

Final Environmental Assessment

*Hanscom Air Force Base*

*Massachusetts*

*Demolish Buildings 1115, 1116, and 1125*



**U.S. AIR FORCE**

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LIST OF ACRONYMS

		IRP	Installation Restoration Program
ABG	Air Base Group		
AFB	Air Force Base	JFHQ	Joint Force Headquarters
AFI	Air Force Instruction	kV	Kilovolt
AFRL	Air Force Research Lab	kWh	Kilowatt-hour
AT/FP	Antiterrorism/Force Protection	LEED	Leadership in Energy and Environmental Design
BMP	Best Management Practice		
CEQ	Council on Environmental Quality	MAARNG	Massachusetts Army National Guard
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	MAANG	Massachusetts Air National Guard
CFR	Code of Federal Regulations	MassDEP	Massachusetts Department of Environmental Protection
CO	Carbon Monoxide	Massport	Massachusetts Port Authority
DoD	Department of Defense	MCF	Million cubic feet
DoDEA	Department of Defense Education Activity	MCP	Massachusetts Contingency Plan
EA	Environmental Assessment	mgd	Million gallons per day
EMCS	Energy Management Control System	MHC	Massachusetts Historic Commission
ESC	Electronic Systems Center	MWRA	Massachusetts Water Resource Authority
FEMA	Federal Emergency Management Agency	NEPA	National Environmental Policy Act
FIRM	Federal Insurance Rate Map	NHESP	Natural Heritage and Endangered Species Program
gpm	Gallons per minute	NOx	Nitrous Oxide
HARM	Hazard Assessment Rating Methodology	Pb	Lead
ICP	Integrated Contingency Plan	PM	Particulate Matter
		POV	Personal Occupancy Vehicle

RACT	Reasonably Available Control Technology	SO <sub>2</sub>	Sulfur dioxide
RFTA	Reserve Forces Training Area	US EPA	United States Environmental Protection Agency
SAPS	Satellite Accumulation Points	USGBC	United States Green Building Council
SF	Square feet		
SIP	State Implementation Plan	VOC	Volatile Organic Carbons

## FINDING OF NO SIGNIFICANT IMPACT

Name of Action: Demolish Buildings 1115, 1116, and 1125

Hanscom Air Force Base (AFB) proposes to demolish Buildings 1115, 1116, and 1125. The three buildings are all located in close proximity to each other. Buildings 1115 and 1116 are adjacent to each other, and Building 1125 is approximately 400 feet away.

### Building #1115

*- 496 sf 1-story; flat roofed, No-style building constructed in 1952. The rectangular building is of brick construction with built-up roofing material and set on a concrete slab.*

### Building #1116

*- 999 sf 1-story Quonset hut constructed in 1967. The building is built atop a poured concrete foundation with a concrete slab, and is sheathed in asphalt roll roofing.*

### Building #1125

*-200 sf 1-story; No-style building with wood frame construction and wood shingle exterior sheathing on a concrete slab constructed in 1993.*

The Demolish Buildings 1115, 1116, and 1125 Environmental Assessment (EA) prepared for the proposed action addresses the demolition of Buildings 1115, 1116, and 1125 on Hanscom AFB. The EA evaluates the consequences of the proposed action on both the natural and man-made environments. The proposed action will support the Air Force initiative to reduce the infrastructure by 20% by 2020. Once the facilities have been demolished, land use of the property will continue to be designated as Research and Development.

The proposed action and the no-action alternative were analyzed in detail in the EA. The no-action alternative does not meet the needs of Hanscom AFB. The Air Force must reduce the size of the physical plant by 20% by the year 2020. The Air Force must focus its limited resources on only infrastructure that is needed to perform Air Force missions. It has been

determined that there is no commercial value or development potential in Buildings 1115, 1116, and 1125. Air Force resources cannot be used on excess, obsolete or underutilized facilities. Therefore, the no-action alternative does not support the Air Force mission.

