM-2.5	24-Hour (4)	14.6	14.5	13.0	14.0	35.0	40%
	Annual (4)	6.1	6.5	6.2	6.3	12.0	52%
NO_2 [(3)]	1-Hour (4)	92.1	105.3	88.4	95.3	188.0	51%
	Annual	32.3	32.5	28.3	32.5	100.0	33%
CO [(2)(6)]	1-Hour	1489.8	1560.9	2760.7	2760.7	40000.0	7%
	8-Hour	1260.6	1031.4	2062.8	2062.8	10000.0	21%
Ozone	8-Hour	125.6	119.7	129.6	129.6	147.0	88%
Lead	Rolling 3-Month	0.014	0.016	0.017	0.017	0.15	12%

Notes:

From 2014-2016 EPA's AirData Website

(1) SO_2 reported ppb. Converted to $\mu g/m3$ using factor of 1 ppm = 2.62 $\mu g/m3$.

(2) CO reported in ppm. Converted to $\mu g/m3$ using factor of 1 ppm = 1146 $\mu g/m3$.

(3) NO_2 reported in ppb. Converted to $\mu g/m3$ using factor of 1 ppm = 1.88 $\mu g/m3$.

(4) Background level is the average concentration of the three years.

(5) The 24-hour and Annual standards were revoked by EPA on June 22, 2010, Federal Register 75-119, page 35520.

(6) CO monitor at Kenmore Square was deactivated in January 2015. Harrison Avenue monitor used for 2015 and 2016.

Air quality reports published by MassDEP show the trends for all ambient pollutant concentrations decreasing over the past 30 years (Massport 2012 ESPR).

[2] Microgram per cubic meter.

4.3.1.6 Hanscom and Regional Emissions

The 2012 ESPR presents aircraft and ground vehicle emissions for CO, NOx, PM10, PM2.5, CO_2, and VOC at Hanscom from 1985 to 2012. From 2005 to 2012, total emissions have decreased for all criteria pollutants between 10 and 33 percent. Since operations have declined since 2012, it is likely that total emissions have similarly declined.

Future emissions are generally based on increased aircraft operations. The 2012 ESPR forecasts a two percent increase in aircraft operations and a 135 percent increase in enplaned passengers between 2012 and 2020, and a 15 percent increase in operations and a 75 percent increase in passengers between 2020 and 2030. Although operations have actually dropped since 2012, were there to be an increase in operations as projected in the 2012 ESPR, increased emissions would also be expected. Emissions of all six pollutants, except 2020 CO emissions, for the two future planning scenarios, would be higher than the emissions calculated for the year 2012. These emission changes would occur for two reasons: (1) increase in the total number of aircraft operations and the number of passengers carried, and (2) changes in the aircraft fleet mix. Decreases in CO emissions are generally due to groundside on-road vehicle engine improvements. Based on activity levels presented in the State of Hanscom reports since 2012, overall operations would not be expected to grow to the numbers predicted in the 2012 ESPR and therefore overall emission increases would be similarly reduced. The 2016 State of Hanscom can be found at http://www.massport.com/hanscom-field/about-hanscom/publications-reporting/.

The ESPR presents the total emissions in Middlesex County for 2011, obtained from the EPA National Emissions Inventory. Comparing the total aircraft and ground vehicle emissions to the regional emissions shows that Hanscom accounts for only a very small portion of the regional emissions. It would be expected that regional emissions would also increase from 2011 to 2030, further reducing the percentages shown in Table 4-4.

Table 4-4 Hanscom vs Regional Emissions

	CO	NOx	VOC	PM10	PM2.5	CO2
2011 Middlesex County Total	142,311	23,352	26,617	16,462	4,657	6,222,519
Hanscom 2012	1,142	34	81	10	10	17,911
Hanscom 2020	1,116	42	106	10	10	22,650
Hanscom 2030	1,296	54	135	12	12	29,875
2030 Percent of 2011 Regional Total	0.9%	0.2%	0.5%	0.1%	0.3%	0.5%

Also, as part of the ESPR, Massport performed a dispersion modeling analysis of pollutants emitted at Hanscom, and the effect on nearby communities for the forecast year of 2020 (Massport 2012 ESPR). It was shown that all modeled concentrations were well below the applicable NAAQS, and that the majority of the predicted total concentration of each

pollutant was comprised of the ambient background concentration. That is, the airfield contributed a relatively small amount of pollution compared to that already in the air being produced by activity in the area.

4.3.1.7 Permitting

Stationary sources of air pollution are typically units that combust fuel. In this case, these sources consist of heating and hot water units and emergency electrical generators. Cooling towers, although not a combustion source, are a source of particulate emissions.

It is expected that the majority of stationary sources (boilers, engines, etc.) may be subject to MassDEP's Environmental Results Program (ERP). The Proponent will complete the required applications and submittals for the equipment, as necessary. No sources are expected to meet or exceed the thresholds for a Non-Major Comprehensive Plan Approval.

4.3.2 Biological Resources (Fish, Wildlife and Plants)

The assessment of biotic resources present on the Airfield used existing data (2012 ESPR), recent site visits, and review of available documentations. The analysis area for environmental resources affected by the Proposed Action focuses on the immediate project sites but includes the entire Hanscom Field.

4.3.2.1 Vegetation

Hanscom Field is located in the Eastern Plateau Physiographic Region, a low-lying region of eastern Massachusetts. Primary drainage in the region is provided by the Merrimack, Parker, Rowley, Ipswich, Concord, Sudbury, Assabet, Charles and Neponset Rivers. Hanscom Field is underlain by a complex assortment of Pleistocene Epoch glacial and recent deposits that overlay Silurian and Ordovician Period igneous and metamorphic bedrock. Following the retreat of the last glacier approximately 13,000 years ago, peat was deposited in wetland areas, and fill material was added during the development of the airfield in the last century.

Native soils within the perimeters of Hanscom Field have been disrupted by construction and associated earth-moving activities. The Soil Conservation Service has classified most of the soils on the airfield as "made land". The existing soils are generally a mixture of native soils, and their physical and chemical properties resemble the undisturbed soils. The land use and geology of the area have led to the establishment of the dominant natural communities of vegetation such as hardwood and soft wood forested uplands and wetlands with scattered upland and wetland shrub stands, and mowed grasslands. The perimeter of Hanscom Field consists of forested swamps, shrub swamps, emergent marshes, and streams. The airport infield areas are grasslands mowed to maintain visibility for operational safety in compliance with FAA standards.

Vegetation is limited within the active operating area which consists primarily of the airport runways, taxiways, aprons and structures, and asphalt roads. Most of these developed areas are vegetated with lawns and ornamental trees and shrubs. All upland areas have been influenced by human activity. Naturally vegetated plant communities in the vicinity of Hanscom Field primarily are composed of mixed forests and successional uplands, as well as wetlands and mowed grasslands. Forested, emergent and scrub/shrub wetlands are all present at Hanscom Field, mainly along the perimeter outside the active airport operating areas.

As described below, portions of the airfield are mapped as grassland habitat for two State-listed rare bird species (Upland Sandpiper and Grasshopper Sparrow). The construction will affect a small area mapped as grassland which is actually west of the existing Pine Hill T-Hangars and completely separated from the larger airfield grassland areas. Inclusion of this area in the Massachusetts Natural Heritage and Endangered Species Program (MNHESP) habitat polygon is considered a mapping issue as this location is primarily paved area and existing T hangars. Once a final design is prepared, Massport will confirm this interpretation with MNHESP.

4.3.2.2 Wildlife and Fish Habitat

Wildlife habitat is generally thought of as the sum of food, water, and cover, and their spatial distribution that a given species needs to survive and reproduce in a particular area. Wildlife species have specific habitat requirements, such that the distribution and abundance of each species are limited by the quality and quantity of available habitat in a given area (Degraf 2006). Certain undeveloped portions of the airport provide suitable habitat for a number of plant and wildlife species common to Massachusetts.

The variety of vegetative cover types, presence of wetlands and waterways, and undeveloped parcels on and in the vicinity of Hanscom Field provide potential habitat for wildlife species. Wildlife species that may live in the area include larger mammals such as whitetail deer, Eastern coyote, and red fox, and smaller mammals such as raccoon, striped skunk, opossum, gray squirrel, and various species of mice, voles, moles and shrews. Bird species near the Proposed Action area include various insectivorous and seed-eating passerines, ground-oriented species such as woodcock, and predators such as red-tailed hawks. Various reptiles and amphibians may be located near portions of the property as well, including the Eastern garter snake, Northern water snake, painted turtle, snapping turtle, green frog, and wood frog.

Perennial streams (Elm Brook and Shawsheen River) within and along the periphery of Hanscom Field are classified as Class B surface waters according to Massachusetts Surface Water Quality Standards (314 CMR 4.06), defined as "habitat for fish, other aquatic life, and wildlife, and for primary and secondary contact recreation" [314 CMR 4.05(3)(b)].

Based on Hartel, Halliwell and Launer (2002), fish species anticipated to occur in these surface waters include such warm water species as the common shiner, golden shiner, white sucker, creek chubsucker, brown bullhead, chain pickerel, and pumpkinseed.

4.3.2.3 Rare and Endangered Species

Federally-Listed Species

The USFWS issued the Final Rule on the Northern Long-Eared Bat *(Myotis septentrionalis*) (NLEB) in the January 14, 2016 edition of the Federal Register (V. 81, No. 9, page 1900 – 1922) titled "Endangered and Threatened Wildlife and Plants; 4(d) Rule for the Northern Long-Eared Bat" (i.e., the "Final Rule"). The purpose of the Final Rule is to prohibit the intentional, or purposeful, take of NLEB throughout its range; except for specific instances to protect human health, property, or for scientific and conservation purposes. Take of NLEB is prohibited in hibernacula throughout its range, in areas affected by white nose syndrome, unless permitted by the USFWS. Incidental take of NLEB outside of hibernacula from otherwise lawful activities, other than tree clearing, is not prohibited by the Final Rule.

The NLEB range includes much of the eastern and north central United States, and all Canadian provinces from the Atlantic Ocean west to the southern Yukon Territory and eastern British Columbia. NLEB spend winter hibernating in caves and mines, called hibernacula. They use areas in various sized caves or mines with constant temperatures, high humidity, and no air currents. During the summer, NLEB roost singly or in colonies underneath bark, in cavities or in crevices of both live trees and dead trees (snags). Northern long-eared bats seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices. The majority of airfield, including the proposed development areas, is generally free of forest stands and thus lacks summer tree roosting habitat.

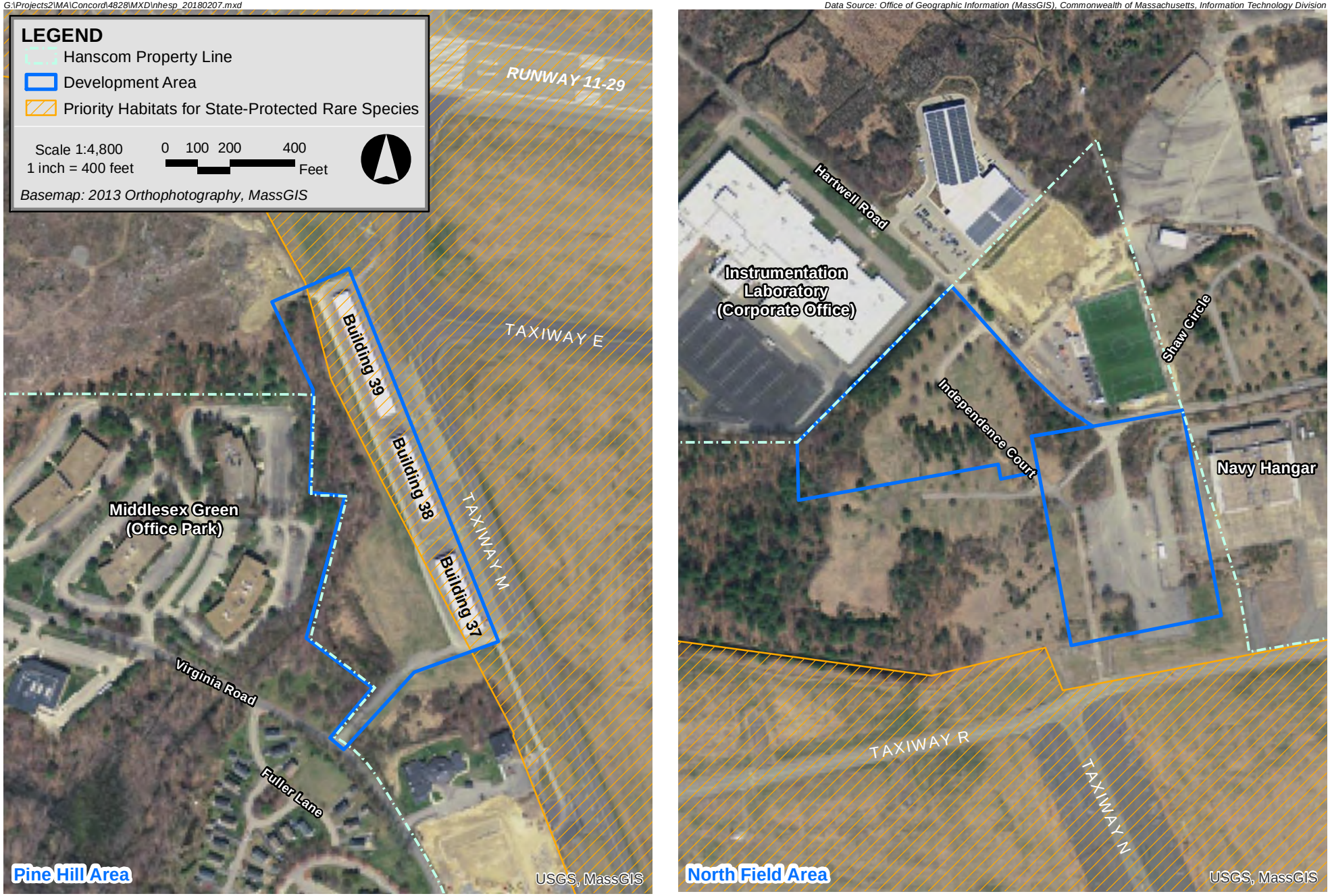
The USFWS does not require private landowners to conduct surveys on their lands for hibernacula and maternity roost trees. Location information for known hibernacula and maternity roost trees is generally kept in state Natural Heritage Inventory databases, thus consultation with state Natural Heritage Inventory databases is encouraged (see discussion below).

State-Listed Species

Portions of the Pine Hill Area are situated within an area identified by the Massachusetts NHESP as a Priority Habitat of Rare Species based on the 14th Edition Natural Heritage Atlas (August 1, 2017) (See Figure 4-1). Known occurrences of two grassland birds (Upland Sandpiper and Grasshopper Sparrow) in the airfield areas have remained the same since 2000 ESPR. Since the 2005 ESPR, two additional species (Blanding's Turtle and Wood Turtle) have been observed at Hanscom Field.

G:\Projects2\MA\Concord\4828\MXD\nhesp_20180207.mxd

Data Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division



Hanscom Field Environmental Assessment Bedford and Concord, Massachusetts

Epsilon Associates Inc.

Figure 4-1

NHESP Mapped Priority and Estimated Habitat (14th Edition Natural Heritage Atlas, August 1, 2017)

These four species are identified as endangered or threatened. MNHESP does not identify any known roost or hibernacula locations for the NLEB proximate to the airfield (map dated November 29, 2016, MassGIS).

4.3.3 Section 4(f)

Section 4(f) of the Department of Transportation Act of 1966 protects certain land uses from (DOT) projects. Section 4(f) relates to historic sites, properties and parks, recreation areas, and wildlife and waterfowl refuges. Although the entirety of Hanscom Field is surrounded by several listed 4(f) sites, including Great Meadows National Wildlife Refuge and the Minute Man National Historical Park, as detailed fully in Chapter 10 of the 2012 ESPR, none of these sites are within the project site boundaries (See Figure 4-2).

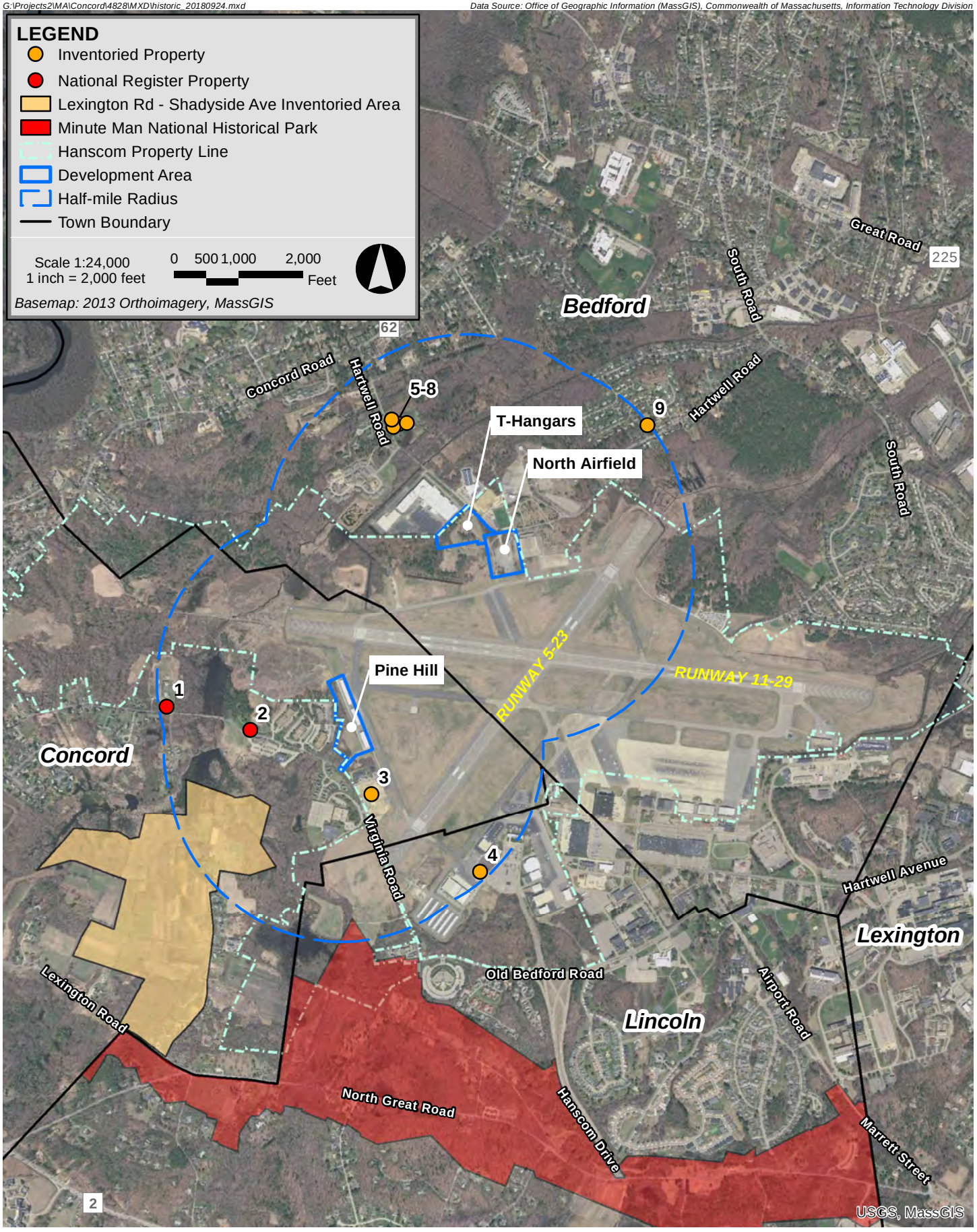
The Massachusetts Historical Commission (MHC) is the entity that functions as the State Historic Preservation Office (SHPO) for Massachusetts. Please see Section 4.3.5 below for additional discussion relative to state-listed properties in the online database Massachusetts Cultural Resource Information System (MACRIS).

The MHC and the Historical Commissions of the four towns within which Hanscom Field is located (Lincoln, Concord, Bedford, and Lexington) were given opportunity to review the proposed action, EA, and provide comment. In a July 20, 2018 letter to SHPO, FAA issued a Section 106 "Finding of No Historic Properties Affected" determination.

4.3.4 Hazardous Materials

4.3.4.1 MassDEP Reportable Releases

The MassDEP reportable release database [https://eeaonline.eea.state.ma.us/portal#!/search/wastesite] was reviewed for all spills at sites located within 500 feet of the proposed project sites to ascertain if there have been any new releases as well as determine the locations of the releases described in the database since the 2012 ESPR was published (See Figure 4-3). There are spills identified in the 2012 ESPR that occurred at Massport-tenant occupied locations at the airport; however none have occurred at the Pine Hill or North Airfield areas. Release conditions at these sites have reached regulatory closure with the permanent solution as defined in the Massachusetts Contingency Plan (MCP). Massport and its tenants implement Spill Prevention Control and Countermeasure (SPCC) Plans to ensure that all hazardous material storage tanks are in compliance with current regulations and to monitor the age, condition, and regulatory compliance status of these tanks on an ongoing basis. Massport and its tenants employ spill prevention measures as they apply to material storage, material transfer, truck unloading operations, and site security as part of the SPCC Plans.