If the proposed action was to occur, no significant impact associated with land use, socioeconomics, transportation, noise, air quality, geology/soils, surface water/groundwater, floodplains, biological resources, cultural resources, hazardous waste, or the installation restoration program would be anticipated. Minor impacts, however, may occur in the short-term. The demolition and site restoration activities have potential to affect adjacent land uses due to elevated noise levels, increased dust, minor interferences with roadway access, and visual effects. The demolition of Buildings 1115, 1116, and 1125 would create demolition debris, and may cause minor soil and groundwater disturbance. Smaller trees and shrubs may be cleared incidental to demolition activities. The short-term loss of some vegetation is not anticipated to substantially impact the biological community on, or in the vicinity of, the proposed action's site.

While some environmental impacts would result from this project, they are expected to be minor. The anticipated short-term demolition impacts are not atypical compared with other routine demolition projects. Additionally, Hanscom AFB has undertaken, or will employ, a number of pro-active measures to reduce the project's potential impact to the environment.

With the continued emphasis by Hanscom AFB on "reduce, reuse, recycle", it is expected that the demolition will allow Hanscom AFB to operate more efficiently and use fewer resources. Therefore, all impacts are insignificant and can be minimized further by using the best management practices described in the EA.

The proposed action would yield many positive impacts. First, it would create short-term business in the local construction/demolition industry. Another benefit is that as demolition employees utilize local businesses, more revenue is generated in the short term. The proposed action would result in a long-term positive impact to wetlands, surface water, and groundwater.

This is due to decreases in impervious surface and better drainage at the sites. As a result, there will be higher infiltration rates, and thus the total volume of storm water runoff from the site will be reduced, protecting the headwaters of the Shawsheen River.

It is anticipated that the following best management practices (BMPs) would be used during the demolition of Buildings 1115, 1116, and 1125. All equipment and vehicles used during the proposed action would be maintained in good operating condition so exhaust emissions are minimized, thus reducing the potential for air quality impacts. Dust would be controlled onsite by using water to wet down disturbed areas. Sedimentation controls would be installed to minimize offsite runoff that may contain suspended solids. Disturbed areas will be seeded and stabilized as soon as possible to reduce erosion of disturbed soil with controls left in place until vegetation is established. The remaining mature trees will have protective barriers placed around them to minimize the potential for damage. Most of the landscape plants/trees will remain in-place, and damage to plants would be minimized during the demolition. Drainage design must meet Massachusetts Stormwater Management Standards, as well as comply with the Clean Water Act. During demolition, all activities will be conducted in accordance with Hanscom AFB's BMPs to prevent adverse effects to receiving waters. Solid waste management would be in compliance with Hanscom AFB's recycling policies to minimize the amount of solid waste disposed without beneficial reuse during demolition. Also, all hazardous waste and asbestos waste disposed of during demolition would be handled and disposed of in accordance with Hanscom AFB policies and protocols, and all applicable state and federal regulations.

Buildings 1115, 1116 and 1125 are within a proposed historic district and near an archaeological sensitive area. The undisturbed archaeological sensitive area around Building 1125 must be protected during the demolition phase. The Air Force has developed a Memorandum of Agreement (MOA) stipulating mitigation measures for the loss of the structures (Buildings 1115, 1116, and 1125) with the Massachusetts Historical Commission (MHC). The MOA was reviewed and signed by the Massachusetts State Historic Preservation Officer (MA SHPO). The proposed action or the award of contract(s) for the proposed action must incorporate mitigation measures included in the MOA. If cultural resources are inadvertently discovered during the

project duration, then the site Project Manager will immediately notify the Hanscom AFB Cultural Resources Manager and cease work in the area of the discovery.

Copies of the Draft EA/FONSI were made available for public review at the main public libraries in Bedford, Concord, Lexington, and Lincoln, and at the Hanscom AFB Environmental Office, Building 1825 beginning on 2 February, 2012. The public comment period ended on 2 March, 2012 and no comments were received. The EA and FONSI were updated in May 2012, but the updates did not change the proposed action's impact determination.

Based on the detailed description of effects described in the Demolish Buildings 1115, 1116, and 1125 Environmental Assessment, I have determined that the proposed action to demolish Buildings 1115, 1116 and, 1125 would not have a significant impact on the natural or human environment.