Hanscom Field Environmental Assessment Bedford and Concord, Massachusetts

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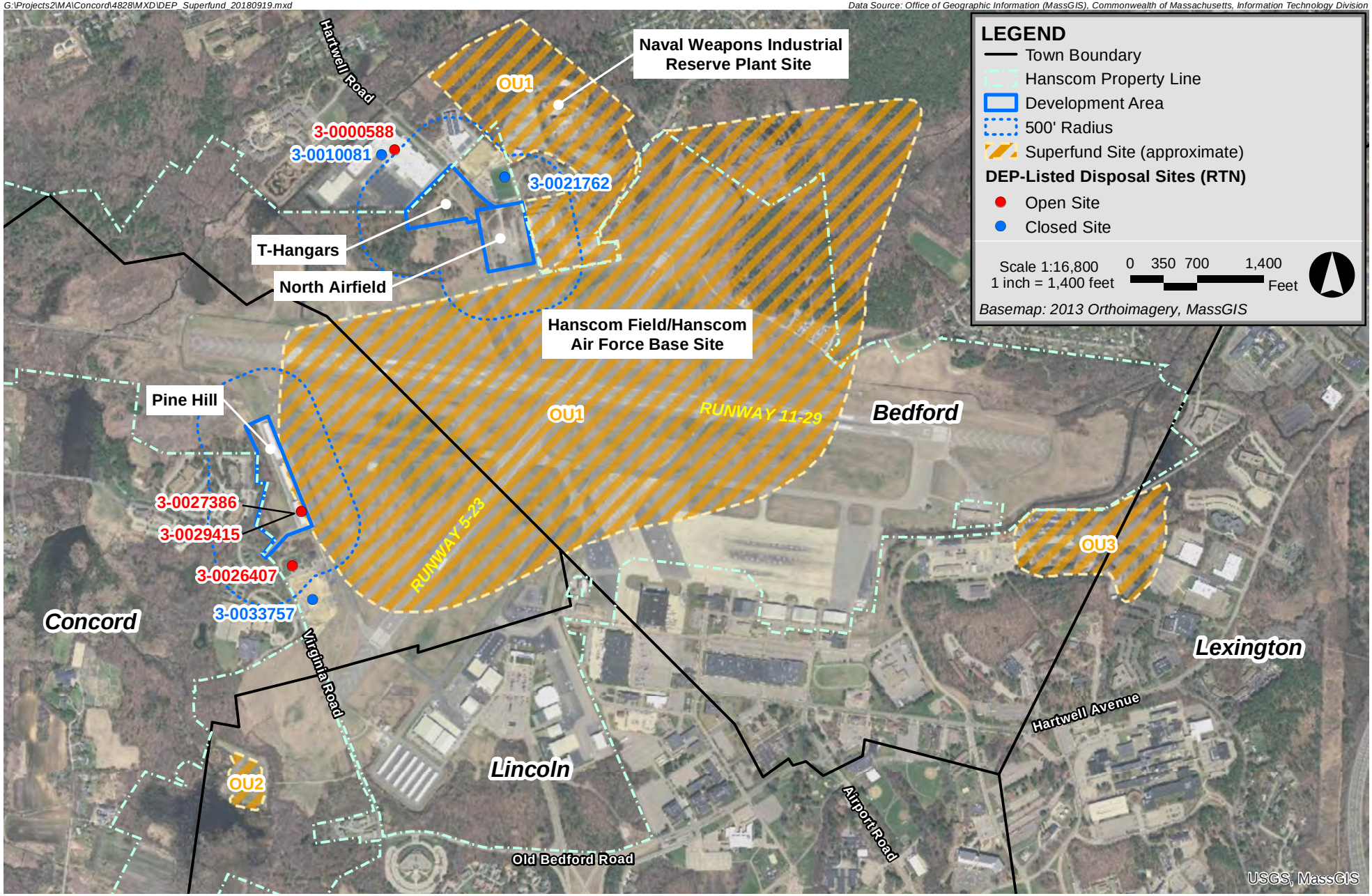
Figure 4-2

Historic Resources



Hanscom Field Environmental Assessment **Bedford and Concord, Massachusetts**

Figure 4-3

Superfund and DEP Oil and/or Hazardous Material Release Sites

Multiple Release Tracking Notifications (RTN's) were identified within 500 hundred feet of the Proposed Action areas in the MassDEP reportable release database as depicted on Figure 4-3. None were located on the North Airfield Area. RTN 3-0021762 and RTN 3-0010081 associated with fuel oil spills just north west of the North Airfield Area have been closed.

RTN 3-0588 is also associated with a Raytheon property located at 180 Hartwell Road, the site has been in active remediation to address chlorinated volatile organic compounds (CVOCs) in groundwater (GZA GeoEnvironmental Inc., 2017).

Multiple RTNs associated with Draper Labs are located proximate to or on the Pine Hill Area. A monitoring well on the Pine Hill Area adjacent to the existing hangar buildings is associated with multiple RTNs (3-27386 and 3-29415). RTN 3-26407 was issued for a fuel oil release from a former underground storage tank (UST) at the Draper Lab and associated piping that was removed in 1995. Residually contaminated soil from this release was encountered during construction of a loading dock in 2006, and further investigation found that hydraulic oil under the building from a separate historical release was co-mingled with the fuel oil (Cooperstown Environmental LLC, 2017).

A groundwater treatment system was installed in 2007 to respond to contamination related to both the hydraulic oil and the fuel oil. Subsequent monitoring resulted in another RTN (3-27386) being assigned by MassDEP in January 2008 for reportable concentrations of lead and arsenic detected in groundwater at the site. Another release was identified in 2010 when contamination was discovered in a monitoring well (RTN 3-29415). Based on results presented in the 2012 monitoring report, lead and arsenic have been removed as contaminants at the site (Cooperstown Environmental LLC, 2017).

4.3.4.2 Existing Buildings

Massport works with tenants to identify ways to reduce the amount and toxicity of certain products used at Hanscom Field. Massport involves its tenants in achieving environmental compliance and pollution prevention. Massport provides ongoing technical assistance to tenants regarding new regulations and means for compliance through an inspection program. In addition, educational materials are distributed on pollution prevention, storm water best management practices, spill prevention and response procedures, and other topics. There is ongoing implementation of a SPCC Plan to ensure that all of Massport's hazardous material storage tanks are in compliance with current regulations and to monitor the age, condition, and regulators compliance status of these tanks on an ongoing basis. Massport tenants receive EPA-compliant Stormwater Pollution Prevention Plan (SWPPP) training annually. Massport employs pollution prevention measures as they apply to site drainage, material storage, material transfer, truck unloading operations, and site security as part of a SWPPP.

4.3.4.3 Hanscom Air Force Base (AFB) and the Naval Weapons Industrial Reserve Plant (NWIRP) Superfund Sites

Hanscom AFB maintained and operated Hanscom's airfield until 1974 and retains responsibility for any required clean-up that stems from this time as well as for any sites on Hanscom AFB property. Hanscom AFB is conducting environmental restoration efforts under the U.S. Air Force Installation Restoration Program (IRP), a federal Comprehensive Environmental Response, Compensation Liability Act (CERCLA)-based program. The preliminary assessment/site investigation phase which commenced in 1982 of the IRP resulted in the identification of 22 specific sites as areas with the potential for environmental contamination from past waste management practices. Of the 22 sites, eight are located on Massport property. Investigations and appropriate response actions have been completed at 16 IRP sites and one IRP Area of Concern, and they have been closed out within the applicable regulatory framework (includes four IRP sites on Hanscom Field). In addition, investigations have been completed and long-term remedies are in place at the six remaining IRP sites.

These remaining sites are broken out into three separate Operable Units (OU): Two OUs are located adjacent to the airfield at the Hanscom AFB in Bedford, MA and one is located on Hanscom Field property (see Figure 4-3); OU-1 has an existing groundwater treatment system, the implementation of institutional controls, and the monitoring of the groundwater and surface water at Hanscom Field/Hanscom AFB; OU-2, a former landfill, has been capped; OU-3 which contains two sites: a former aviation fuel receiving, storage and dispensing site on Hanscom AFB, and a former filter bed/landfill. The implemented remedy includes the containment (pervious caps) of three landfill areas, removal of contaminated sediments and landfill debris and placement this material within the capped landfill area, long-term monitoring, institutional controls, and a groundwater compliance boundary. An assessment completed in 2012 indicated that these implemented remedies in each OU is "*protective of human health and the environment, and in the interim, exposure pathways that could result in unacceptable risks are being controlled.*" (USAF, 2012).

Situated immediately north of Hanscom Field, is the former Naval Weapons Industrial Reserve Plant (NWIRP) site. The US Navy operated the NWIRP from 1952 until 2000, and was used for advanced technology research in weapons systems development and long-term cleanup is ongoing through federal actions. The US Navy is undertaking cleanup for the NWIRP, which is divided into four sites: Site 1 is known as the Old Incinerator Ash Disposal Area and a Record of Decision (ROD) was signed in 2000, concluding that there is no known threat to human health or the environment; Site 2, the former Component s Laboratory Fuel Tank site also has ROD which was signed in 2000; Site 3 currently has a groundwater treatment and monitoring system in place; and Site 4 is also undergoing groundwater treatment (https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0102032).

4.3.5 Historic and Archeological

Section 106 of the National Historic Preservation Act of 1966 and the Archaeological and Historic Preservation Act of 1974 are used to evaluate impacts to archaeological, architectural, and cultural resources, including those listed or eligible for listing in the National Register of Historic Places. Section 106 (36 CFR 800) requires that federal agencies consider what effects their actions and actions they may assist, permit, or license may have on historic resources. If a project involves federal assistance, permits, or licenses, then the entire undertaking will be subject to review by the MHC, in its role as the State Historic Preservation Officer (SHPO). The analysis area for these resources is limited to a half-mile within the project areas, which has been designated as the Area of Potential Effect (APE), as shown on Figure 4-2. Hanscom Field is surrounded by many listed Historical and Archaeological sites, including Minute Man National Historical Park. Review of their database via use of the online search tool Massachusetts Cultural Resource Information System (MACRIS) within a ½ mile of the project sites includes the properties listed in Table 4-5 below.

Table 4-5 Historic Resources in the Vicinity of the Project Area

Label	MHCN	Property Name	Address	Use Type
1	CON.177	Henry David Thoreau Birthplace	341 Virginia Road, Concord	Agricultural; Agricultural Field; Cooper; Dairy; Multiple Family Dwelling House; Orchard; Other Cultural; Other Educational; Poultry Farm; Single Family Dwelling House
2	CON.178	Elm Brook Farm	477 Virginia Road, Concord	Agricultural; Dairy; Other Recreational; Single Family Dwelling House
3	CON.9047	MIT Hangar – Hangar 24	711 Virginia Road, Concord	Hangar; Laboratory – Research Facility
4	LIN.394	Hanscom Field – Hangar 17	Hanscom Drive, Lincoln	Furnace; Hangar; Warehouse
5	BED.187	Chip-In Farm	200 Hartwell Road, Bedford	Agricultural; Nursery; Poultry Farm; Single Family Dwelling House
6	BED.496	Chip-In Farm Barn	200 Hartwell Road, Bedford	Agricultural; Out Building
7	BED.498	Chip-In Farm Chicken Barn	200 Hartwell Road, Bedford	Agricultural; Out Building
8	BED.497	Chip-In Farm General Store and Office	200 Hartwell Road, Bedford	Business Office; General Retail Store
9	BED.186	John McGovern House	93 Hartwell Road, Bedford	Single Family Dwelling House

As detailed in Chapter 10 of the 2012 ESPR, none of the eligible sites are within the development area boundaries. Per the ESPR, the proposed hangars are located on existing developed areas, within an area assessed as having a low archaeological sensitivity.

The MHC is the entity that functions as the SHPO for Massachusetts. Review of their database via use of the MACRIS indicates that the proposed development areas do not contain eligible sites. As part of the Draft EA circulation in April 2018, MHC and the Historical Commissions of the four towns within which Hanscom Field is located (Lincoln, Concord, Bedford and Lexington) were provided opportunity to review the EA and provide comment. In a July 20, 2018 letter to SHPO, FAA issued a Section 106 "Finding of No Historic Properties Affected" determination.

4.3.6 Energy Supplies, Natural Resources and Sustainable Design

The proposed hangars will be designed and constructed in accordance with LEED (Leadership in Energy and Environmental Design) Silver certification standards, at a minimum. LEED is a voluntary, consensus-based, market-driven program that provides third-party verification of green buildings through the US Green Building Council (USGBC). Participation in the LEED process demonstrates leadership, innovation, environmental stewardship and social responsibility. LEED for new construction takes an integrative approach to producing buildings that are designed to be efficient and have a lower impact on their environment. The LEED rating system tracks the sustainable features of a project by achieving points in the following categories: Location and Transportation, Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, Innovation and Design Process, and Regional Priority Credits. The LEED v4 Reference Guide for Green Building Design and Construction is the most up-to-date and comprehensive guide for the design, construction and major renovations of commercial and institutional buildings (USGBC 2017; www.usgbc.org/resources/leed-v4-building-design-and-construction-current-version).

4.3.7 Noise

The study area for noise includes Hanscom Field and areas of the surrounding communities. Data generated for the 2012 ESPR, the 2005 ESPR, the *Technical Memo Regarding Proposed Development of the East Ramp* that included data and trends from 2006 and 2007 (HMMH 2008), and the 2016 *Hanscom Field Annual Noise Report* (http://www.massport.com/hanscom-field/about-hanscom/publications-reporting/) show noise levels at Hanscom Field have decreased over the past decade, due primarily to technological trends toward quieter and better performing aircraft and an overall reduction in operations.

The FAA first issued noise standards for civil aircraft in 1969, when regulations established that minimum noise performance levels must be demonstrated for a new turbojet and transport category large airplane designs. In 1977, more stringent standards were adopted, and Stage 1, 2, and 3 classifications were introduced. Stage 1 airplanes do not meet either the 1969 or 1977 standards. Stage 2 airplanes meet the 1969 standards but do not meet the 1977 standards. Stage 3 airplanes meet the 1977 standards.

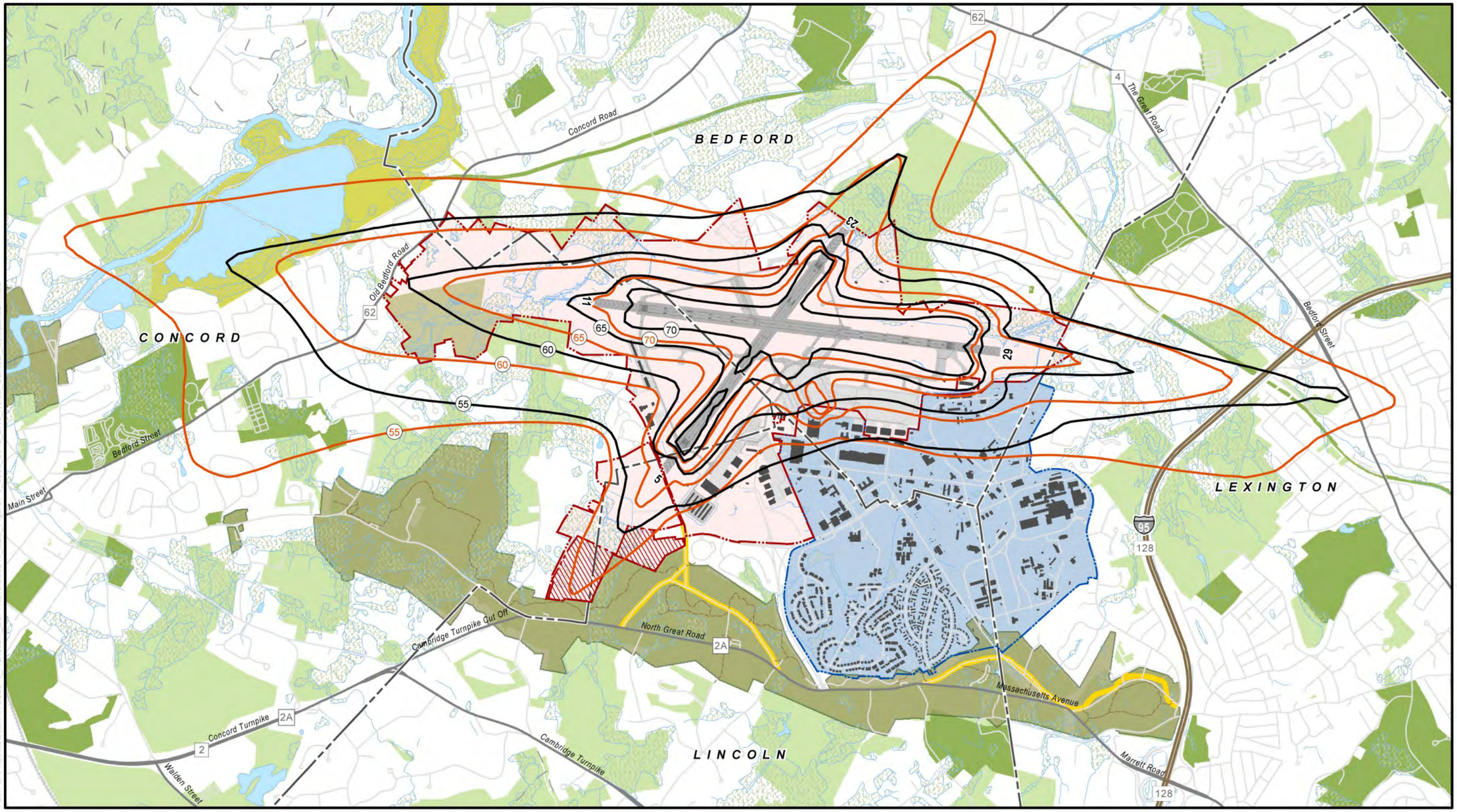
Each year, Massport prepares a noise report for Hanscom Field to report on aircraft activity and the noise environment at the airport. It includes data on the numbers and types of operations and overall noise exposure for the most recent calendar year. The 2017 report presented data on Hanscom Field's 2016 operations and used comparable data from previous study years to demonstrate trends in aviation activity and noise levels. This report included a comparison of 1995, 2000, and 2005 through 2010 noise levels recorded at six noise-monitoring sites located in the communities and on the airfield. Noise sensitive receptors such as hospitals, schools, religious sites, public facilities, and National Register of Historic Places and/or State Register of Historic Places were examined. Relevant noise data from the 2016 *Hanscom Field Annual Noise Report* (Massport 2017) include the following:

- While military flights represented approximately one percent of the total activity, they contributed 18 percent of the total departure noise exposure.
- Business jet activity, which represented 21 percent of the total activity, contributed 74 percent of the civilian departure noise.
- Since Hanscom has reduced touch and go traffic over Minute Man National Historical Park, an average of 22 percent fewer flights over the park.

As referenced in the 2016 State of Hanscom Noise Report, comparison of year 2012 Day-Night Sound Levels (DNL) noise contours prepared for the 2012 ESPR to the contours shown in the 2005 ESPR show that overall noise levels at Hanscom Field have decreased, largely due to lower activity levels by Stage 2 jets, aircraft technology and as well as decreases in nighttime operations. The total population exposed to levels greater than DNL 65 dB decreased from 17 people in 2005 to 0 people in 2012 (see Figure 4-4). There were 128,598 total operations at Hanscom in 2017, nearly 40,000 fewer than in 2012. Due to the reduction in operations, the population currently within the DNL 65 dB is not expected to have changed from the 2012 modeled population of zero.

The DNL contours developed for the 2012 ESPR (2012, 2020 and 2030) represent significantly higher activity levels at BED than today. That analysis did not show any noise sensitive land use within the 65 dB DNL and as a result of expected minimal ground operational changes, no significant noise impact is projected due to the Proposed Action. Aircraft ground noise may be audible due to the Proposed Action at some nearby residences however due to distances to the closest residences, terrain changes and shielding from the proposed hangars, ground noise levels from aircraft are expected to be similar to current operations. See Attachment C - Noise Technical Memorandum for additional discussion of potential project ground noise impacts.

Massport has implemented several policies that have had a positive impact on noise levels at Hanscom since 1978. The 1978 Hanscom Field Master Plan and Environmental Impact Statement (The Master Plan) and the 1980 General Rules and Regulations for Lawrence G. Hanscom Field include the policies and regulations that continue to guide Massport as it


BEDFORD
CONCORD
LEXINGTON
LINCOLN
Concord Road
Old Bedford Road
The Great Road
Bedford Street
Main Street
Cambridge Turnpike Cut Off
North Great Road
Massachusetts Avenue
Concord Turnpike
Cambridge Turnpike
Walden Street
Marrett Road
62
4
2
2A
95
128
23
11
29
5
65
70
60
55
North
0
2,000
4,000 Feet
2012 DNL Noise Contour
2005 DNL Noise Contour
Hanscom Field Property Boundary
Massport Property within MMNHP Congressional Boundary
Hanscom AFB Property Boundary
Municipal Boundary
Historic Road
Interstate
Highway
Road
Trail
Active Rail Service
Open Water
Stream
Wetland/Marsh
MNNHP Boundary
Great Meadows
Open Space Non-protected
Open Space Protected in Perpetuity
massport
Hanscom Field 2012 ESPR
Bedford, Concord, Lexington, Lincoln, Massachusetts
2005 and 2012 DNL Noise Contour Comparison
Figure 7-9
Data Sources: MassGIS (Roads, Rail), March 5, 2013; MassGIS (Community Boundaries), March 5, 2013; NPS (Park Boundary), March 8, 2013; ArcGIS - Bing Online (Bing ArcGIS Online, 2011), May 06, 2013

operates Hanscom Field. Since the adoption of these documents, Massport has worked closely with the Hanscom Field Advisory Commission (HFAC) and the Hanscom Area Towns Committee (HATS), as well as other interested parties, to balance its commitment to regional transportation and the business community with the need to recognize and minimize the airport's impact on the surrounding communities. For example, concepts for a new initiative to reduce touch and go traffic over Minute Man National Historical Park have resulted in an average of 22 percent fewer flights over the park since the inception of the program in 2009 as described in the 2016 Hanscom Annual Noise Report (Massport 2017).