THOMAS J. SCHLUCKEBIER, P.E.

Base Civil Engineer

14 MAY 12

Date

## Section 1. Purpose of and Need for the Proposed Action

### 1.1. Introduction

In 2005 the Base Realignment & Closure (BRAC) recommendations were approved by the Secretary of Defense. These recommendations included the relocation of the Air Force Research Laboratory (AFRL) activities from Hanscom AFB to Wright Patterson AFB, Dayton, Ohio and Kirtland AFB, Albuquerque New Mexico by September 2011. On June 23, 2011, AFRL activities at Hanscom AFB were officially ended, and in September 2011 all AFRL activities and personnel were relocated.

The buildings formerly used by AFRL became under the real property control of the base since AFRL's departure. The 54 acre former laboratory site is located in the southeast corner of Hanscom AFB, adjacent to the MIT/Lincoln Labs facility to the east, the Massachusetts Joint Force National Guard facility to the north, the family housing area to the west, and the base boundary to the south. The site was originally developed in two separate but unified areas, one area known as Phillips Laboratories and the other as Rome Laboratories. The former Phillips Laboratory consisting of 11 buildings (394,000 sf) occupied the lower part of the Katahdin Hill area. The former Rome Laboratory contained 20 buildings (139,000 sf) and was located on the upper Katahdin Hill area.

Various Air Force program requirements and initiatives are considered when managing the real property assets of the base. This includes developing ways to operate the base with fewer resources. The Air Force must reduce the size of the physical plant by 20% by the year 2020. This initiative known as "20/20 by 2020" requires the Air Force to focus its limited resources on only that infrastructure needed to perform Air Force missions. Resources cannot be used on excess, obsolete or underutilized facilities. Funding available for installation support has been reduced by 20% since 2006. Hanscom AFB must achieve offsetting efficiencies to ensure mission capability.

In support of the 20/20 by 2020 initiative, Hanscom AFB has developed a demolition program with the goal of reducing its gross square footage by 20%. Buildings 1115, 1116, and 1125 have been identified as candidates for demolition, under the 2020 initiative, due to their poor condition, lack of efficient use, cost to operate and maintain. Additionally, the Air Force Real Property Agency determined these buildings have no commercial value or development potential. Therefore, there are no prudent or feasible alternatives to demolishing these buildings.

This Environmental Assessment (EA) addresses the Proposed Action and the No-Action Alternative in accordance with the National Environmental Policy Act (NEPA) (42 United States Code [USC] 4321-4347), Council on Environmental Quality (CEQ, 1978) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [CFR] §§ 1500-1508), and 32 CFR 989 et seq., *Environmental Impact Analysis Process* (formerly known as Air Force Instruction [AFI] 32-7061). NEPA procedures were established to ensure environmental information is available to public officials and citizens before decisions are made and before actions are taken.

According to these instructions, the environmental assessment is a written analysis which serves to (1) provide analysis sufficient to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI); and (2) aid federal agencies in complying with NEPA when no EIS is required. If this EA were to determine the proposed action would significantly degrade the environment, significantly threaten public health or safety, or generate significant public controversy, then an EIS would be completed. An EIS involves a comprehensive assessment of project impacts and alternatives, as well as a high degree of public input. Alternatively, if this EA results in a FONSI, then the action would not be the subject of an EIS. The EA is not intended to be a scientific document. The level and extent of detail and analysis in the EA is commensurate with the importance of the environmental issues involved and with the information needs of both the decision-makers and the general public.

**1.2. Purpose of and Need for the Proposed Action**

The purpose of the proposed action is to reduce operating costs, eliminate under-utilized facilities, and meet Air Force 2020 program goals. The Air Force must reduce the size of the physical plant by 20% by the year 2020. This initiative known as “20/20 by 2020” requires the Air Force to focus its limited resources on only that infrastructure needed to perform Air Force missions. Hanscom AFB must achieve offsetting efficiencies to ensure mission capability.

In support of the 20/20 by 2020 initiative, Hanscom AFB has developed a demolition program with the goal of reducing its gross square footage by 20%. Buildings 1115, 1116, and 1125 have been identified as candidates for demolition, under the 2020 initiative, due to their poor condition, lack of efficient use and operational/maintenance costs.