In 2001, Massport distributed "Fly Friendly" videos to all Hanscom pilots, flight schools, and FBOs. Massport now requires all pilots who receive a Hanscom ID badge to view training materials about quiet flying techniques. The quiet flying techniques are also described on Massport's website, on posters that are prominently displayed by the flight schools and the FBOs, and on handouts that are available for pilots to include with their airport flight materials (2016 Annual Noise Report for Hanscom Field).

4.3.8 Induced Socioeconomic

Massport's facilities at Hanscom Field have been a vital link to domestic and international destinations for individual pilots, commuter airlines and local employers, including high technology corporations, research and development firms, and educational institutions. Businesses look for accessible air travel when deciding where to locate, and Hanscom provides local businesses with easy access to corporate travel opportunities.

In FY16, Massport invested $6.5 million in airfield, terminal, equipment and other facility improvements required to maintain the airport. Past and future investments ensure that Hanscom will continue to be prepared to support future economic growth by serving the diverse needs of users who operate a wide variety of aircraft (Massport 2017).

The Massachusetts Department of Transportation conducted an economic impact study for 2014 activity levels at Massachusetts' airports (MassDOT Aeronautics 2014). There were 1,745 full-time equivalent jobs related to Hanscom Airfield activity. Annual wages for those workers whose employment is directly related to airport activity are nearly $100 million. Hanscom generated estimated annual economic benefits of $348 million when all the direct, indirect and induced economic benefits of the airport were considered. Estimated economic benefits described above do not include economic benefits generated by Hanscom Air Force Base (Massport 2017).

4.3.9 Visual Effects

It is important to consider whether lighting associated with a proposed project might confuse or interfere with the vision of the air traffic controller, the vision of the pilots on approach to an airport runway, or whether it results in significant impacts to airport neighbors.

Existing lighting emission sources at Hanscom Field include airfield lighting and terminal/landside lighting. Airfield lighting includes high-intensity runway lights, taxiway edge lights, runway end strobe lights, runway centerline and touchdown zone lights. Building security lighting consists of common lighting sources such as roof perimeter lights and lighting from the interior of the structures.

4.3.10 Water Resources

4.3.10.1 Groundwater

The locations of public water supplies within Bedford, Concord, Lexington and Lincoln can be found on Figure 4-5. Municipal water supplies vary in distance from Hanscom Field from 0.9 to 7.3 miles.

Wellhead Protection Areas, also known as Zone II areas, are approved under the MassDEP's Drinking Water Program to protect the recharge area around public water supply ground water sources. The Massachusetts Drinking Water Regulations require that public water suppliers delineate Zone II areas and restrict certain land uses and activities in Zone IIs which may result in the contamination of a groundwater drinking supply. An approved Zone II Wellhead Protection Area overlaps the Hanscom Field and covers both project areas. The Zone II area is associated with three Hartwell Road wells in Bedford. There are no Surface Water Supply Protection Areas (Zone A, B, C) in Hanscom Field.

4.3.10.2 Wetlands

Wetlands in the vicinity of the two project areas are described in detail in the 2012 ESPR and depicted on Figure 4-6. Wetland resource areas at Hanscom Field include wetlands subject to regulation by both the Commonwealth of Massachusetts under the Wetlands Protection Act (WPA) and U.S. Army Corps of Engineers (USACE) under U.S. Clean Water Act (33 U.S.C. 1344, waters of the U.S.. The regulations of the Massachusetts WPA (310 CMR 10.00) define five freshwater wetland resource areas subject to protection: Banks, Bordering Vegetated Wetlands (BVW), Land Under Waterbodies/Waterways (LUW), Bordering/Isolated Land Subject to Flooding, and Riverfront Area. A 100-foot buffer zone is associated with state-regulated Bank and Bordering Vegetated Wetland.

Wetland resource areas are located on the two separate project areas. One DEP-mapped wetland system is present at the southwestern extent of the Pine Hill Area and is identified in the 2012 ESPR as Wetland 1-4.

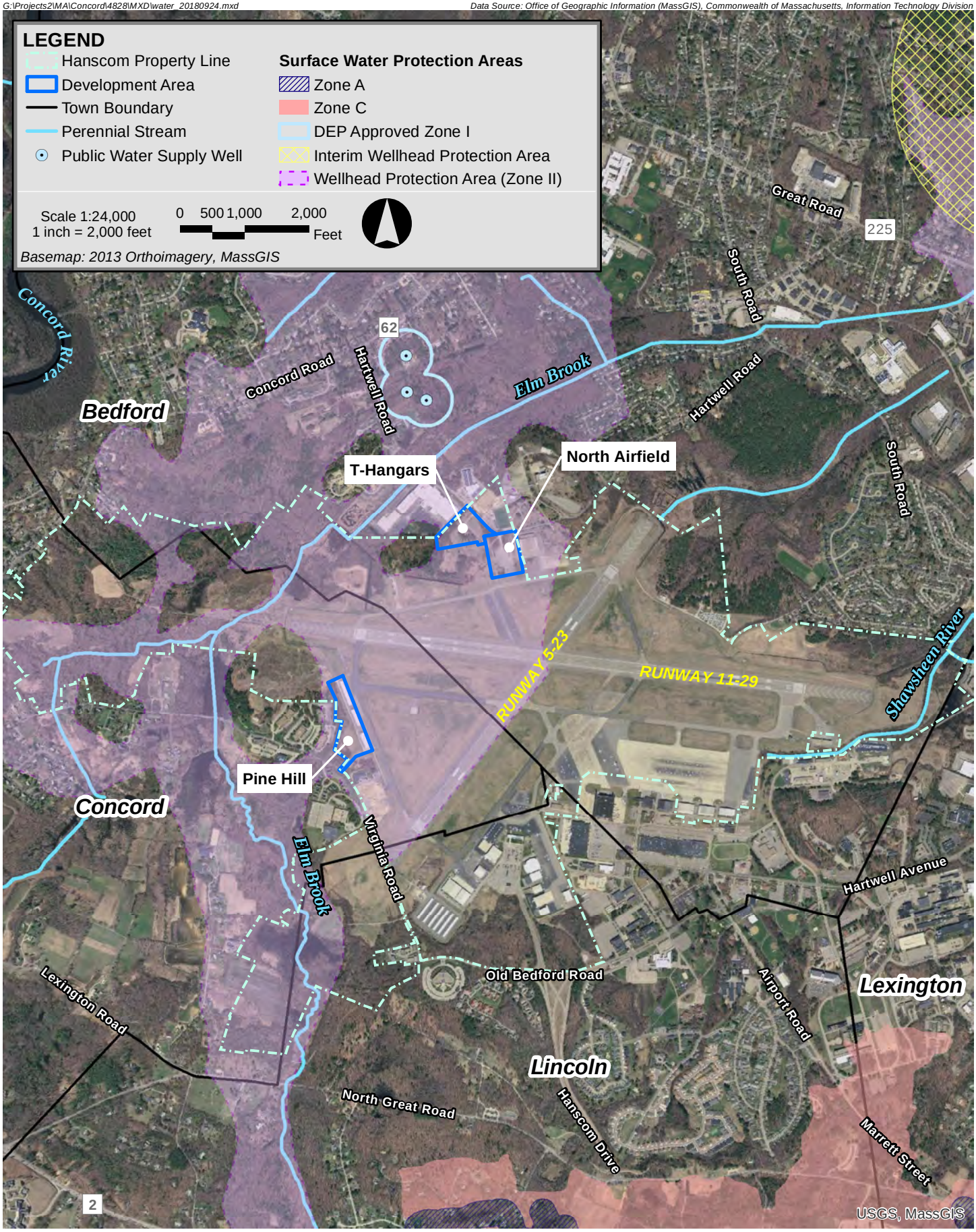


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Figure 4-5

Surface Water/Water Supply

G:\Projects2\MA\Concord\4828\MXD\wetlands.mxd

Data Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division

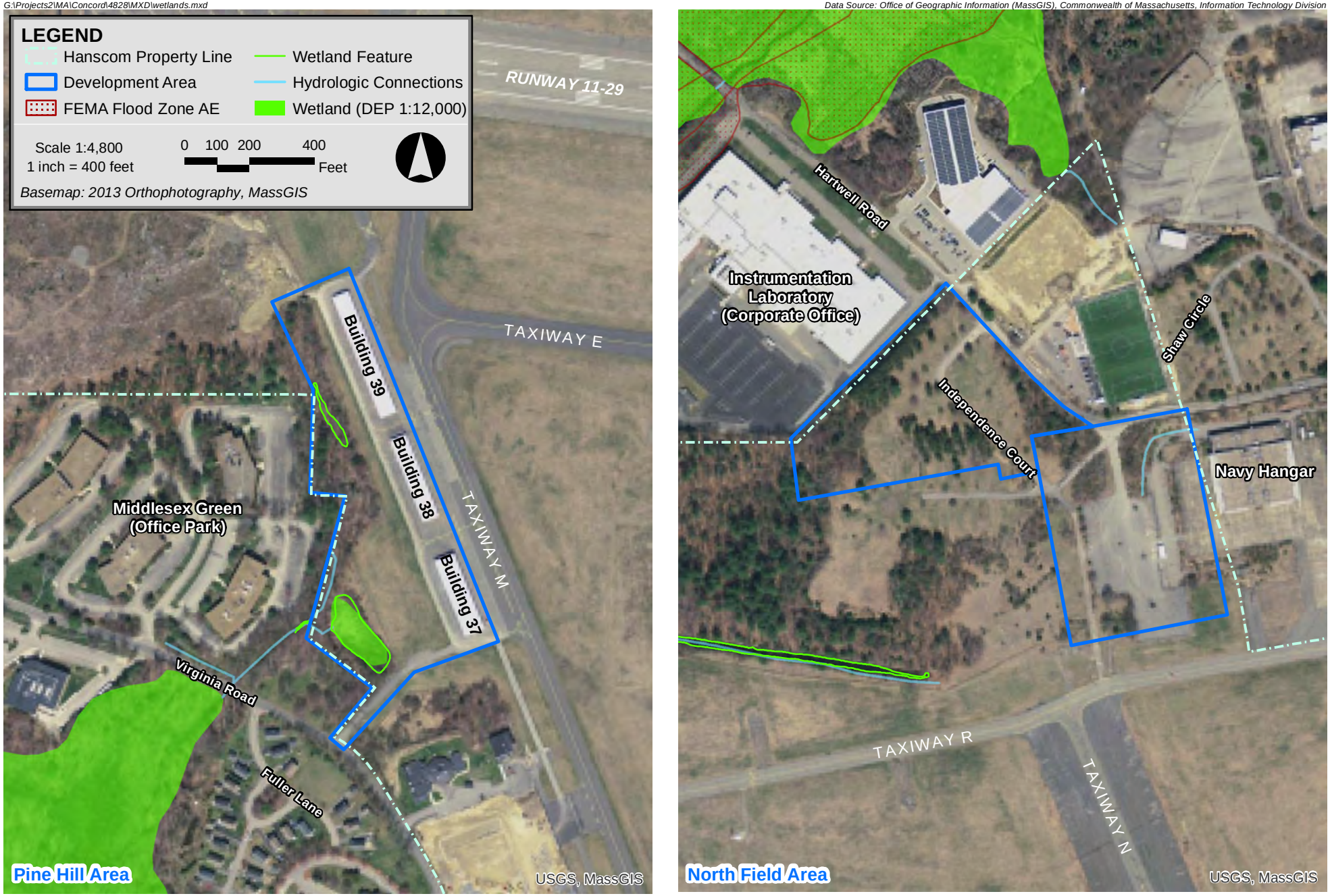

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Figure 4-6
DEP Wetlands

This small BVW functions as a detention basin and contains willow (Salix sp.), common reed (Phragmites sp.) and winterberry (Ilex verticillata) and is located just to the west of the proposed hangar development area. This BVW is hydrologically connected to a larger red maple swamp on the other side of Virginia Road. At the North Airfield Area, a drainage ditch containing Inland Bank and LUW drains to Elm Brook is located to the southwest of the proposed development (identified in the ESPR as Wetland 2-9). There were no BVW associated with this ditch or identified during a site visit in July 2017.

Three vernal pools have been identified at Hanscom Field by MNHESP. These three vernal pools are located within the Town of Concord to the west of Runway 11-29. A fourth area with potential vernal pool characteristics occurs within the same vicinity as the three certified vernal pools in Concord. None of these vernal pools are located in close proximity to the development areas.

4.3.10.3 Surface Waters and Watersheds

Hanscom Field is located within the watershed drainage area of two perennial waterways: the Shawsheen River and Elm Brook. The Shawsheen River has a total drainage area of approximately 78 square miles, and encompasses approximately 12 Massachusetts municipalities, including Bedford where its headwaters originate. Representing one of the smaller watersheds in the state, the main stem of the Shawsheen River flows 25 miles from the east side of Hanscom Field, losing 70 feet in elevation as it travels to its confluence with the Merrimack River in Lawrence. The watershed supports a population of approximately 250,000 people. The Shawsheen River has a Draft Total Maximum Daily Load ("TMDL") for Stormwater Pollutants (Shawsheen Headwaters 2003) published by MassDEP, inclusive of Hanscom Airfield and Hanscom AFB. There is also a Final TMDL for bacterial pathogens for the Shawsheen River for bacterial pollutants (Shawsheen River Basin 2002).

Elm Brook is a tributary of the Shawsheen River with a watershed of 5.8 square miles located in Lincoln, Concord and Bedford. The two waterbodies converge just northeast of the airport property. Neither of these resources is located within the Project Areas; however, stormwater runoff from Hanscom Field outfalls to Elm Brook and the Shawsheen River, after appropriate treatment has been applied. As noted above, a drainage ditch located on the North Airfield Area discharges to Elm Brook. Examination of the potential effects of such outfall on stream water quality was conducted and detailed in the 2012 ESPR.

As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. Stormwater discharges from construction activities (such as clearing, grading, excavating, and stockpiling) that disturb one or more acres, such as the proposed project, are regulated under NPDES stormwater program. Prior

to discharging stormwater, construction operators must obtain coverage under an NPDES permit, which is administered in Massachusetts by the EPA.

Where the EPA is the permitting authority, construction stormwater discharges are almost all permitted under the Construction General Permit (CGP). The CGP requires compliance with effluent limits and other permit requirements, such as the development of a SWPPP.

Construction operators intending to seek coverage under EPA's CGP must submit a Notice of Intent (NOI) certifying that they have met the permit's eligibility conditions and that they will comply with the permit's effluent limits and other requirements.

Airports in the United States, including Hanscom Field, are required to obtain a Stormwater Multisector General Permit under the NPDES permit program. Tenants who lease property on Hanscom Field and engage in activities covered under the permit program are listed as co-permittees. Massport has updated its SWPPP to include best management practices for stormwater management and snow removal (Massport 2015). Massport performs periodic visual inspections of water quality at Hanscom Field stormwater outfalls in compliance with the NPDES permit.

4.3.11 Secondary and Cumulative Impacts

Past, present and recently foreseeable future actions at Hanscom include the following:

- In 2014 Rectrix completed construction of a new 60,000 square foot hangar and FBO facility that replaced the former Hangar 24.
- In 2016 Jet Aviation began construction of a new replacement hangar and FBO facility by paving the access road and lots. Construction was completed in 2017.
- In 2016 Massport rehabilitated the Runway 23 safety area beyond the runway end and a portion of Taxiway Juliet, south of Taxiway Tango.
- In 2016 Massport rehabilitated sections of the landside roadways and rehabilitated T-hangars that were damaged during the winter of 2014-2015.
- In 2016, Massport added a bay to accommodate an Airport Rescue and Fire Fighting (ARFF) vehicle at its maintenance garage.
- In 2017 Boston MedFlight began construction activities to re-develop Hangar 12A.
- In 2017 Massport rehabilitated the pavement on Runway 11/29.
- In June 2018 Massport began construction of a permanent new ARFF and United States Customs and Border Protection (USCBP) facility.

- Massport continues implementation of the airfield's Five-Year Vegetation Management Plan.

- Massport continues implementation of the airfield's Wildlife Hazard Management Plan, including upgrades to airfield fencing.

4.3.12 Not Affected

For the following potential impact categories, some are not applicable to Hanscom Field due to its location, such as:

- Coastal Resources- Hanscom Field is not located in a Coastal Resource Area and would not be under the jurisdiction of the Massachusetts Office of Coastal Zone Management.

- Farmlands- there are no important farmlands such as pasturelands, croplands, or forests considered to be prime, unique, or statewide or locally important lands on Hanscom Field or affected by the project.

- Floodplains- the proposed redevelopment areas are not located within an area identified as a floodplain on a FEMA-developed Flood Insurance Rate Map (FIRM).

- Wild and Scenic Rivers- the Departments of the Interior and Agriculture manage the Wild and Scenic Rivers Act (Act) via the National Park Service (NPS). The NPS has designated sections of the Sudbury, Assabet and Concord Rivers as Wild and Scenic, including corridors that stretch for 29 miles along the Sudbury River, Concord River and Assabet River within the communities of Concord and Bedford. These river sections lie to the north and west of Hanscom Field, with the closest location to Hanscom being a portion of the Concord River just northwest of Route 62 approximately ¾ of a mile away. None of the rivers receive surface water or stormwater runoff from Hanscom Field, thus, they would not be affected by the project.

- Climate – It is expected that a number of users of the proposed hangars are currently operating at Hanscom Field and as such aircraft operations may be fewer as a result of a reduction in ferrying. Even with all new operations, the project would result in a same overall increase in annual Hanscom Field operations. In all cases, air emissions are expected to remain well within NAAQS and therefore no adverse impact on the climate or greenhouse gas (GHG) emissions would be expected.

Other potential impact categories are not applicable because of the nature of the proposed action, thus analysis is not required because the resource is not present within the Project Areas, or the no action, proposed action, and reasonable alternatives would not affect the impact category:

- **Compatible Land Use**- The proposed project has been included in the 2012 ESPR and identified for future aviation development. No changes or restrictions of use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including the landing and takeoff of aircraft, need to be made.

- **Solid Waste**- the solid waste generated during project implementation, including construction waste, would be recycled and/or disposed of appropriately per Federal, state, and local regulations addressing such materials.

  Environmental Justice- Environmental justice ensures no low-income or minority population bears a disproportionate burden of effects resulting from Federal actions. Environmental Justice populations are those segments of the population that the Executive Office of Energy and Environmental Affairs (EEA) has determined to be most at risk of being unaware of or unable to participate in environmental decision-making or to gain access to state environmental resources, or are especially vulnerable. They are defined as neighborhoods in U.S. Census Bureau census block group data for minority criteria, and American Community Survey (ACS) data for state median income and English isolation criteria that meet one or more of the following criteria:

  - 25 percent of households within the census block group have a median annual household income at or below 25 percent of the statewide median income for Massachusetts; or
  - 25 percent or more of the residents are minority; or
  - 25 percent or more of the residents have English Isolation

None of the communities surrounding Hanscom Field meet these criteria. The project would not cause disproportionate and adverse effects on low-income or minority populations.

- **Social Impacts**- The project would not require moving homes or businesses, would not divide or disrupt established communities, significantly change surface transportation patterns, disrupt orderly, planned development, or create a large change in employment. Section 5.9 discusses the Induced Socioeconomic consequences in detail.

Section 5.0

Environmental Consequences

5.0 ENVIRONMENTAL CONSEQUENCES

5.1 Environmental Consequences Evaluation Process

This section describes the environmental consequences of the Preferred and evaluated Alternatives. The project's potential environmental impact categories include the following:

- Air quality
- Biological Resources
- Department of Transportation Act, Section 4(f)
- Hazardous materials, solid waste, and pollution prevention
- Historical, architectural, archeological, and cultural resources
- Natural resources and energy supply
- Noise and compatible land use
- Socioeconomics, environmental justice, and children's environmental health and safety risks
- Visual effects
- Water resources (including wetlands, surface waters and groundwater)

5.2 Air Quality

5.2.1 Proposed Action

The Proposed Action consists of the redevelopment of two areas at Hanscom for aviation uses. The portion of the North Airfield Area proposed to be developed is approximately 2.5 acres. Massport will construct a new taxilane to access the sites. The second area is the Pine Hill Area of Hanscom and comprises approximately 1.4 acres of developable area. Development of the Pine Hill Area will require the replacement of several existing T-Hangars at a site in the North Airfield Area.

As discussed in Section 4.3.1, air pollutant emissions from aviation and motor vehicles at Hanscom comprise a very small fraction of the regional (county) emissions totals. Additionally, air quality has generally been improving over time, as shown in both the background concentrations over the past three years, as well as in Massachusetts Department of Environmental Protection's (MassDEP) Annual Air Quality Reports.

Even with the increase in population and development, air quality has been improving, mainly due to emissions reductions as a result of improved technology, usage habits, and environmental awareness.

The Proposed Action can be evaluated in two phases: a construction phase and an operational phase.

5.2.1.1 Construction

The construction phase is expected to temporarily increase emissions from the exhaust of non-road construction equipment and the fugitive dust generated from earth moving activities. However, these emissions would be mitigated by the use of low emission construction equipment and the application of dust control measures. The project would require the use of contractors who adhere to Massport and DEP Clean Air Construction Initiative/EPA's voluntary Diesel Retrofit Program, which requires contractors to use either EPA rated Tier 4 heavy equipment or equipment that has been retrofitted with pollution control devices to meet Tier 4 emissions standards. As part of the Hanscom Environmental Management System (EMS), contractors are required to retrofit their heavy equipment with advanced pollution control devices during construction of all Massport projects. Contractor owned equipment such as front-end loaders, backhoes, cranes and excavators will be retrofitted with oxidation catalysts and low particulate filters. These devices filter out and break down harmful diesel emissions of hydrocarbons, particulate matters and carbon dioxide. Also, the Massachusetts Anti-Idling law would require equipment to remain idling for no longer than five minutes unless in active operation.

Emissions of fugitive dust are generated while disturbing dry soil, from either equipment movement, or excavating, stockpiling, or transporting soil. Soil "track out" on vehicle can also produce dust emissions. Dust from erosion during dry and windy periods can also be problematic. However, fugitive dust emissions can be adequately mitigated through the use of vehicle wash stations, water application or covering of exposed soil, or seeding/mulching for long term control.

Through the use of these mitigation measures, it would be expected that any impacts as a result of construction activities are minimized and temporary, are not significant, and that no NAAQS are exceeded. Prior to construction, a Construction-Period Traffic Management Plan will be developed that will include general project information and details related to work hours, delivery and construction truck routes, worker access and parking plans, police details, truck unloading and staging, construction site signs, modes of transportation for construction workers, and initiatives for reducing driving and parking demands. The plan will also highlight the protection of utilities and the control of noise and dust.

This Construction-Period Traffic Management Plan, including the construction vehicle routes and anticipated hours, will be published and available prior to construction. It is expected that a majority of the construction would occur weekdays, typically between 7am

and 7pm (this is consistent with the Town of Bedford local noise ordinance); some specialized construction activities may require limited nighttime or weekend work. The plan will be reviewed with the Hanscom Field Advisory Commission prior to construction.

5.2.1.2 Aircraft Operations

Future development of the North Airfield Area was analyzed in the 2012 ESPR and planned redevelopment of the Pine Hill Area remains unchanged from the 2005 ESPR analysis. The air quality analysis presented in the 2012 ESPR assumed operational changes as a result of the Proposed Action and evaluated a level of future operations above that expected for the Proposed Action. Accordingly, the 2012 ESPR analyses of future conditions (2020 and 2030), fully analyzed the potential effects of the proposed improvements addressed in this EA. These identified impacts are considered to be less than significant.

Construction of additional hangars are also not expected to significantly increase groundside vehicle traffic as the Proposed Action is primarily designed to meet existing demand. Although the hangars would likely have a number of employee commuter trips, their numbers would be small with respect to the general regional traffic. Generally, hangar use does not generate increased traffic and does not typically coincide with traditional daily peak travel times. Section 6.0 of the 2012 ESPR presented a detailed analysis of current and projected future vehicular traffic volumes; that analysis demondtrated that during peak travel hours, Hanscom traffic represents less than 5% of roadway traffic at key intersections. The 2012 ESPR evaluted increases in traffic beyond that expected for the Proposed Action. Emissions from on-road vehicles would not be expected to change significantly, and subsequently, there would be little to no change expected in ambient pollutant concentrations.

Utilizing the Institute for Transportation Engineers (ITE) trip generation model calculator, the proposed hangars are not expected to add significant traffic to the Hartwell Road area. Based on the estimated size of the proposed hangar(s) and expected number of based aircraft, it is assumed that if all trips were new to the facilities, there would be a total increase of approximately 490 new trips per day. Based on observation of the current hangars, these new trips would likely be spread across the day and not concentrated during the peak hours for the area roadways.

Existing traffic conditions (2018) show that there are between 2,500 - 2,700 vehicle trips during the peak hours on Hartwell Road, and at both Route 62 and South Road intersections. The ITE model indicates that there would be an additional 60 trips as a result of the development during peak hours, with the remaining trips dispersed throughout the day. This represents a small increase compared to existing peak hour traffic volumes.

This indicates that traffic as a result of the development is not expected to significantly change traffic congestion or patterns, or the Level of Service in the Hartwell Road area.

5.2.2 No Action Alternative

The "no action" alternative consists of leaving the existing areas as is. Thus, no construction would occur, and both aircraft operations and groundside activities would be unaffected.

5.2.2.1 Construction

Since no construction would occur, no adverse air quality impacts from construction activities would be produced.

5.2.2.2 Operations

It would be expected that operations would continue as currently trending. Aircraft operations would maintain their existing levels and forecast growth. Groundside activity would also remain unchanged. Reduction of ferrying may not occur. Air quality impacts from operations would be unaffected.

5.2.3 Conformity

Section 176 (c) of the Clean Air Act (CAA) requires that any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity must demonstrate that the action conforms to the area's commitment to eliminate or reduce the severity and number of violations of the NAAQS and achieve expeditious attainment of those standards.

General Conformity ensures that the actions taken by federal agencies do not interfere with a state's plans to attain and maintain national standards for air quality and applies to all other actions in non-attainment or maintenance areas not specifically covered by transportation conformity (highway and transit projects). To determine whether general conformity requirements apply to an action, the agency in charge must consider the nonattainment and maintenance status of the area, the exemptions from and presumptions to conformity, the project's emissions, and the regional significance of the project's emissions. The conformity rule applies to actions located in nonattainment and maintenance areas. Since the project is located in an area of attainment for all pollutants, General Conformity does not apply.

5.3 Biological Resources

Since a majority of both development areas has been previously developed/altered, the Proposed Action will have only minor impacts to biotic resources. Approximately 9.75 acres of currently vegetated areas would be converted from vegetated (permeable) to paved (impermeable) for the hangar, taxi lane, and parking areas. This additional impervious area will be offset by the removal of existing impervious elsewhere on the airfield, converting those areas back to a mowed grass habitat. Existing impervious areas on site total four acres. These actions are expected to result in minimal impacts on the wildlife that currently

use these areas. No significant stands of trees will be removed and the large areas of upland forest adjacent to the project areas will remain following the project and continue to be available for use by wildlife.

No wetlands would be disturbed; they will continue to provide their respective functions at the airport. Any alteration of state wetland buffer zones is expected to be minimal and addressed through traditional construction mitigation strategies. The Proposed Action would not result in any impacts to the waterbodies proximate to the development areas, and therefore, no impacts to fisheries are expected.

Development alternatives that were evaluated for both development areas had greater impacts to vegetated areas and increases in impervious surface. The Proposed Action minimizes impacts to forested upland areas and wetlands as discussed in Section 5.11.2. The no action alternative would not meet the project purpose of meeting current demand and need in providing additional hangar and apron space.

5.3.1 Federal and State-Listed Endangered and Threatened Species

There will be no impacts to the federally-listed NLEB due to lack of tree removal required by this project as well as lack of nearby hibernacula or maternal roost trees. The state-listed upland sandpiper and grasshopper sparrow would not be impacted by the Proposed Action. While a small portion of Priority Habitat polygon overlaps the Pine Hill Area existing hangars and project site, this area consists of buildings and paved surfaces; there is no actual habitat present. While grassland bird species are located in the grassy airfields areas, hangar development in the North Airfield Area would be situated across a taxiway from an infield where grasshopper sparrows have been observed in the past. Since the nesting activity has occurred under the existing and higher historic activity levels at the airport, the General Aviation hangar development in this location would be expected to have no effect on the continued usage of the infield as a nesting site. The initial taxilane concept for the North Airfield Area crosses an edge of the mapped MNHESP protected grassland habitat. As part of a final design process, opportunities to avoid this mapped habitat area will be studied. In the event there is an unavoidable impact, Massport will work with MNHESP to offset any habitat loss through airfield pavement removal. As such, there would be no net loss of habitat for either species.

State listed turtle species are located in brooks and streams and occur in adjacent uplands. These species are primarily associated with Elm Brook and the Shawsheen River on Hanscom which occur on the western and northern part of the airport and flow north. The closest area at the North Airfield Area is approximately 1,000 feet from Elm Brook at its closest point.

5.4 Section 4(f)

As discussed in Section 4.3.3, Section 4(f) relates to historic sites, properties and parks, recreation areas, and wildlife and waterfowl refuges. The Massachusetts Historical Commission (MHC) is the entity that functions as the SHPO for Massachusetts. Although the entirety of Hanscom Field is surrounded by several listed 4(f) sites, including Great Meadows National Wildlife Refuge and the Minute Man National Historical Park (MMNHP), as detailed fully in Chapter 10 of the 2012 ESPR, none of these sites are within the Proposed Action site boundaries (See Figure 4-2). The closest property, the MIT Hangar – Hangar 24, is approximately 509 feet from the Pine Hill ramp area. Other sites, such as the Elm Brook Farm, Henry David Thoreau Birthplace, and Hanscom Field – Hangar 17, are approximately 0.24 miles, 0.52 miles, and 0.46 miles from the Pine Hill ramp area, respectively. The Chip-In Farm, Chip-In Farm Barn Chip-In Farm Chicken Barn, and Chip-In Farm General Store and Office properties are approximately 0.35 miles from the T-Hanger and the North Airfield Area. The John McGovern House is approximately 0.53 miles from the T-Hangar and the North Airfield Area.

The Minute Man National Historic Park is a Section 4(f) property located outside of the project area and adjacent to Hanscom Field. See Section 5.6 for the discussion on potential effects on historic properties. Development alternatives evaluated would similarly have no impact on Section 4(f) resources. The no action alternative would not meet the project purpose of meeting current demand and need in providing additional hangar and apron space.

5.5 Hazardous Materials

The Proposed Action is not anticipated to result in the release of hazardous materials and is not anticipated to generate hazardous waste in addition to typical aircraft maintenance activities such as changing of lubricants and fluids. Waste disposal during project construction will be managed separately from normal airport solid waste management operations, and will not generate solid waste beyond typical aircraft maintenance activities such as changing of lubricants and fluids during post-construction period. Any contaminated soils encountered during construction will be managed pursuant to the provisions of the Massachusetts Contingency Plan. While adjacent to the Operable Unit (OU) boundaries, no work is proposed within any of the boundaries associated with the Superfund sites. Massport's response to any contamination found during construction will comply with the Massachusetts Contingency Plan at 310 CMR 40.0000.

If hazardous materials such as asbestos or lead are encountered during demolition of the existing hangars, any such materials would be removed at the time of demolition in accordance with laws and regulations. Management of hazardous materials and wastes associated with operating hangars will be conducted in accordance with local and state regulations found at 310 CMR 30.000. Best Management Practices (BMPs) would be implemented in accordance with local, state and federal regulations to ensure compliance.

5.6 Historic and Archaeological Resources

According to the 2012 ESPR, no known Historic or Archaeological resources are located within the immediate project area (as shown on Figure 4-2). Direct impacts to such resources would not occur as a result of the Proposed Action, nor any development alternatives evaluated. The 2012 ESPR assessed development scenarios including the hangar development. It notes that the North Airfield Area is within an area assessed as having low archeological sensitivity. As part of the Draft EA circulation, MHC, the Historical Commissions of the four Hanscom Field towns affected by activities at Hanscom Field (Bedford, Concord, Lexington, and Lincoln) were given opportunity to review the EA and provide comment in accordance with Section 106 of the National Historic Preservation Act. As part of the EA circulation, The National Park Service was also given opportunity to review the EA during the public comment period. No comments were received from any of these reviewing agencies.

MHC has been provided with documentation of and the opportunity to comment on the FAA Section 106 "Finding of No Sigificant Properties Affected" for this EA. Following the close of the 30-day comment period, no response was received.

As discussed in Section 4.3.7, comparison of year 2012 Day-Night Sound Levels (DNL) noise contours prepared for the 2012 ESPR to the contours shown in the 2005 ESPR shows that overall noise levels at Hanscom Field have decreased. The Proposed Action is not expected to result in a significant change in operations or noise impacts.

The no action alternative would not meet the project purpose of meeting current demand and need in providing additional hangar and apron space.

5.7 Energy Supply, Natural Resources and Sustainable Development

Massport strives to minimize the impact of the airport's operations on surrounding communities. Massport is diligent in abiding by all environmental regulations and is a leader in promoting voluntary environmental initiatives. The airport is committed to implementing programs aimed at sustainable development relative to energy usage and natural resources. The proposed hangars will be designed and constructed in accordance with LEED Silver certification standards, at a minimum. Construction contractors would be chosen who can adhere to these standards. Project initiatives for reducing construction impacts may include: using low emitting materials for construction including paint and flooring; using renewable energy sources for construction activities; using recycled materials for building construction; and implementing a recycling program for used or remnant construction materials.

The Proposed Action would not significantly affect energy supply or natural resources, and would work towards the sustainable development goals identified by Massport.

Development alternatives evaluated also would not have any significant effects as the alternatives would be required to meet the same standards and guidelines noted as folows. As identified in Massport's *Sustainable Design Standards and Guidelines*, Massport has several programs and initiatives in place that contribute to the sustainable operation and maintenance of Hanscom Field and its facilities. The Proposed Action will be designed in accordance with these programs and initiatives, including:

- Implementation of a comprehensive solid waste and recycling program;
- Development of an Energy Master Plan;
- Development and documentation of greenhouse gas and emissions inventories;
- Development and implementation of a green cleaning program; and
- Examining the potential for installation of energy-reducing and renewable power systems such as wind turbines or solar panels.

The no action alternative would not meet the project purpose of meeting current demand and need in providing additional hangar and apron space.

5.8 Noise

For noise analysis of airport actions, FAA Order 1050.1F CHG 1 requires identification of the number of people newly exposed to noise levels greater than Day-Night Sound Levels (DNL) 65 dB, as well as any areas projected to experience an increase in long-term noise level of 1.5 dB or more (within DNL 65). In response to community comments on the Draft Environmental Assessment, FAA requested supplemental analysis of potential noise impacts of proposed new aircraft hangar facilities at L.G. Hanscom Field (BED) in Bedford, MA. Massport sought technical guidance from noise consultant, Harris Miller Miller & Hanson (HMMH) who determined that due to distance and shielding from the proposed development, no significant impact is projected to impact nearby residences (see Attachment C: Noise Technical Memorandum).

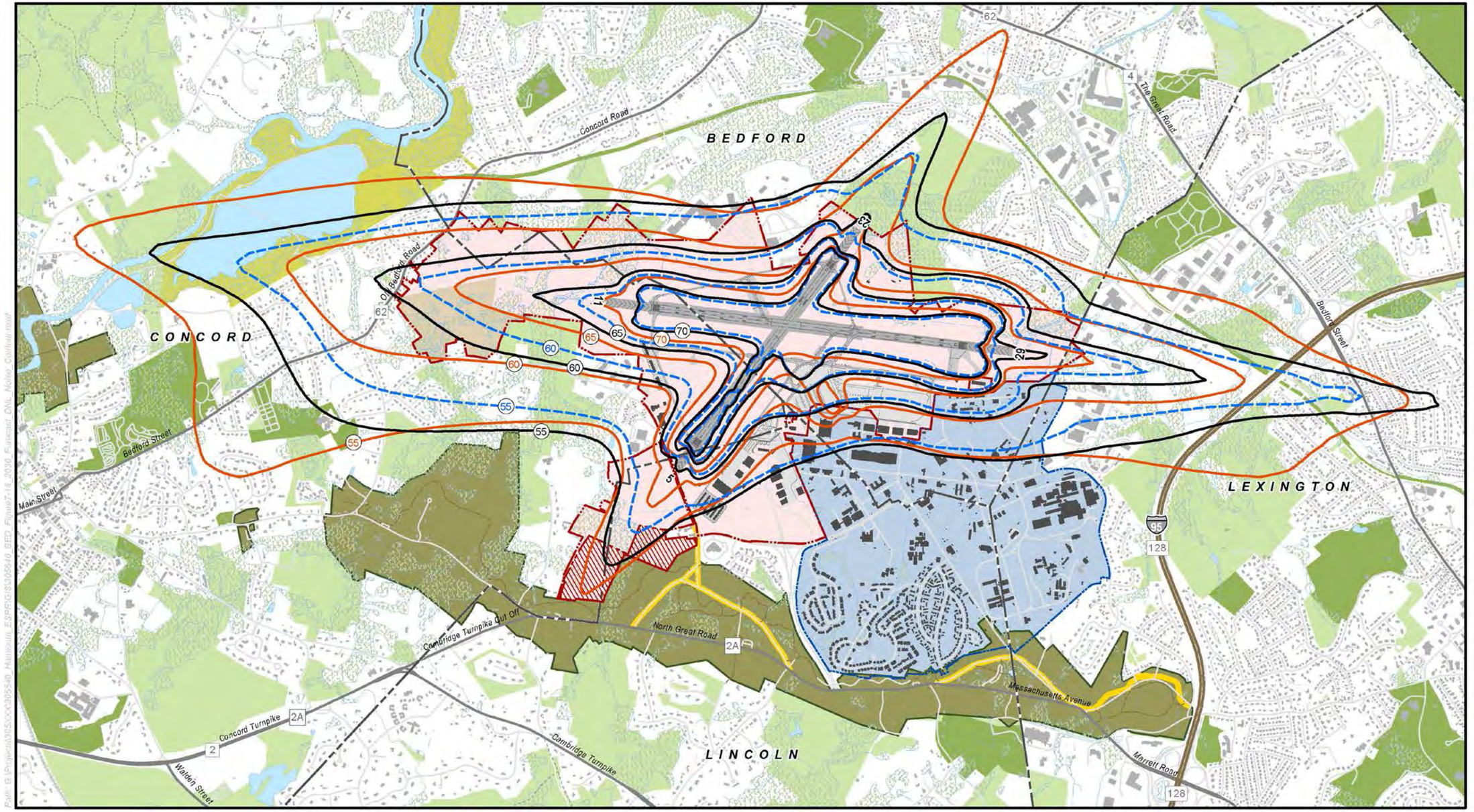
As noted in Section 1.0, the 2012 ESPR forms the basis of evaluation for a range of operating and environmental impacts associated with various projected future projects and activity levels. In this manner, when new projects are predicted to add any new aircraft operations, to the extent that level and type of activity is consistent with operating scenarios evaluated in the 2012 ESPR, the project is considered to be consistent with the these findings. As previously noted, annual flight operations are significantly reduced since 2012 with a reduction of 44,000 landings and takeoffs between 2012 (166,214 annual operations) and 2016 (121,786 annual operations). Based on the 2016 State of Hanscom report, a majority of the reductions are in the local/single engine fleet category. There has been a slight reduction in turboprop operations between 2012 (7,050 annual operations) and 2016 (5,908) and a small increase in jet operations between 2012 (25,638) and 2016

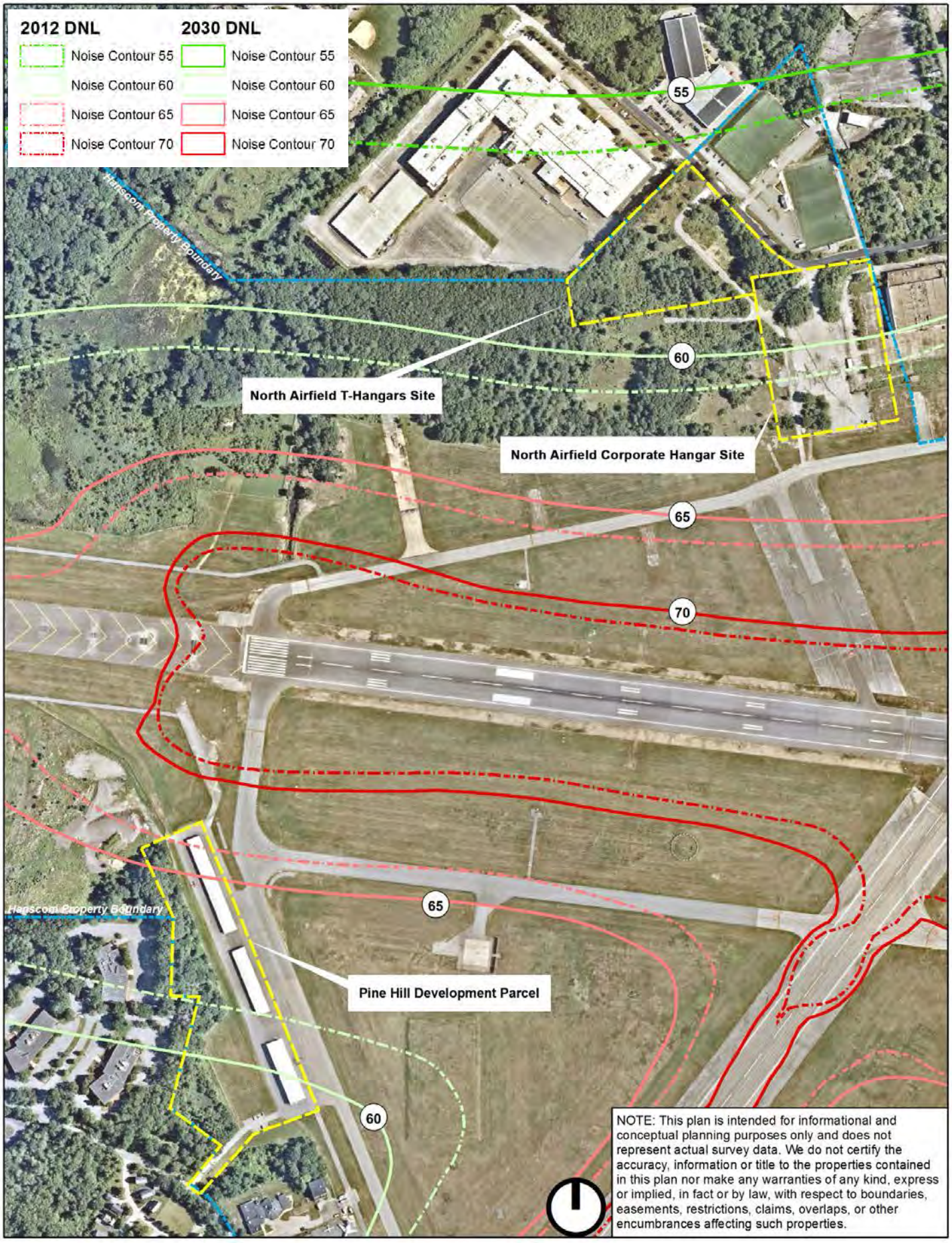
(26,012). Other single engine operations have also shown a significant decrease since 2012.

For the Proposed Action, a comparison of year 2012 DNL noise contours developed for the 2012 ESPR was made to the contours shown in the 2005 ESPR. That comparison showed that overall noise levels at Hanscom Field have decreased, largely due to zero operations by civilian Stage 2 jets, aircraft technology and decreases in total operations. 2012 ESPR future population estimates within the 65 and 55 DNL contours for the 2020 and 2030 scenarios indicate that even with the projected growth in operations for 2020 and 2030 (independent of this project), there will be no residents within the 65 dB contour and populations exposed to both the 65 dB and 55 dB contour will remain below 2005 actual levels. Activity levels associated with the Proposed Action are well within the levels assessed in Section 7.6 of the 2012 ESPR. Similarly, there are no new sensitive resources proximate to the study area since preparation of the 2012 ESPR.

In addition, the 2012 ESPR analyses shows that even with forecasted increases in operations or other activities, no noise analysis locations (including historic sites and MMNHP) would experience a DNL value greater than 60 dB under any future scenario. The Deacon John Wheeler/Capt. Jonas Minot Farmhouse and the Wheeler-Merriam House are the only historic sites that would experience potential noise levels between 55 and 60 dBA in the 2020 and 2030 scenarios. No portion of the MMNHP is located in the 55 DNL contour in the 2012 ESPR including the future forecasts for 2020. Only a small portion of the MMNHP would be within the 55 DNL contour in 2030 (see Figures 5-1 and 5-2).

As discussed in Attachment C, changes in aircraft ground noise may be audible due to the Proposed Action at some nearby residences. These changes would likely occur during intermittent low power ground operations and are expected to have little to no effect on the total DNL contours. Changes in overall aircraft fight operations due to the Proposed Action are uncertain, but are likely to be small and almost certainly well within the range of annual operations analyzed in the 2012 ESPR. The highest level of operations in the 2012 ESPR noise modeling was over 60,000 annual operations higher than current activity at Hanscom. The noise modeling for this and all other 2012 ESPR scenarios showed no noise-sensitive land uses within the 65 dB DNL contour. Therefore, no significant impact is projected for the Proposed Action, for the range of activity analyzed in the 2012 ESPR.


BEDFORD
CONCORD
LEXINGTON
LINCOLN
Concord Road
Old Bedford Road
The Great Road
Bedford Street
Main Street
Concord Turnpike
Cambridge Turnpike Cut Off
North Great Road
Massachusetts Avenue
Cambridge Turnpike
Walden Street
Marrett Road
62
4
2
2A
95
128
11
29
33
55
60
65
70
North
0
2,000
4,000 Feet
2005 DNL Noise Contour
2012 DNL Noise Contour
2030 DNL Noise Contour
Hanscom Field Property Boundary
Massport Property within MMNHP Congressional Boundary
Hanscom AFB Property Boundary
Municipal Boundary
Historic Road
Interstate
Highway
Road
Trail
Active Rail Service
Open Water
Stream
Wetland/Marsh
MMNHP Boundary
Great Meadows
Open Space Non-protected
Open Space Protected in Perpetuity
Data Sources: MassGIS (Roads, Rail), March 5, 2013; MassGIS (Bike Trails, Tracks and Trails), March 7, 2013;
MassGIS (Community Boundaries), March 5, 2013; MassGIS (DEP Wetlands), March 8, 2013;
NPS (Park Boundary), March 8, 2013; NPS (Streets and Trails), March 8, 2013; MassGIS (Building Footprints), March 7, 2013
Hanscom Field 2012 ESPR
Bedford, Concord, Lexington, Lincoln, Massachusetts
2005 and 2012 DNL Noise Contours Compared to 2030 Forecast DNL Noise Contours
Figure 7-18



Hanscom Field Environmental Assessment Bedford and Concord, Massachusetts

Epsilon ASSOCIATES INC.

Figure 5-2

2012 and 2030 Noise Comparison at Pine Hill and North Airfield Development Sites

Noise impacts related to the Proposed Action will include sounds typical of the operation of runways, taxiways and aprons, including aircraft and motor vehicle engine noise. No increases in operations or aircraft type are anticipated to result from the proposed actions, nor alternative development scenarios evaluated since the sizing of hangar space is similar. Construction noise will be temporary and generated by construction vehicles and construction equipment performing earth work, paving and delivering construction materials.

The no action alternative would not meet the project purpose of meeting current demand and need in providing additional hangar and apron space.

Project construction could begin in late 2018 or early 2019. Prior to construction, a Construction-Period Traffic Management Plan will be developed that will include general project information and details related to work hours, delivery and construction truck routes, worker access and parking plans, police details, truck unloading and staging, construction site signs, modes of transportation for construction workers, and initiatives for reducing driving and parking demands. The plan will also highlight the protection of utilities and the control of noise and dust. This plan, including the construction vehicle routes and anticipated hours, will be published and available prior to construction. It is expected that a majority of the construction would occur weekdays, typically between 7 am and 7pm; some specialized service may require limited nighttime or weekend work. The plan will be reviewed with the Hanscom Field Advisory Commission, and the towns, prior to construction.

Measures to mitigate construction noise are anticipated to include:

- Using appropriate mufflers on all equipment and ongoing maintenance of intake and exhaust mufflers;
- Muffling enclosures on continuously running equipment, such as air compressors and welding generators;
- Replacing specific construction operations and techniques by less noisy ones where feasible;
- Selecting the quietest alternative items of equipment where feasible;
- Scheduling equipment operations to keep average noise levels low, to synchronize the noisiest operations with times of highest ambient levels, and to maintain relatively uniform noise levels;
- Ensuring construction vehicle operators abide by the Massachusetts 5-Minute Idle Law by turning off idling equipment;

- Locating noisy equipment at locations that protect sensitive locations by shielding or distance;

- Requiring all construction equipment to be equipped with exhaust mufflers, and requiring mufflers to be maintained to minimize engine noise; and;

- Scheduling construction to generally occur during daylight hours

5.9 Induced Socioeconomic

The Proposed Action would result in positive induced socioeconomic impacts and would allow Hanscom Field to better serve the overall air demand of eastern Massachusetts, particularly that for corporate business aircraft. FBOs have existing customers on waiting lists. The new hangar space will meet existing demand. The increase in hangar space would allow FBOs to hire additional employees, thus increasing jobs at Hanscom. The Proposed Action would result in direct positive effects to those who would have new jobs, as well as indirect or secondary positive effects (increases) in local services such as restaurants, gas stations, etc. within Hanscom and local areas. As the development alternatives evaluated met the same goals of providing increased hangar space, positive impacts would also result.

The no action alternative would not meet the project purpose of meeting current demand and need in providing additional hangar and apron space and would not provide any increased economic return.

5.10 Visual Effects

The project would not increase off-airport light emissions or create visual effects. The characteristics of most airport lighting systems create potential sources of annoyance to nearby residents, such as visual navigational aids, edge lights, and others, which may emanate disturbing emissions. There will be no net increase of such lighting emissions. Lights around the Pine Hill ramp area would be repositioned as needed but would not increase significantly in number. Lights at the North Airfield Area access roads would be required to be visible to drivers accessing the new hangars from Hartwell Road.

Building lighting and parking lot areas would comply with the lighting specifications in Massport's *Sustainable Design Standards and Guidelines*, as well as the *Guide to Tenant Construction*, so as to not increase light emissions significantly. Final design has not been completed, however, LED lighting fixtures or compact fluorescent light bulbs will be utilized where feasible. All lights would be directional to send light down to the surface to eliminate bleeding of light offsite. EnergyStar equipment would be used where feasible. Advanced lighting technologies would be implemented where practicable, and lighting systems, as a part of the entire energy use system, would be periodically reviewed for potential energy-reducing improvements. Existing and proposed roof perimeter and parapet

lights would be shielded and directed down and would not spill far from the source. Roadway lighting and parking lot lights would consist of amber security lighting or older low-profile street lights (lower intensity white light). This lighting, similar to building light, is directed downward and does not typically spill more than 30-50 feet away from the light source.

Construction vehicles must have proper identification according to a Construction Safety and Phasing Plan. While not anticipated for this project, any vehicle operating in the movement area during hours of darkness or reduced visibility must be equipped with a flashing amber dome-type light. These flashing lights would be temporary and utilized only during periods of construction activity within airport property. Proposed construction activities are expected to be conducted almost exclusively in daylight hours.

5.11 Water Resources

5.11.1 Groundwater

Development of the North Airfield Area will occur adjacent to the Naval Weapons Industrial Reserve Plant Site (NWIRP). This Superfund site has documented impacts to groundwater and has undergone remedial actions. Due to groundwater flow direction, construction at the North Airfield Area, which is located hydrologically cross-gradient to the NWIRP site, is not anticipated to encounter impacted groundwater. However, pre-construction subsurface investigations will be conducted to identify any impacts to groundwater or site soils and Groundwater and Soil Management Plans will be implemented to ensure all construction activities comply with the Massachusetts Contigency Plan (MCP).

Operations at the proposed hangars, including the storage and use of hazardous materials and wastes, will be managed in accordance with Spill Prevention Control and Countermeasure Plans written specifically for the facilities in accordance with EPA regulations. Any spill of petroleum or other hazardous material will be immediately reported to the Massport Fire/Rescue Department and the tenant will be required to follow notification and cleanup procedures established under the MCP.

5.11.2 Surface Water and Wetlands

The Proposed Action poses no direct impacts to wetlands. The proposed alternatives for both sites avoid direct impacts to wetlands altogether and strive to minimize any work within the state 100-foot Buffer Zone to Bordering Vegetated Wetland (BVW). Alternatives that were evaluated and dismissed for both sites had direct impacts to vegetated wetlands and waterways

The potential to impact water quality stems from three sources: 1) ground disturbance due to sedimentation caused by erosive forces, 2) increases to impervious surface area, and 3) increases in potential spills of fuel or other contaminants.

The first potential source will be mitigated by best management practices such as erosion control, implementation of a stormwater pollution prevention plan (SWPPP), and soil stabilization using native seeding or other approved means. The extent of soil disturbance will be limited during construction. A SWPPP will be implemented to minimize impacts to water quality during construction. The program will incorporate Best Management Practices (BMPs) specified in guidelines developed by the EPA and will include a project description, construction schedule and sequence, required erosion and sedimentation control, soil stabilization, documentation regarding inspections and maintenance, and a spill prevention plan. The construction contractor will be responsible for implementing and maintaining all erosion and sedimentation control measures.

Secondly, Massport directs new development to areas with existing impervious surfaces and to take advantage of existing infrastructure wherever possible. The Proposed Action will minimize the surface area of new impervious pavement and re-using areas of existing impervious pavement to the extent practicable at both sites. Where new impervious surface will be added at these two sites, impervious surface has or will be removed at a site elsewhere on the airfield for a no net gain in impervious surface within the Shawsheen River watershed. As noted earlier, in anticipation of this redevelopment, Massport removed approximately ten acres of excess pavement adjacent to Runway 11/29 during the summer of 2017 (see Figure 5-3). Together with any additional pavement to be removed, with this project in place there would be a net reduction in airfield paved surfaces. Alternatives evaluated for both development areas would have a greater increase impervious surfaces. The no action alternative would not increase impervious surfaces; however it would not meet the project purpose of meeting current demand and need in providing additional hangar and apron space.

Massport requires individual projects to implement BMPs to address Massport's policy regarding stormwater runoff requirements that projects resulting in increases in impervious surfaces do not increase peak runoff rates. The Proposed Action would comply with the

Stormwater Management Standards. Massport also requires all development and facility operations, to conform to the requirements of the 2015 NPDES permit for Hanscom Field. All activities would be required to meet applicable standards for stormwater management required for site development or redevelopment by MassDEP. The stormwater treatment system designed for this project will meet these standards.

Thirdly, the relocation of the T-hangars to the North Airfield Area would include stormwater management facilities designed to protect the recharge areas of public water supply resources. Massport would require potential developers of the GA/corporate hangar sites in the North Airfield Area to ensure that any potential facilities are designed to protect the recharge area of the Bedford public wells.

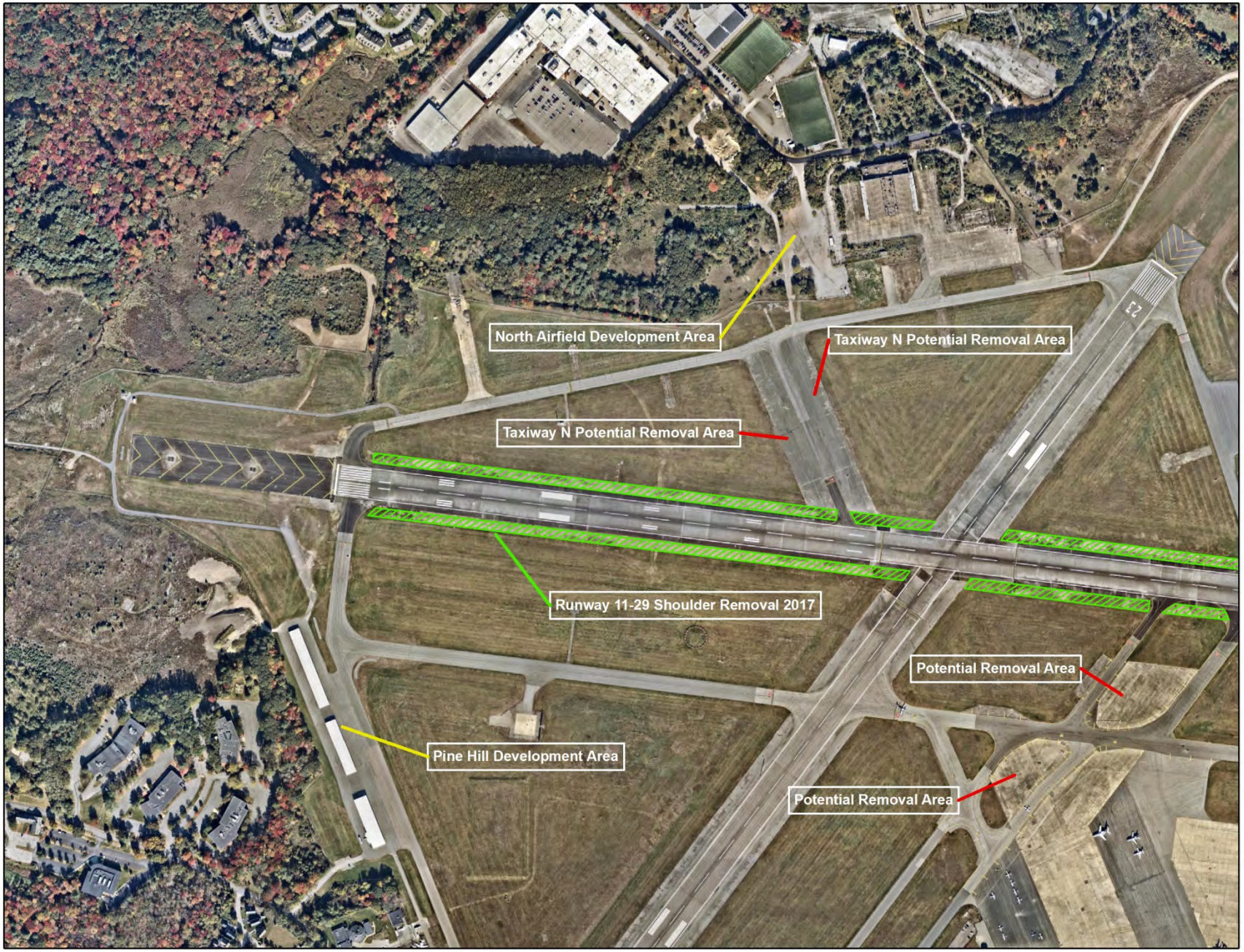


Figure 5-3

Potential Pavement Removal Sites

These measures, as well as inclusion of required elements of Massport's spill prevention program, will protect the recharge area. Future tenants will be required to implement a comprehensive Spill Management Program within their lease areas. Components of this program could include design of a state-of-the-art spill containment system for the new hangar, close monitoring of fuel spillage, and tracking the status of spill response actions and compliance with the Massachusetts Contingency Plan (MCP). State environmental regulations require the responsible party to report all 10-gallon or larger petroleum spills to MassDEP.

5.12 Secondary and Cumulative Impact Analysis

The Proposed Action is not expected to result in any significant secondary or cumulative impacts.

5.12.1 Secondary Impacts

Guidelines prepared by CEQ, for implementing NEPA, define secondary or indirect effects as those that are "caused by an action and are later in time or farther removed in distance but are still reasonably foreseeable." Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. (40 CFR 1508.8).

The Proposed Action is not expected to cause significant secondary impacts in any of the impact categories that have been considered, aside from a positive socioeconomic impact resulting from both construction and permanent job creation. All impacts are expected to occur only at the specific locations where construction will occur. The potential for secondary impacts occurring later on or distant from the site due to on-going operations at the hangars will be minimized by the mitigation measures described herein, such as Massport's commitment to sustainable design principals, proper stormwater management, impervious surface offsets, noise monitoring, other noise control programs, and light emissions control. The Proposed Action is not expected to create significant secondary air quality or noise impacts as it is not expected to significantly affect the amount of air traffic and in fact may help to lower operations at the field as discussed in Sections 2.2 and 4.2.

5.12.2 Cumulative Impacts

Cumulative effects may result from individually minor but collectively significant actions that take place over a period of time. Mitigation for previous improvements or modifications to the ALP reduces the effect of cumulative impacts. Due to the proposed location of the project construction which is outside wetlands and and strives to avoid work in the associated buffer zones and rare species habitat, avoids cultural resource sensitive areas, and Environmental Justice populations, the Proposed Action is not expected to have any significant adverse cumulative impacts in those categories. Further, the project is not

expected to have any significant impact on aviation operations in terms of overall numbers of landings and take-offs, therefore it is not expected to have any significant impact on air, noise or 4(f) resources. The Proposed Action will not add cumulatively to noise, air quality or traffic impacts beyond those already studied in the 2012 ESPR.

Section 6.0

Mitigation

6.0 MITIGATION

This EA demonstrates that although the project will result in some unavoidable impacts, those impacts have been minimized to the greatest extent practicable, and can be adequately mitigated. Potential project-related impacts have been mitigated to the maximum extent practicable, such that project implementation will have no long-term effects to natural resources, or airport facilities and operations. Where a reduction in aircraft ferrying is achieved, the project can have a positive environmental impact. The following table, Table 6-1, describes, by resource category, the impacts anticipated and associated mitigation measures.

Table 6-1 Summary of Impacts and Mitigation Measures

Subject Matter	Impact	Mitigation Measure	Schedule
Air Quality	No impacts are anticipated	The following actions are expected to have minor benefits to air quality: ♦ Larger hangars will enable FBOs to reduce ferrying operations. There is not anticipated to be an increase in operations based on current trends. ♦ Additional hangar space will allow FBOs to accept newer, more efficient aircraft. ♦ See below for construction period impacts	During and Post-construction
Noise	No impact to noise contours is anticipated	Overall noise levels at Hanscom Field have decreased, largely due to zero operations by civilian Stage 2 jets, aircraft technology and decreases in total operations; and the Proposed Action will not change this trend.	N/A
Water Quality	No impacts are anticipated, NPDES permit required for construction	Stormwater Pollution Prevention Plan (SWPPP) would be generated for construction-related activities. During construction, structural and non-structural controls to minimize erosion and sedimentation, including temporary stabilization, temporary seeding, permanent seeding, dust control, temporary sediment basins and check dams, diversion swales, catch basin inlet protection, and dewatering filters. During operation, consistency with MassDEP's Stormwater Regulations and Massport's stormwater policy through measures including infiltration, peak runoff rate and volume control, and total suspended solids removal. Combined with airfield pavement removed in the summer of 2017 and any additional pavement to be removed as part of this project, there will be no net gain in impervious surface on the airfield.	During and post-construction
Surface Water and Wetlands	Direct wetland impacts are avoided; work in associated state buffer zones will be avoided where practicable.	Best management practices described above for resource protection surfaces. These controls would be inspected daily and after rainfall events, and maintained periodically, as required, until such time that their removal is approved by all pertinent regulatory agencies.	During and post-construction
Energy Supply, Natural Resources and Sustainable Development	Minor increase in use of energy resources.	Massport is committed to implementing programs aimed at sustainable development relative to energy usage and natural resources	Design, During and post-construction

Table 6-1 Summary of Impacts and Mitigation Measures (Continued)

Subject Matter	Impact	Mitigation Measure	Schedule
Hazardous Materials	No known measures	If any hazardous materials encountered during demolition of Hangars at the Pine Hill Area would be removed or will be managed pursuant to the Utility-related Abatement Measure (URAM) provisions of the Massachusetts Contingency Plan and removed or managed in place in accordance with Massport Sustainable Design Standards and Guidelines as well as the Guide to Tenant Construction (2009) at the time of demolition. BMPs would be implemented in accordance with local, state and federal regulations to ensure compliance.	Prior to and during construction
Wetlands	Wetland impacts are avoided; state buffer zone alteration to be avoided where practicable New impervious surface: 9.75 acres	Project was designed to avoid impacts to wetland resource areas. Wetland resource areas will be protected from direct impacts, including erosion and sedimentation, during construction. Combined with airfield pavement removed in the summer of 2017 and any additional pavement to be removed as part of this project, there will be no net gain in impervious surface on the airfield.	Prior to and during construction
Construction	Temporary impacts on traffic, air quality, noise, water quality	Implementation of measures to avoid or minimize environmental impacts during project construction, including: ♦ Compliance with the SWPPP; ♦ Implementation of MassDEP and EPA Best Management Practices; ♦ Equipment maintenance to minimize noise; ♦ Low sulfur or ultra-low sulfur diesel fuel use by contractors; ♦ Designated truck routing; ♦ Limit truck idling; ♦ Site housekeeping, such as water use for dust suppression, and interim stabilization of surfaces not being worked; ♦ Flashing lights on construction vehicles used only when on airport property; and ♦ Recycling and waste reclamation where possible.	During construction

Table 6-1 Summary of Impacts and Mitigation Measures (Continued)

Subject Matter	Impact	Mitigation Measure	Schedule
Light Emissions and Visual Effects	Minor increase in light emissions	New light emission impacts would be minimized via design details as specified in the Massport Sustainable Design Standards and Guidelines. All lighting would be designed with reduced energy use in mind with LED lighting utilized for signage and signals. .	Design, During and post-construction
Wildlife Habitat	No impact	Avoidance of airfield grassland habitat where possible; pavement removal to offset any unavoidable habitat impact.	During construction
Stormwater	9.75 acres of new impervious area in redevelopment sites	Combined with airfield pavement removed in the summer of 2017 and additional pavement to be removed as part of this project, there will be no net gain in impervious surface on the airfield. During construction, structural and non-structural controls to minimize erosion and sedimentation, including temporary stabilization, temporary seeding, permanent seeding, dust control, temporary sediment basins and check dams, diversion swales, catch basin inlet protection, and dewatering filters. During operation, consistency with MassDEP's Stormwater Regulations and Massport's stormwater policy through measures including infiltration, peak runoff rate and volume control, and total suspended solids removal.	During construction

Section 7.0

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Section 8.0

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8.0 REFERENCES

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The Constitution of the Commonwealth of Massachusetts: "Environmental Justice Policy of the Executive Office of Energy and Environmental Affairs" (Article 97, 31 January 2017).

9.0 LIST OF ACRONYMS

AFB	Air Force Base
ALP	Airport Layout Plan
BED	Hanscom Field
BVW	Bordering Vegetated Wetland
CatEx	Categorical Exclusion
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CGP	Construction General Permit
CEQ	Council on Environmental Quality
DNL	Day-Night Sound Levels
Mass DEP	Massachusetts Department of Environmental Protection
Mass DOT	Massachusetts Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMS	Environmental Management System
EPA	Environmental Protection Agency
ESPR	Environmental Status and Planning Report
FAA	Federal Aviation Administration
FBO	Fixed Base Operator
GA	General Aviation
HFAC	Hanscom Field Advisory Commission
HATS	Hanscom Area Towns Committee
IRP	Installation Restoration Program
LUW	Land Under Water
LEED	Leadership in Energy and Environmental Design
MCP	Massachusetts Contingency Plan
MACRIS	Massachusetts Cultural Resource Information System
MAAQS	Massachusetts Ambient Air Quality Standards

Section 9.0

List of Acronyms

MEPA	Massachusetts Environmental Policy Act
MHC	Massachusetts Historical Commission
MNHESP	Massachusetts Natural Heritage and Endangered Species Program
Massport	Massachusetts Port Authority
NAAQS	National and State Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPS	National Park Service
NPDES	National Pollutant Discharge Elimination System
NWIRP	Naval Weapons Industrial Reserve Plant
NLEB	Northern Long-eared Bat
NOI	Notice of Intent
OU	Operable Unit
PM	Particulate Matter
RAO	Response Action Outcome
RFQ	Request for Qualifications
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SWPPP	Stormwater Pollution Prevention Plan
USAF	United State Air Force
USCBP	United States Customs and Border Protection
USFWS	United States Fish and Wildlife Service
USACE	US Army Corps of Engineers
USGBC	U.S. Green Building Council
VOC	Volatile Organic Compounds
WPA	Wetlands Protection Act

Attachment A

Site Photographs

Photo 1: View of the mowed grass area at Pine Hill Area just west of the hangars.

Photo 2: View of access to Virginia Road at Pine Hill Area

Photo 3: View of an existing t-hangars building at Pine Hill Area.

Photo 4: Existing apron space at Pine Hill Area.

Photo 5: Existing paved and grassed areas at the North Airfield Area looking west.

Photo 6: Existing paved areas at the North Airfield Area looking east.

Attachment B

Public Comments on the Draft EA and Response to Comments

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May 16, 2018

Richard Doucette
Environmental Program Manager
Federal Aviation Administration
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Dear Mr. Doucette:

The Selectmen of the Town of Bedford, Massachusetts submit the following comments on the Draft Environmental Assessment entitled L.G. Hanscom Field Aviation Facility Improvements Project prepared by Massachusetts Port Authority and Epsilon Associates, Inc., dated April 13, 2018.

NOISE: The Town of Bedford is concerned about increased noise that would result from the operation of the proposed development. Residences, a softball field and outdoor soccer fields are located on Hartwell Road in Bedford abutting the project site. The Environmental Assessment (EA) at Section 5.8 analyzes projected noise levels solely on the basis of a 2012 Massport Environmental Status and Planning Report (ESPR). Projected noise contours for 2020 and 2030 are reported in the ESPR. But, page 7-44 of the ESPR notes that the predictions of future noise levels assume "no changes were made to the airfield layout...". Massport's proposed development would be located on a section of Hanscom field which has not been used for many years. The noise analysis in the EA and the 2012 ESPR did do not take into account the specific location and projected use of the proposed development. A meaningful analysis of the noise impacts of the project should be site specific rather than relying on old data which used a layout of the airport that did not include the proposed hangars and maintenance facilities.

Additionally, the EA makes the following questionable statement at page 5.7: "[W]ith projected growth in operations in 2020 and 2030 (independent of this project) there will be no residents within the 65dB contour and populations exposed to both the 65 and 55dB contour remain below actual 2005 levels". (emphasis added). This statement takes express exception for noise generated by the proposal. It also does not coincide with Table 7-25 of the ESPR which seems to show population units in Bedford would be exposed to 60 to 65 dB in all years examined. Furthermore, the comparison of future sound levels with 2005 sound levels is misleading. In 2005 the airport was used much more than it is now. The ESPR at page 7-51 shows that dB levels in 2005 were significantly higher than they were in 2012. Sound levels in 2012 are closer to what they are today. A more meaningful analysis would be to compare levels in 2012 (not 2005), to the projections for 2020 and 2030. Table 7-25 of the ESPR shows in that in comparison to 2012, more populations units will exposed to increased noise levels in 2020 and 2030.

Finally, Table 7-12 in the ESPR analyzes noise at specific locations in Bedford, but Hartwell Road is not among the locations analyzed. Massport's proposed project abuts Hartwell Road and the noise impacts at that road should be specifically considered in the EA.

Therefore, we request that the Federal Aviation Administration require Massport to assess the actual increase in noise levels that the nearby Bedford residents of Kendall Court, Hartwell Road and Bagley Avenue will experience from the present day (2018) levels to what they will experience post construction. We also request that Massport identify proposed mitigation for any increased noise in the area. Lastly, we request that this additional information from such an assessment be provided to the Bedford Selectmen for further review and comment.

AQUIFER PROTECTION: The project site is located approximately 2,400 feet from three Town owned wells. It is within the Aquifer Protection District established under Section 13.1 of the Bedford Zoning Bylaw. The purpose of the Aquifer Protection Bylaw is to protect public health by preventing contamination of the ground and surface water resources providing public water supply. Massport's proposed facilities would expose the aquifer to potential contamination from petroleum based products. But, the EA at page 5-13 only addresses aquifer protection very summarily.

The project developer must obtain a special permit from the Bedford Selectmen. The Bylaw directs the permit granting authority to give due consideration to the simplicity, reliability and feasibility of the control measures proposed and the degree of threat to groundwater quality which would result if the control measures failed.

TRAFFIC: The EA inadequately addresses traffic, especially during the construction phase of the project. Hartwell Road is a busy, narrow street which serves residences, recreational facilities, and businesses. Hours of construction should be restricted to 8 A.M. to 4 P.M. on weekdays to reasonably minimize the negative traffic effects on the neighborhood. The EA also does not address the permanent increase in traffic on Hartwell Road that will result from the construction of the new aviation facilities. We request that the Federal Aviation Administration require Massport to analyze and quantify the increased traffic on Hartwell Road resulting from the proposed development and suggest mitigation for these increases.

Thank you for your attention to this matter.

Very truly yours,

William S. Moonan

William S. Moonan
Chair Bedford Selectmen

Cc: Stewart Dalzell
Sharon Williams
Amber Goodspeed

Comments on the FAA Draft Environmental Assessment, L.G. Hanscom Field Aviation Facility Improvements Project, Bedford Massachusetts, dated April 13, 2018

The Hanscom Field Draft EA document is inadequate in evaluation of existing environmental hazards associated with the N. Airfield site.

The Draft EA section 4.3.4.1 is somewhat misleading as to the existing environmental hazards at the N. Airfield site. Although it may be true that no spills within 500 ft of the N. Airfield area have been reported since 2012, it has also true that there is trichloroethene (TCE) groundwater contamination detectable in the southwest portion of the Southern Flight Test Area of the Naval Weapons Industrial Reserve Plant -- see reports for monitoring wells MW-84R, MW-8B, and MW-24R, on page 3-3 (and elsewhere) in the Final Five Year Review for Naval Weapons Industrial Reserve Plant, September 2014, Department of the Navy, available on the US EPA website: https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.scs&id=0102032&doc=Y&colid=32900&region=01&type=SC. These three wells are 500 ft or less from the eastern boundary of the N. Hanscom Development Site as described in the Massport Hanscom N. Airfield RFP, Feb. 28, 2018, attachment A-1. The TCE concentrations reported at these wells in 2013 were above permissible levels mandated by the MA Drinking Water Standards at 310 Code of MA Regulation 22.00, and the US Navy estimated that at current rates of clearance, TCE concentration will not reach acceptable levels required by MA regulations another 6-13 years (2023-2030).

It should be noted that the SFTA wells and the N. Airfield are all located in Town of Bedford Aquifer District II, and therefore development in these areas require regulation by the Town of Bedford and the MassDEP.

Because of the close proximity of the known TCE contamination at SFTA to the proposed N. Airfield and new T-Hangar sites, and because the source of the TCE contamination is unknown (see Five Year Review of NWIRT cited above), additional testing of the sites chosen for the Hanscom N. Airfield and T-Hangar sites should be performed before construction plans are finalized.

The Hanscom Field Draft EA document does not discuss potential hazards from aircraft refueling and servicing operations which have not been excluded from possible Hanscom N. Airfield development activities.

The Massport N. Airfield RFP specifically includes the possibility of aircraft fueling and servicing facilities at the N. Airfield site (Hanscom Worcester RFP 2_28_2018.pdf, sections 1.3.1 and 1.4). Such activities on or adjacent to Hanscom Field have previously caused significant environmental contamination, leading to the designation of numerous EPA superfund sites on Hanscom Field and around the NWIRT (several of which remain open projects). These activities also contributed to the contamination of the Town of Bedford's Hartwell well field. It is therefore of significant concern to Bedford residents, that installation of fueling and servicing facilities, similar to those that previously poisoned Bedford town wells, is being considered again.

It is my understanding that such potential hazards would require review and permitting from the Town of Bedford and MassDEP (see discussion of Bedford Aquifer Protection Districts in Final Five Year Review for Naval Weapons Industrial Reserve Plant, page 3-3, September 2014, Department of the Navy, available on the US EPA website: https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.scs&id=0102032&doc=Y&colid=32900&region=01&type=SC).

Maps of the Bedford Aquifer district II can be found in "Hydrogeologic zones for Bedford water supply wells, Camp Dresser &McKee Inc., July, 1995."
https://www.bedfordma.gov/sites/bedfordma/files/file/file/hydrogeologic_zones_map_-_1995.pdf.
Therefore the FAA EA should be revised to address additional site testing and permitting in accordance with MA state regulations

The Hanscom Field Draft EA does not consider increased noise from aircraft taxiing and servicing at the N. Airfield site.

This issue should be addressed because of the close proximity to of the N. Airfield site to Bedford residential neighborhoods along Hartwell Road and Concord Road. It is anticipated that increased hangar space at the N. Airfield and Pine Hill sites will involve a large increase in taxiing at or near those locations. No such activity currently takes place at the N. Airfield site. In addition, will such activities be permitted at night? The noise associated with increased aircraft parking and taxiing activities, and the impact on Bedford residential neighborhoods should be evaluated in the FAA EA.

The Hanscom Field Draft EA does not consider construction routes or construction impact on Bedford residential neighborhoods.

Last summer (2017) during the resurfacing of runway 11-29, Bedford residential neighborhoods were subjected to thousands of heavy truckloads of resurfacing materials, recycled runway materials, and heavy equipment on a 24/7 schedule. This activity was extremely noisy, disruptive, and hazardous to Bedford residents – especially those who live along the construction routes.

To avoid additional burden on Bedford residents -- the great majority of which derive no benefit at all from Hanscom's elite private business travel services --the FAA EA should consider alternative construction routes which utilize entry points from the Hanscom main gate on Route 2A and existing service roads on the airfield. This may require some inconvenience to Massport operation at Hanscom, but it seems fair that those using the private travel services at Hanscom should bear most of the inconvenience. And it seems unfair that Bedford residents who do not benefit from Hanscom's services should endure increased traffic congestion, hazardous large truck traffic, and increased pollution in their neighborhoods.

Chris Boles
Bedford Resident
tcboles@protonmail.com
4/22/2018

May 20, 2018

Mr. Richard Doucette,

FAA Environmental Program Manager

Dear Mr. Doucette,

These are questions I would like to submit regarding the 2018 FAA Draft EA (Environmental Assessment) of the Potential Impacts of the proposed Hanscom North Airfield Corporate Jet Hangar/Office/Aircraft Taxilane and Parking Aprons/Potential Fueling and Jet Engine Servicing Facilities/Employee-Client-Owner-Ground Transportation Parking Lot(s)/New Airfield Lighting/plus additional T-Hangars for 38 smaller older aircraft currently housed near the Civil Air Terminal on the other side of the Airfield/ Massport Project.

I've highlighted particular environmental/health questions in this list for your attention. Some may be familiar, because watered-down versions ended up in the list of questions from citizens, Bedford officials, and contractors that Massport published regarding the initial RFP. Some will be entirely new to you, because Massport left quite a few questions from Bedford residents and officials off the published list. (Maybe that was an accident, because they were in such a hurry to get the Project started?)

Massport referred most of the 90 questions it received to the FAA Environmental Assessment, to be delivered at the HFAC Meeting of April, 2018. Unfortunately, at that time, Bedford residents and officials were told by Massport's Environmental Planning and Permitting Deputy Director Stewart Dalzell, that our questions had been previously answered in the 2012 ESPR (Environmental Status Progress Report) for Hanscom Airfield, six years before residents became aware of this project. Mr. Dalzell advised us to resubmit our questions to you and the FAA before May 21, so that they could be given due consideration for inclusion in the revised 2018 FAA Draft Environmental Assessment of the Hanscom North Airfield Massport Project .

Confusing right? All questions from Bedford residents and officials answered six years before they were submitted to Massport?

At any rate, as I said, as a Bedford resident, I am submitting the following questions directly to you and the FAA, regarding the proposed Massport North Airfield Hangar Project. I highlighted the questions of particular environmental or health concern.

Sincerely,

Jennifer Boles, Bedford resident

PS – Feel free to ignore the non-environmental questions to Massport, if you like. However, perusing them would give you more of an insight into some of the impacts this Project is going to have on surrounding North Airfield neighborhoods. Better yet, why don't you come and visit us again, so we can show you around our North Airfield neighborhoods in person? I saw you sometimes like to meet directly with residents of Airport impacted neighborhoods in this article from last year:

https://www.burlingtonfreepress.com/story/news/2017/02/21/faa-s-burlington-neighborhood-unfit-residents/97892792/

April 2, 2018

Ms. Jill Cleary

Massport Airport Leasing Business Manager

Massachusetts Port Authority

One Harborside Drive, Suite 200S

East Boston, MA 02128-2909

jcleary@massport .com

Dear Ms. Cleary,

Could Massport please respond to these questions about the L.G. Hanscom Field-North Airfield Area, Hanscom_Worcester RFP.doc?

With regard to Project Traffic:

1. Will the new Massport Project Construction Trucks use local Bedford neighborhood streets again for their Haul Route, as they did for the recent Hanscom Field Runway Repaving Project?
2. If so, what Bedford neighborhood streets are on the Haul Route for this Project?
3. Will the General Contractor for this Project be given permission by Massport again to run Construction Trucks 24/7 through Bedford neighborhood residential areas, as General Contractor Daniel O'Connell's Sons, Inc. out of Holyoke, previously did for the recent Hanscom Field Runway Repaving Project?
4. If not, what will be the allowed construction and trucking hours and days? How many months (or years) will be allotted to complete this Project?
5. Massport General Contractor Daniel O'Connell's Sons, Inc. ran thousands of dusty Construction Trucks through Bedford residential neighborhoods during the recent Massport Hanscom Runway Repaving Project. Those trucks were coming directly from a huge construction project on an Airfield that is dotted with 22 former and current Superfund Sites. Bedford residents were told Massport deemed it unnecessary to take the precaution of washing vehicles as they left the Airfield and directly entered residential areas (passing only feet from youth playing fields in heavy use during the summer construction project). Will all construction vehicles on Hanscom Field be washed down before entering neighborhood streets during this Project?

6. Will confirmation be provided to Bedford that every Project Construction Truck is up to date on all safety inspections? (A number of Massport Project Trucks were found to be out of compliance during the last Massport Project at Hanscom Field. Check with our Police Dept.)
7. Will confirmation be provided to Bedford that every Project Truck Driver is properly accredited and has no prior record of dangerous driving safety violations? (Bedford residents deserve to know that Massport is sending hundreds -or thousands- of only the safest Construction Trucks operated by the safest drivers through our neighborhood streets.)
8. Will every Massport Project Truck be clearly labeled with large, easy to read signage on all four sides, making individual Trucks instantly identifiable, in case there is a problem with: unsafe or illegal maneuvers, aggressive driving, jake-braking, fog-horn honking, speeding, obscene gestures directed at residents and other motorists, blocking of intersections, backing through traffic after overshooting turns, partially or totally uncovered loads, etc? (Please see videos on Bedford Public TV – "Bedford Under Siege"; YouTube – "Hanscom Resurfacing – 8/13/2017"- hint: don't miss the last minute –it's a doozy!; and the Hanscom Field Projects Impacting Bedford Facebook Group – if you are not a member, just ask the Administrator to share the Massport Project Truck videos with you – hint: the Diamond Coring Company Trucks stuck at Hartwell and Concord Roads film is particularly revealing .)

   These unacceptable actions by Massport Project Trucks all took place during the last Massport Runway Repaving Project at Hanscom. Massport often disingenuously dismissed the complaints by protesting that the offending Giant Dump Trucks might not belong to Massport. Having every Massport Project Truck clearly and individually labeled (eg., MPP #1, MPP#2,…MPP#5000) will eliminate any doubt about which Trucks are causing difficulty, allowing other motorists, bicyclists, pedestrians, residents, Massport, and Bedford police to instantly identify rogue truckers.

9. Will Massport provide a daily copy of the Log of all Project Trucks to Bedford, so that our town and residents will have a measure of how many trucks, what materials they are carrying, and how heavy the loads are that are traveling through our neighborhood streets?
10. Will Massport install a traffic counter at the Hartwell Road Gate or Gates that will be used to access the Site for this Project to record all construction traffic? Will other traffic counters be installed? Where? When?
11. Will this Massport Project Construction Truck Traffic, as well as the Truck Traffic from the recent Runway Repaving Project be included in the annual traffic count for Hanscom Field, which is measured for environmental impact on neighboring towns? If not, why not?
12. Will Massport finally build a proper service road through Hanscom Field, entirely within the perimeter fence, so that all heavy duty Project Trucks for this Project and all future Projects will only enter and exit through the Civil Air Terminal Hanscom Drive entrance?

(That would <u>permanently eliminate ALL Massport heavy duty construction traffic through neighborhood streets</u> of not only Bedford, but also Lexington, Concord, and Lincoln, and undo some of the damage that the Massport Runway Repaving Project has caused to community relations. It would also eliminate Questions 1 through 11.)

<u>With regard to Environmental and Health Issues</u>:

13. Can Massport prove that construction of the new aircraft taxilane through a parcel of wetlands will not adversely affect any endangered species that are known to be associated with Hanscom Field, such as the Upland Sandpiper and Grasshopper Sparrow? Are there other rare or endangered species that could be impacted?
14. Has Massport commissioned a noise study to measure the increase in aircraft noise that the completed Project will generate, and the impact of that noise on adjacent residential neighborhoods?
15. Has Massport notified all resident and business abutters of this Project and the impact it may have on them, both during construction, and afterward? Has it notified any of them?
16. Will the aircraft to be housed, serviced, and fueled in the proposed Project, use any leaded aviation fuel? If so, how many aircraft, and how much fuel?
17. Has Massport commissioned a study to estimate the type and amount of exhaust fumes that will generated by aircraft approaching, entering, and departing the Hangar(s) or being fueled or serviced, or idling engines while waiting to taxi to the runway? Has Massport studied the type and amount of aircraft exhaust fumes that can be predicted to drift over the youth playing fields, at the nearby Edge Sports Center, as well as nearby abutting residents? If not, when will such a study take place? Could aircraft exhaust fumes be pulled into the giant air handlers that maintain pressure for the large dome that covers one of the Edge playing fields? Is there any concern about leaded aviation gas fumes being in such close proximity to the youth playing fields?
18. Will the proposed Massport Project include aircraft fueling and service facilities, in addition to a new Hangar or Hangars?

    Some of the old Hanscom Field Superfund Sites were contaminated by accidental spills and/or improper disposal of oil, jet fuel, and engine cleaning solvents, among other chemicals. Contamination from those Sites caused the loss of three municipal wells providing drinking water to Bedford (at the nearby Hartwell Road Wellfield). Remediation has been ongoing to clean the Superfund Sites and contaminated groundwater for many years, and is anticipated to continue for decades. Why should Massport be allowed to construct facilities so similar to the original operations that caused such terrible damage, in almost the same area, when remediation is ongoing now and for the foreseeable future?

    <u>With regard to Diamond Coring Company</u>:

19. Will Massport properly vet all Contractors hired for this Project? Did Massport employ the Diamond Coring Company for the recent 2017 Hanscom Runway Repaving Project? If so, was Massport aware that the owner of Diamond Coring Co. pleaded guilty to mail fraud in 2012 relating to fraudulently obtaining a multi-million dollar runway repair contract at O'Hare International Airport? And that his collaborator in the fraud was sentenced in March, 2017, to serve a year in prison? (Please see the Chicago Tribune article of March 16, 2017, titled: "Woman in construction front scheme gets 12 months".) Will Massport hire this company again for the upcoming Project?

With regard to certain Financial Questions:

20. Does this statement about Massport need to be revised?
"It is a financially self-sustaining public authority whose transportation facilities generate more than $600 million annually, no state tax dollars are used to fund operations or capital improvements at Massport facilities." Wikipedia: Massachusetts Port Authority.
(Please see recent articles in the New Hampshire Business Review: "The price of low corporate jet fees", 3/30/2018; "New Hampshire lawmakers duel over lowering corporate jet fees", 3/16/2018; "NH airport funding stalled over jet fee debate. Cost to house aircraft in state dwarfs neighboring Mass.", 5/26/17)
If like Massport, Bedford residents didn't pay property taxes, state taxes, federal taxes, or sales tax and full registration fees on multi-million dollar private jets, or if we donated night flying noise fines to ourselves, and had nice discounts on our fuel taxes, I suspect we would all be in mighty big trouble.

That's all for now. I hope Massport will be able to provide timely responses to all of these questions about the L.G. Hanscom Field -North Airfield Area, Hanscom_Worcester RFP.doc. Thank you.

Sincerely,
Jennifer Boles,
Bedford MA resident
ijcb3@verizon.net

PS- My last question is for Massport CEO, Mr. Glynn. Have you ever read "The Emperor's New Clothes" by H.C. Andersen? Maybe it is time.

MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

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MASS.GOV/MASSWILDLIFE

May 21, 2018

Mr. Richard Doucette
Environmental Program Manager
Federal Aviation Administration
New England Region
12 New England Executive Park Drive
Burlington, MA 01803

Project Name: *L.G. Hanscom Field Aviation Facility Improvements Project*
Proponent: *Massachusetts Port Authority, Hanscom Field*
Location: *L.G. Hanscom Field, Bedford & Concord, MA*
Project Description: *New Hangar Construction at North Airfield (Bedford) and Pine Hills (Concord)*
Document Reviewed: *Draft Environmental Assessment*
NHESP Tracking No.: *18-37746*

Dear Mr. Doucette:

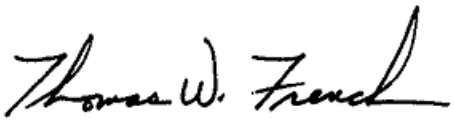
The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the Division) has reviewed the Draft *Environmental Assessment* (dated April 13, 2018, the "Draft EA") for the proposed Aviation Facility Improvement Project at L.G. Hanscom Field, MA and would like to offer the following comments.

Portions of the proposed hanger development and associated construction at both Pine Hills or North Airfield Area are located within mapped *Priority and Estimated Habitat* according to the 14th Edition Natural Heritage Atlas and therefore requires review through a direct filing with the Division for compliance with the Massachusetts Endangered Species Act (M.G.L. c. 131A) and its implementing regulations (MESA, 321 CMR 10.00). The proposed project locations are mapped for the Grasshopper Sparrow (*Ammodramus savannarum*) and Upland Sandpiper (*Bartramia longicauda*), grassland bird species listed as Threatened and Endangered, respectively, pursuant to the MESA.

Based on the preliminary design information available in the Draft EA it appears portions of the new taxilane associated with North Airfield development may result in impacts to the existing grassland habitat of state-listed grassland bird species. The Environmental Assessment should provide more detailed information regarding the grassland impacts associated with the hangers and taxilane development, the possible minimization measures, and, if necessary, any proposed mitigation. When possible, construction should be timed to avoid the breeding period (April 1 – July 31) for these species. The Division looks forward to working with the proponent during the MESA review process.

We appreciate the opportunity to comment on the Draft EA. If you have any questions about this letter, please contact Amy Hoenig, Endangered Species Review Biologist, at (508) 389-6364 or Amy.Hoenig@state.ma.us.

Sincerely,



Thomas W. French, Ph.D.
Assistant Director

cc: Stewart Dalzell, Massachusetts Port Authority

Comment	Commenter	Comment	Response
1-1	**Town of Bedford Selectmen**	The EA inadequately addresses traffic, especially during the construction phase of the project. Hartwell Road is a busy, narrow street which serves residences, recreational facilities, and businesses. Hours of construction should be restricted to 8 A.M. to 4 P .M. on weekdays to reasonably minimize the negative traffic effects on the neighborhood. The EA also does not address the permanent increase in traffic on Hartwell Road that will result from the construction of the new aviation facilities. We request that the Federal Aviation Administration require Massport to analyze and quantify the increased traffic on Hartwell Road resulting from the proposed development and suggest mitigation for these increases.	As discussed at the EA Public meeting on April 24, 2018, construction is expected to be primarily conducted weekdays during daytime hours (7:00 AM to 7:00 PM) which is consistent with the Town of Bedford Article 37 Noise Regulations Bylaw. As with many construction projects, there may be special circumstances that require limited nighttime or weekend work, but those are expected to be infrequent. Prior to construction, a Construction-Period Traffic Management Plan will be developed and reviewed with the Hanscom Field Advisory Commission (HFAC) and the individual Towns. Additional construction-period mitigation measures are discussed in Section 5 of this Final EA. As Stated in Section 5.2.1.2 of this EA, based on the estimated size of the proposed hangar(s) and expected number of based aircraft, it is assumed that if all trips were new to the facilities, there would be a total increase of approximately 490 new trips per day according to the Institute for Transportation Engineers (ITE) trip generation calculator. Existing conditions (2018) show that there are between 2,500 - 2,700 peak trips/hour on Hartwell Road, and at both Route 62 and South Road intersections. The ITE model indicates that there would be an additional 60 trips/hour as a result of the development during peak times, with the remaining trips dispersed throughout the day. This indicates that traffic as a result of the development is not expected to significantly change traffic congestion or patterns, or the Level of Service in the Hartwell Road area.
1-2	**Town of Bedford Selectmen**	The Town of Bedford is concerned about increased noise that would result from the operation of the proposed development. Residences, a softball field and outdoor soccer fields are located on Hartwell Road in Bedford abutting the project site. The Environmental Assessment (EA) at Section 5.8 analyzes projected noise levels solely on the basis of a 2012 Massport Environmental Status and Planning Report (ESPR). Projected noise contours for 2020 and 2030 are reported in the ESPR. But, page 7-44 of the ESPR notes that the predictions of future noise levels assume "no changes were made to the airfield layout ... ". Massport's proposed development would be located on a section of	The 2012 ESPR noise analysis was used for the EA as it utilizes a higher baseline of operations (166,214 in 2012 vs. 128,598 in 2017) and projected future noise levels with much higher levels of aircraft operations (including business jets) than would be expected for the relatively small level of new aircraft operations that would be expected for this project. As shown in Table 7-25 of the 2012 ESPR, there was no population within the 65-70 dB DNL contour in 2012. Even with much higher forecast operations in both the 2020 and 2030 scenarios, no individuals were added in the 65 dB DNL contour. In response to public comments on the Draft EA and at the request of FAA, Massport commissioned an additional technical review of likely noise impacts from the proposed corporate hangar(s) along Hartwell Road. While the number of aircraft operations is projected to remain well within the growth scenarios evaluated in the 2012 ESPR, a number of years has passed since that analysis and new hangars were not specifically evaluated at this location. Attachment C of this EA includes a Noise Technical Memorandum prepared by HMMH Inc. describing the likely impacts of the proposed hangars on the surrounding noise environment and within the context of overall airfield operations. As outlined in the Technical Memorandum, the DNL contours developed for the 2012 ESPR (2012, 2020 and 2030 represent higher activity levels at BED than today) did not include any noise sensitive land use

		Hanscom Field which has not been used for many years. The noise analysis in the EA and the 2012 ESPR did do not take into account the specific location and projected use of the proposed development. A meaningful analysis of the noise impacts of the project should be site specific rather than relying on old data which used a layout of the airport that did not include the proposed hangars and maintenance facilities. Additionally, the EA makes the following questionable statement at page 5.7: "With projected growth in operations in 2020 and 2030 (independent of this project) there will be no residents within the 65dB contour and populations exposed to both the 65 and 55dB contour remain below actual 2005 levels". (emphasis added). This statement takes express exception for noise generated by the proposal. It also does not coincide with Table 7-25 of the ESPR which seems to show population units in Bedford would be exposed to 60 to 65 dB in all years examined. Furthermore, the comparison of future sound levels with 2005 sound levels is misleading. In 2005 the airport was used much more than it is now. The\ ESPR at page 7-51 shows that dB levels in 2005 were significantly higher than they were in 2012. Sound levels in 2012 are closer to what they are today. A more meaningful analysis would be to compare levels in 2012 (not 2005), to the projections for 2020 and 2030. Table 7-25 of the ESPR shows in that in comparison to 2012, more populations units will exposed to increased noise levels in 2020 and 2030.	within the 65 dB DNL and therefore no significant impact is projected due to the Proposed Action. Some aircraft ground noise in the project area may be audible at some nearby residences, however due to distances to the closest residences, terrain changes and shielding from the proposed hangars, ground noise levels from aircraft are expected to be similar to current operations. More information on noise impacts as a result of the project are discussed in Section 5.8 of this Final EA and Attachment C.

		Finally, Table 7-12 in the ESPR analyzes noise at specific locations in Bedford, but Hartwell Road is not among the locations analyzed. Massport's proposed project abuts Hartwell Road and the noise impacts at that road should be specifically considered in the EA. Therefore, we request that the Federal Aviation Administration require Massport to assess the actual increase in noise levels that the nearby Bedford residents of Kendall Court, Hartwell Road and Bagley Avenue will experience from the present day (2018) levels to what they will experience post construction. We also request that Massport identify proposed mitigation for any increased noise in the area. Lastly, we request that this additional information from such an assessment be provided to the Bedford Selectmen for further review and comment.	
1-3	**Town of Bedford Selectmen**	The project site is located approximately 2,400 feet from three Town owned wells. It is within the Aquifer Protection District established under Section 13 .1 of the. Bedford Zoning Bylaw. The purpose of the Aquifer Protection Bylaw is to protect public health by preventing contamination of the ground and surface water resources providing public water supply. Massport's proposed facilities would expose the aquifer to potential contamination from petroleum based products. But, the EA at page 5-13 only addresses aquifer protection very summarily. The project developer must obtain a special permit from the Bedford	Massport understands these concerns and the EA acknowledges that the project sites overlay a Zone II Wellhead Protection Area. Wellhead Protection Areas are approved under the MassDEP's Drinking Water Program to protect the recharge area around public water supply ground water sources. The Massachusetts Drinking Water Regulations require that public water suppliers delineate Zone IIs and restrict certain land uses and activities in Zone IIs which may result in the contamination of a groundwater drinking supply. The Zone II area is associated with three Hartwell Road wells in Bedford: Well #10, Well #11, and Well #12. There are no Surface Water Supply Protection Areas (Zone A, B, C) in Hanscom Field. All fuel storage facilities are subject to the regulatory requirements of 527 CMR 9.00, "Board of Fire Prevention Regulations: Tanks and Containers." Massport's Fire Chief requires that the new fuel storage facilities meet or exceed regulatory standards of the MassDEP at 310 CMR 22.21(2)(b)5, applicable to fuel storage. These measures, as well as elements of Massport's spill prevention program, are designed to protect the recharge area of the Bedford public wells. While Massport is not subject to local jurisdiction, Massport and its tenants are required to fully comply with all applicable federal, MA DEP requirements and Code of Massachusetts Regulations (CMR). To the extent that a hangar is proposed as part of this project that includes facilities subject to 310 CMR 22 and that activity requires coordination with the Town regarding construction and operation within an aquifer

		Selectmen. The Bylaw directs the permit granting authority to give due consideration to the simplicity, reliability and feasibility of the control measures proposed and the degree of threat to groundwater quality which would result if the control measures failed.	protection district, Massport would require the proponent to comply with those regulations. During construction, the developers of both sites will be required to develop and implement a Stormwater Pollution Protection Plan (SWPPP) and apply for an NPDES General Construction Permit (CGP) from the US EPA. Massport will require all developers to implement Best Management Practices.
2-1	**Chris Boles, Bedford Resident**	The Hanscom Field Draft EA document is inadequate in evaluation of existing environmental hazards associated with the N. Airfield site.	Section 4.3.4.3 of the Draft EA described the Hanscom Air Force Base Superfund Site which includes portions of the airfield. The portion of this Superfund site that is closest to the proposed development sites (See OU1 on EA Figure 4-3) was the result of spills and discharges associated with a former fire training area (Industrial Reserve Plant (IRP) Site 1); a Paint Waste Disposal Area (IRP Site 2); and a Jet Fuel Residue/Tank Sludge Disposal Area (IRP Site 3). Those past activities were the result of land uses and operating practices that are quite unlike anything proposed for either the Pine Hill or North Airfield development sites. Furthermore, in the past 50+ years since these sites were first in use, environmental protection practices and regulations have become far more stringent at both the state and federal levels. Similarly, current fuel storage requirements are vastly improved including double walled storage, full containment and state-of-the art leak-detection systems. Massport will require that all such operations meet or exceed all applicable state and federal; storage and operating systems and the new facilities would be added to Massport Environmental Management System review and reporting. The EA has been updated to included reference to the Naval Weapons Industrial Reserve Plant, Bedford Site (NWIRP) which is adjacent to Hanscom Field but does not overlap Massport property or the proposed development parcels (see Section 4.3.4.3). EPA's Superfund Site describes the NWIRP with the following: *"NWIRP is divided into northern and southern sections that are separated by Hartwell Road, which provides the only paved ground access, aside from the Hanscom Field taxiways. The northern section (North Activity) is located on Hartwells Hill, and consists of the Components Laboratory and its auxiliary buildings, the Compact Test Range (formerly the Advanced Medium Range Air-to-Air Missile Development (AMRAD) Building), the Facilities Storage Building, the Antenna Range Facility, a former incinerator, the Government Building, and the Vitro Tower. The auxiliary buildings associated with the Components Laboratory are the Air Conditioning Room (Cooling Tower), the Incinerator Building, and various storage buildings. The areas in between the buildings are mostly paved for parking, driveways, and walkways. Hartwells Hill drops off steeply to the north and east, and more gradually to the south and west.* *The southern section (South Flight Test Area or SFTA), located adjacent to Hanscom Field immediately south of Hartwells Hill, consists of the Flight Test Facility (FTF), the Deluge Pump Station, a Guard House, a parking lot, a small storage building, and a concrete apron surrounding three quarters of the FTF with access to the taxiways and runways of Hanscom Field. The area is almost completely paved, except for*

			the area near the Deluge Pump Station and the vacant area that the Old Hangar and associated buildings once occupied to the east of the FTF. *NWIRP was created in October of 1952 when construction of the Naval Industrial Reserve Aircraft Plant (NIRAP) began. Its mission was to provide the Raytheon Manufacturing Company of Waltham, Massachusetts with facilities for research and development of radar, missile guidance systems, and related equipment. By the mid-1950s, when the Components Laboratory was added and most of the construction was complete, NIRAP encompassed approximately 98,000 square feet of space with an additional 53,000 square feet comprised of guard houses and test shelters. The Old Hangar, formerly operated by Transonics, was in existence from 1941/42 until it was demolished in 1995. The Plating Laboratory, Hawk, Lark, and Van Duesen buildings were constructed in 1952, and the FTF was constructed in 1959. Subsequently, the Navy built the Facilities Storage and Government Buildings near the Northern Activity boundary, and the Antenna Range and Transportation Buildings between them. Finally, the Navy built the air conditioning and incineration facilities, and the Compact Test Range."* EPA NWIRP Webpage: https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.cleanup&id=0102032 Remediation of Sites 1 & 2 has been completed, while remediation of Sites 3 & 4 is ongoing.
2-2	**Chris Boles, Bedford Resident**	The Hanscom Field Draft EA document does not discuss potential hazards from aircraft refueling and servicing operations which have not been excluded from possible Hanscom N. Airfield development activities.	In the event a proposed hangar includes fueling and/or servicing facilities, the tenant will be required to fully comply will all applicable Massport, state and federal environmental regulations and guidelines.
2-3	**Chris Boles, Bedford Resident**	The Hanscom Field Draft EA does not consider increased noise from aircraft taxiing and servicing at the N. Airfield site.	The 2012 ESPR noise analysis was used for the EA as it used a higher baseline of operations (166,214 in 2012 vs. 128,598 in 2017) and projected future noise levels with much higher levels of aircraft operations (including business jets) than would be expected for the relatively small level of new aircraft operations that would be expected for this project. As shown in Table 7-25 of the 2012 ESPR, there was no population within the 65-70 dB DNL contour in 2012. Even with much higher forecast operations in both the 2020 and 2030 scenarios, no individuals were added in the 65 dB DNL contour. There are no new sensitive receptors proximate to the study area since preparation of the 2012 ESPR. In response to public comments on the Draft EA and at the request of FAA, Massport commissioned an additional technical review of likely noise impacts from the proposed corporate Hangar(s) along Hartwell Road. While the number of aircraft operations is projected to remain well within the growth scenarios evaluated in the 2012 ESPR, a number of years has passed since that analysis and new hangars were not specifically evaluated at this location. Attachment C of this Final EA includes a Noise Technical Memorandum prepared by HMMH Inc. describing the likely impacts of the proposed hangar on the surrounding noise environment and within the context of overall airfield operations. As outlined in the Technical Memorandum in Attachment C, the DNL contours developed for the 2012

			ESPR (2012, 2020 and 2030 represent higher activity levels at BED than today) did not include any noise sensitive land use within the 65 dB DNL and therefore no significant impact is projected due to the Proposed Action. Some aircraft ground noise in the project area may be audible at some nearby residences, however due to distances to the closest residences, terrain changes and shielding from the proposed hangars, ground noise levels from aircraft are expected to be similar to current operations. More information on noise impacts as a result of the project are discussed in Section 5.8 of this Final EA.
2-4	**Chris Boles, Bedford Resident**	The Hanscom Field Draft EA does not consider construction routes or construction impact on Bedford residential neighborhoods.	As detailed in section 5.2 of the Final EA: Prior to construction, a Construction-Period Traffic Management Plan will be developed that will include general project information and details related to work hours, delivery and construction truck routes, worker access and parking plans, police details, truck unloading and staging, construction site signs, modes of transportation for construction workers, and initiatives for reducing driving and parking demands. The plan will also highlight the protection of utilities and the control of noise and dust. This Construction- Period Traffic Management Plan, including the construction vehicle routes and anticipated hours, will be published and available prior to construction. It is expected that a majority of the construction would occur weekdays, typically between 7am and 7pm; some specialized service may require limited nighttime or weekend work. The plan will be reviewed with the Hanscom Field Advisory Commission and the Towns prior to construction.
3-1	**Jennifer Boles, Bedford Resident**	Will the new Massport Project Construction Trucks use local Bedford neighborhood streets again for their Haul Route, as they did for the recent Hanscom Field Runway Repaving Project?	As detailed in section 5.2 of the Final EA: Prior to construction, a Construction-Period Traffic Management Plan will be developed that will include general project information and details related to work hours, delivery and construction truck routes, worker access and parking plans, police details, truck unloading and staging, construction site signs, modes of transportation for construction workers, and initiatives for reducing driving and parking demands. The plan will also highlight the protection of utilities and the control of noise and dust. This Construction- Period Traffic Management Plan, including the construction vehicle routes and anticipated hours, will be published and available prior to construction. It is expected that a majority of the construction would occur weekdays, typically between 7am and 7pm; some specialized service may require limited nighttime or weekend work. The plan will be reviewed with the Hanscom Field Advisory Commission and the Towns prior to construction.
3-2	**Jennifer Boles, Bedford Resident**	If so, what Bedford neighborhood streets are on the Haul Route for this Project?	See response to Comment 3-1.
3-3	**Jennifer Boles, Bedford Resident**	Will the General Contractor for this Project be given permission by Massport again to run Construction Trucks 24/7 through Bedford neighborhood residential areas, as [they] previously did for the recent Hanscom Field Runway Repaving Project?	See response to Comment 3-1.

3-4	**Jennifer Boles, Bedford Resident**	If not, what will be the allowed construction and trucking hours and days? How many months (or years) will be allotted to complete this Project?	See response to Comment 3-1. The specific hangar design is not yet defined, as the EA proposes a concept and therefore, the construction period is not yet known. This information will be shared with Hanscom Field Advisory Commission and the Towns, as available.
3-5	**Jennifer Boles, Bedford Resident**	Massport General Contractor… ran thousands of dusty Construction Trucks through Bedford residential neighborhoods during the recent Massport Hanscom Runway Repaving Project. Those trucks were coming directly from a huge construction project on an Airfield that is dotted with 22 former and current Superfund Sites. Bedford residents were told Massport deemed it unnecessary to take the precaution of washing vehicles as they left the Airfield and directly entered residential areas (passing only feet from youth playing fields in heavy use during the summer construction project). Will all construction vehicles on Hanscom Field be washed down before entering neighborhood streets during this Project?	See response to Comment 3-1. As detailed in Section 5, the use of mitigation measures would be implemented to ensure National Ambient Air Quality Standards (NAAQS) are not exceeded. The contractor will be required to implement standard construction best practices. Depending on soil and weather conditions, typically some form of crushed rock is used at construction entrances to reduce soil from being tracked onto area road surfaces. In other situations, truck wheel wash stations may be used as conditions dictate.
3-6	**Jennifer Boles, Bedford Resident**	Will confirmation be provided to Bedford that every Project Construction Truck is up to date on all safety inspections? (A number of Massport Project Trucks were found to be out of compliance during the last Massport Project at Hanscom Field. Check with our Police Dept.)	All on-road vehicles are required by state and federal law to meet all applicable safety standards. Any observed violations will be reported and those vehicles will not be allowed on the project until the issue is resolved.
3-7	**Jennifer Boles, Bedford Resident**	Will confirmation be provided to Bedford that every Project Truck Driver is properly accredited and has no prior record of dangerous driving safety violations? (Bedford residents deserve to know that Massport is sending hundreds -or thousands- of only the safest Construction Trucks operated by the safest drivers through our neighborhood streets.)	All on-road vehicle drivers are required by state and federal law to meet all applicable safety standards. Any observed violations will be reported and those drivers will not be allowed on the project until the issue is resolved.

3-8	**Jennifer Boles, Bedford Resident**	Will every Massport Project Truck be clearly labeled with large, easy to read signage on all four sides, making individual Trucks instantly identifiable, in case there is a problem with: unsafe or illegal maneuvers, aggressive driving, jake-braking, fog-horn honking, speeding, obscene gestures directed at residents and other motorists, blocking of intersections, backing through traffic after overshooting turns, partially or totally uncovered loads, etc? (Please see videos on Bedford Public TV – "Bedford Under Siege"; YouTube – "Hanscom Resurfacing – 8/13/2017"- hint: don't miss the last minute –it's a doozy!; and the Hanscom Field Projects Impacting Bedford Facebook Group – if you are not a member, just ask the Administrator to share the Massport Project Truck videos with you – hint: the Diamond Coring Company Trucks stuck at Hartwell and Concord Roads film is particularly revealing.) These unacceptable actions by Massport Project Trucks all took place during the last Massport Runway Repaving Project at Hanscom. Massport often disingenuously dismissed the complaints by protesting that the offending Giant Dump Trucks might not belong to Massport. Having every Massport Project Truck clearly and individually labeled (eg., MPP #1, MPP#2,…MPP#5000) will eliminate any doubt about which Trucks are causing difficulty, allowing other motorists, bicyclists, pedestrians, residents, Massport, and Bedford police to instantly identify rogue truckers.	Construction vehicles on Massport property are not required to be labeled in this manner.
3-9	**Jennifer Boles, Bedford**	Will Massport provide a daily copy of the Log of all Project Trucks to Bedford, so that our town and residents will	Massport does not maintain a daily log of construction vehicles using public roadways.

	Resident	have a measure of how many trucks, what materials they are carrying, and how heavy the loads are that are traveling through our neighborhood streets?	
3-10	**Jennifer Boles, Bedford Resident**	Will Massport install a traffic counter at the Hartwell Road Gate or Gates that will be used to access the Site for this Project to record all construction traffic? Will other traffic counters be installed? Where? When?	Traffic counters at project gates are not planned at this time.
3-11	**Jennifer Boles, Bedford Resident**	Will this Massport Project Construction Truck Traffic, as well as the Truck Traffic from the recent Runway Repaving Project be included in the annual traffic count for Hanscom Field, which is measured for environmental impact on neighboring towns? If not, why not?	Massport does not conduct annual traffic counts. The periodic Hanscom ESPRs do conduct traffic counts at locations surrounding Hanscom Field.
3-12	**Jennifer Boles, Bedford Resident**	Will Massport finally build a proper service road through Hanscom Field, entirely within the perimeter fence, so that all heavy duty Project Trucks for this Project and all future Projects will only enter and exit through the Civil Air Terminal Hanscom Drive entrance? (That would permanently eliminate ALL Massport heavy duty construction traffic through neighborhood streets of not only Bedford, but also Lexington, Concord, and Lincoln, and undo some of the damage that the Massport Runway Repaving Project has caused to community relations. It would also eliminate Questions 1 through 11.)	Due to federal aviation safety standards, construction traffic cannot be confined to on-airfield routes.
3-13	**Jennifer Boles, Bedford Resident**	Can Massport prove that construction of the new aircraft taxilane through a parcel of wetlands will not adversely affect any endangered species that are known to be associated with Hanscom Field, such as the Upland Sandpiper and Grasshopper Sparrow? Are there other rare or endangered species that could be impacted?	As described in Section 4, any work within protected species habitat will require coordination with the MA Natural Heritage and Endangered Species Program (MNHESP).

3-14	**Jennifer Boles, Bedford Resident**	Has Massport commissioned a noise study to measure the increase in aircraft noise that the completed Project will generate, and the impact of that noise on adjacent residential neighborhoods?	As described in Section 5, the completed project is not expected to increase noise beyond the 1.5 dB threshold. Attachment C contains a new Noise Technical Memorandum developed to more specifically consider noise impacts in the study area. EA Section 5, the new Noise Technical Memorandum and Chapter 7 of the 2012 ESPR all provide context for the finding that the proposed project will not result in a significant noise impact.
3-15	**Jennifer Boles, Bedford Resident**	Has Massport notified all resident and business abutters of this Project and the impact it may have on them, both during construction, and afterward? Has it notified any of them?	Massport prepared an Environmental Assessment that was circulated in the four Hanscom Airfield communities, mailed to local and elected officials, town libraries and posted on Massport's website. In advance of filing, the possibility of site development was discussed in previous ESPRs and at numerous meetings with the Hanscom Area Towns Committee (HATS). Notice of EA availability was published in the four local newspapers (See Section 2.3). As described throughout the EA, Massport has committed to ongoing coordination with HATS and Town officials once development and construction plans are finalized.
3-16	**Jennifer Boles, Bedford Resident**	Will the aircraft to be housed, serviced, and fueled in the proposed Project, use any leaded aviation fuel? If so, how many aircraft, and how much fuel?	These uses are not precluded from the EA. Depending on accepted proposal, aircraft may be housed, serviced, and fueled in either the North Campus or Pine Hill locations.
3-17	**Jennifer Boles, Bedford Resident**	Has Massport commissioned a study to estimate the type and amount of exhaust fumes that will generated by aircraft approaching, entering, and departing the Hangar(s) or being fueled or serviced, or idling engines while waiting to taxi to the runway? Has Massport studied the type and amount of aircraft exhaust fumes that can be predicted to drift over the youth playing fields, at the nearby Edge Sports Center, as well as nearby abutting residents? If not, when will such a study take place? Could aircraft exhaust fumes be pulled into the giant air handlers that maintain pressure for the large dome that covers one of the Edge playing fields? Is there any concern about leaded aviation gas fumes being in such close proximity to the youth playing fields?	These impacts are analyzed as part of the Environmental Status and Planning Report. Impacts as a result of future development are analyzed in all future scenarios and documented to remain well within National Ambient Air Quality Standards (NAAQS).
3-18	**Jennifer Boles, Bedford Resident**	Will the proposed Massport Project include aircraft fueling and service facilities, in addition to a new Hangar or Hangars?	These uses are not precluded in the EA. As discussed in Section 4, the proposed site redevelopment would be conducted in a manner that is consistent with the ongoing remediation efforts. All new aviation facilities will be required to meet all

		Some of the old Hanscom Field Superfund Sites were contaminated by accidental spills and/or improper disposal of oil, jet fuel, and engine cleaning solvents, among other chemicals. Contamination from those Sites caused the loss of three municipal wells providing drinking water to Bedford (at the nearby Hartwell Road Wellfield). Remediation has been ongoing to clean the Superfund Sites and contaminated groundwater for many years, and is anticipated to continue for decades. Why should Massport be allowed to construct facilities so similar to the original operations that caused such terrible damage, in almost the same area, when remediation is ongoing now and for the foreseeable future?	state and federal soil and groundwater standards.
3-19	**Jennifer Boles, Bedford Resident**	Will Massport properly vet all Contractors hired for this Project? Did Massport employ the Diamond Coring Company for the recent 2017 Hanscom Runway Repaving Project? If so, was Massport aware that the owner of Diamond Coring Co. pleaded guilty to mail fraud in 2012 relating to fraudulently obtaining a multi-million dollar runway repair contract at O'Hare International Airport? And that his collaborator in the fraud was sentenced in March, 2017, to serve a year in prison? (Please see the Chicago Tribune article of March 16, 2017, titled: "Woman in construction front scheme gets 12 months".) Will Massport hire this company again for the upcoming Project?	Massport and or its tenant(s) will only use contractors fully licensed to operate in the Commonwealth of Massachusetts.
3-20	**Jennifer Boles, Bedford Resident**	Does this statement about Massport need to be revised? "It is a financially self-sustaining public	This comment is beyond scope of this EA.

		authority whose transportation facilities generate more than $600 million annually, no state tax dollars are used to fund operations or capital improvements at Massport facilities." Wikipedia: Massachusetts Port Authority. (Please see recent articles in the New Hampshire Business Review: "The price of low corporate jet fees", 3/30/2018; "New Hampshire lawmakers duel over lowering corporate jet fees", 3/16/2018; "NH airport funding stalled over jet fee debate. Cost to house aircraft in state dwarfs neighboring Mass.", 5/26/17) If like Massport, Bedford residents didn't pay property taxes, state taxes, federal taxes, or sales tax and full registration fees on multi-million dollar private jets, or if we donated night flying noise fines to ourselves, and had nice discounts on our fuel taxes, I suspect we would all be in mighty big trouble.	
4-1	**MA DFG - NHESP**	Portions of the proposed hanger development and associated construction at both Pine Hills or North Airfield Area are located within mapped Priority and Estimated Habitat according to the 14th Edition Natural Heritage Atlas and therefore requires review through a direct filing with the Division for compliance with the Massachusetts Endangered Species Act (M.G.L. c. 131A) and its implementing regulations (MESA, 321 CMR 10.00). The proposed project locations are mapped for the Grasshopper Sparrow (Ammodramus savannarum) and Upland Sandpiper (Bartramia longicauda), grassland bird species listed as Threatened and Endangered, respectively, pursuant to the MESA.	One area of potential overlap with the MNHESP habitat polygon is located to the west of the existing T Hangars on the Pine Hill site. Since that small area is at the western edge of the habitat polygon and completely isolated from the larger airfield grassland by the T Hangars and paved apron and driveways, Massport believes that this may be the result of a mapping error. Nonetheless, Massport will require the developer to submit a Project Review Checklist to MNHESP to initiate review under the Massachusetts Endangered Species Act (MESA). In the event MNHESP determines this small area to be viable habitat and if those impacts cannot be avoided, Massport would require the applicant to implement appropriate habitat mitigation. Mitigation measures to be considered would include the removal of pavement on the airfield that would expand existing grassland areas and also looking for opportunities to conduct construction outside of the critical breeding season. The second potential impact area is in the North Airfield parcel. The EA shows a new taxilane overlapping the habitat polygon near the intersection of Taxiway R and Taxiway N. In the event the taxilane must remain in this location due to FAA safety design standards, Massport would coordinate with MNHESP regarding appropriate mitigation measures. As noted above, mitigation measures to be considered would include the removal of excess airfield pavement and also looking for opportunities to conduct construction outside of the critical breeding season. Figure 5-3 of the EA illustrates potential areas of pavement removal; specific removal areas would be proposed as part of any MESA filing. As the likely developer of the taxilane, Massport would file all necessary applications for the taxilane with MNHESP.

		Based on the preliminary design information available in the Draft EA it appears portions of the new taxilane associated with North Airfield development may result in impacts to the existing grassland habitat of state listed grassland bird species. The Environmental Assessment should provide more detailed information regarding the grassland impacts associated with the hangers and taxilane development, the possible minimization measures, and, if necessary, any proposed mitigation. When possible, construction should be timed to avoid the breeding period (April 1 – July 31) for these species. The Division looks forward to working with the proponent during the MESA review process.	

Attachment C

Noise Technical Memorandum

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TECHNICAL MEMORANDUM

To:	Michael Gove, Stewart Dalzell, Flavio Leo
	Massport
From:	Brad Nicholas
Date:	August 7, 2018
Subject:	Hanscom Aviation Facility Improvement Project EA Noise Technical Memorandum
Reference:	HMMH Project Number 308480

Background

In response to community comments on a *Draft Environmental Assessment* (April 13, 2018) prepared by Massport for a proposed Aviation Facility Improvements Project, FAA requested supplemental analysis of potential noise impacts of proposed new aircraft hangar facilities at L.G. Hanscom Field (BED) in Bedford, MA.

Conclusion Summary

The DNL contours developed for the 2012 ESPR (2012, 2020 and 2030 represent higher activity levels at BED than today) did not include any noise sensitive land use within the 65 dB DNL and therefore no significant impact is projected due to the Proposed Action. Aircraft ground noise may be audible due to the Proposed Action at some nearby residences however due to shielding from the Proposed Action hangars and the distances to the closest residences, noise levels from aircraft are expected to be similar to current operations.

Regulatory Context

FAA Order 1050.1F identifies the threshold of "significant impact" for noise based on the yearly DNL and an incorporation of compatible land-use standards found at 14 CFR Part 150, Airport Noise Compatibility Planning, specifically in Appendix A of that regulation. Implementation of a proposed Federal action would have a significant impact with respect to aircraft noise if it would cause a location with non-compatible land use (as identified in 14 CFR Part 150, Appendix A) to be exposed to a project-related increase in noise level of DNL 1.5 dB or more, provided that location would also lie within the 65 dB DNL noise contour upon implementation of the action. The noise setting to which the Proposed Action is compared is that which would be present under the No Action alternative, as required under FAA guidance (FAA Order 1050.1F, §4.3.3, Exhibit 4-1).

Analysis/Findings

Figure 1 shows recent historical and forecast aircraft operations at Hanscom Field from the 2012 ESPR and the subsequent Annual Noise Reports. The baseline and forecast years for the 2012 ESPR are shown in blue. No noise-sensitive locations were present within the 2012, 2020, or 2030 65 dB DNL contours from the ESPR. Operations in recent years have fallen well below the operations modeled in the ESPR. Any change in operations associated with the Proposed Action is unlikely to increase operations to even the lowest operations levels analyzed in the ESPR. With no noise-sensitive locations at or above 65 dB DNL, as shown by all ESPR cases, no significant impact is possible.

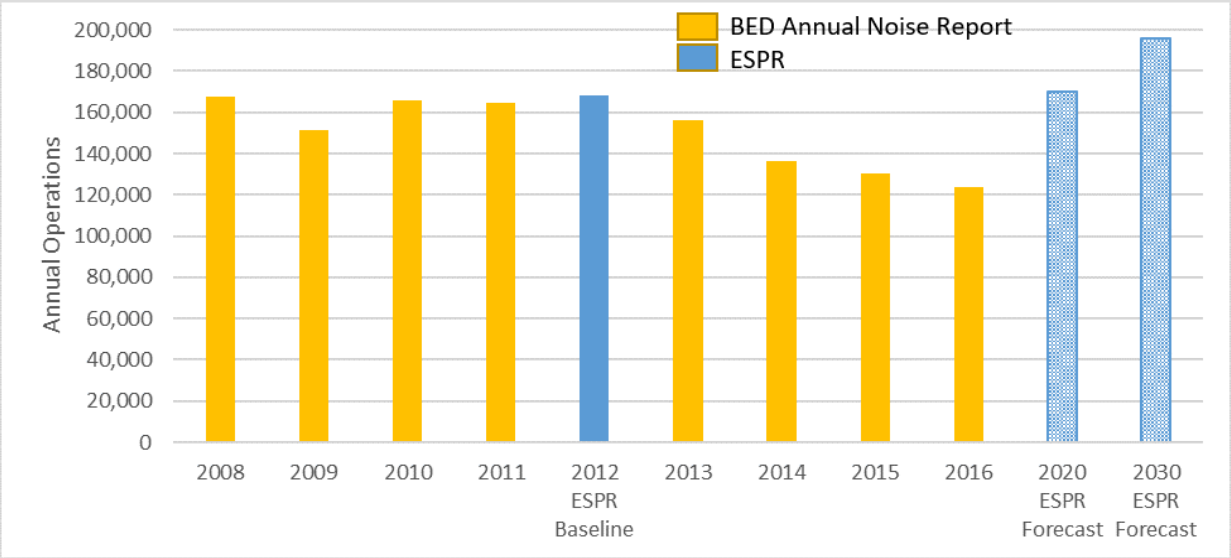

Figure 1 Historical and Forecast Annual Operations at Hanscom Field

The Proposed Action includes the addition of new hangar and apron space in the Pine Hill and North Airfield areas. The proposed development in the North Airfield Area would place aircraft operations over 1,100 ft. from the closest noise-sensitive land use, residences northwest of the project site on Kendall Court. Any ground noise would be somewhat shielded by the large buildings between the development and residences. Additionally the hangars themselves would provide additional shielding for portions of the new ramp area. Low power operations such as taxing and idling would be similar in level to existing aircraft taxiing on Taxiway R and Taxiway N. These low power operations would be much quieter than start of takeoff roll for aircraft on Runway 11 and Runway 23. The North Airfield area is adjacent to the former Navy Hangar; although the Navy Hangar has been vacant for many years, aircraft movements are not new to this location.

The proposed redevelopment of the Pine Hill Area would replace the existing T-hangars with hangar space and an apron area for corporate jets. Existing ground noise sources near the development area include: jet and propeller aircraft activity at Rectrix Aviation, propeller aircraft activity at the T-hangars, and aircraft movements on Taxiway M. The proposed redevelopment would result in aircraft ground operations that are approximately 550 ft. or more from the closest noise-sensitive land use, residences on Fuller Lane. This is the same distance as existing operations at the T-hangars, and slightly farther than existing operations at Rectrix Aviation. Low power operations on the new apron would be much quieter than start of takeoff roll for aircraft on Runway 11 and Runway 5. Noise from ground operations from propeller aircraft at the T-hangars would be eliminated and noise from corporate jets would be added. Furthermore, the proposed hangar would likely provide attenuation for aircraft on some parts of the new apron.

Conclusion

Changes in aircraft ground noise may be audible due to the Proposed Action at some nearby residences. These changes would likely occur during intermittent low power ground operations and will have little to no effect on the total DNL contours. Changes in overall aircraft fight operations due to the Proposed Action are uncertain, but are likely to be small and almost certainly well within the range of annual operations analyzed in the 2012 ESPR. The highest level of operations in the 2012 ESPR noise modeling was over 60,000 annual operations higher than current activity at Hanscom. The noise modeling for this and all other 2012 ESPR scenarios showed no noise-sensitive land uses within the 65 dB DNL contour. Therefore, no significant impact is projected for the Proposed Action, for the range of activity analyzed in the 2012 ESPR.