It has been determined that there is no commercial value or development potential in Buildings 1115, 1116, and 1125. There is a need for the proposed action because Air Force resources cannot be used on excess, obsolete or underutilized facilities. Leaving the abandoned buildings/structures vacant and the utilities in place poses both environmental and safety risks which is not an option.

## Section 2. Description of the Proposed Action and Alternatives

### 2.1. *Proposed Action*

The proposed action is to demolish Buildings 1115, 1116, and 1125 on Hanscom AFB. Building 1115 is a 496 SF structure which was constructed in 1952. The main portion of the building is a single story, reinforced concrete, concrete block, and brick structure with a wood entry. Building 1116, constructed in 1967, is a 999 SF, single story, timber, half-barrel structure supported by a reinforced concrete foundation. Building 1125, constructed in 1993, is a 200 SF, single story, timber structure supported by a reinforced concrete foundation.

The proposed action will include the following major elements:

- Disconnection of all utilities, and aboveground/underground storage tanks.
- Removal and disposal of hazardous material, and asbestos, lead based paint or polychlorinated biphenyl (PCB) containing materials.
- Demolition and proper disposal of building materials.
- Restoration of the project site disturbed by demolition work.

Demolition would include, but is not limited to, the following steps:

- Removal and disposal of concrete slabs and associated accessories at and below grade including, but not limited to, building slab-on-grade and utility pads.
- Removal and disposal of bituminous concrete pavement at and below grade including, but not necessarily limited to, existing sidewalks and driveways.
- Removal and disposal of surface debris within ten (10) feet of the buildings including, but not limited to, concrete and concrete structures, masonry, metal, and lumber.

Areas within five (5) feet of the existing buildings would be cleared and grubbed, and excavated areas would be backfilled and compacted with common fill. Existing sidewalks and curbing

would be replaced with a minimum of three (3) inches of bituminous concrete pavement and granite curbing. Organic loam and seed would be applied to all other disturbed areas.

The proposed action would be in accordance with any agreements the Air Force has made with the Massachusetts Historic Commission (MHC).

## **2.2. Alternatives**

Hanscom AFB is evaluating two options: 1) Demolish Buildings 1115, 1116, and 1125; and 2) take no further action and thereby leaving the vacant buildings and structures in-place.

Options analyzed in detail in this EA include:

Option 1, the Proposed Action described above and the Preferred Alternative being evaluated in this EA.

Option 2, the No-action Alternative described in more detail below.

### **2.2.1. No-Action Alternative**

The Air Force must reduce the size of the physical plant by 20% by the year 2020. The Air Force must focus its limited resources on only infrastructure that is needed to perform Air Force missions. It has been determined that there is no commercial value or development potential in Buildings 1115, 1116, and 1125. Air Force resources cannot be used on excess, obsolete or underutilized facilities. Therefore, the no-action alternative does not support the Air Force mission.

### Section 3. Applicable Federal Laws and Regulations

- Archaeological Resources Protection Act
- Clean Air Act
- Clean Water Act
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Endangered Species Act of 1973
- Executive Order (EO) 11990 (Protection of Wetlands)
- EO 11988 (Floodplain Management)
- EO 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations)
- EO 13514 (Federal Leadership in Environmental, Energy, and Economic Performance)
- Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings
- National Historic Preservation Act (NEPA)
- Occupational Safety and Health Administration (OSHA) Regulations
- Pollution Prevention Act of 1990
- Resource Conservation and Recovery Act (RCRA)
- Rivers and Harbors Act
- Toxic Substances Control Act (TSCA) of 1970

## Section 4. Required Federal, State, and Local Permits

- (NPDES) General Permit for Stormwater Discharges from Construction Activities
- Memorandum of Agreement (MOA) with Massachusetts State Historic Preservation Officer
- MassDEP BWP AQ 06 – Notification Prior to Construction or Demolition
- Massachusetts Asbestos Notification Form
- Hanscom Digging Permit

## Section 5. Agencies and Persons Consulted

The Hanscom AFB environmental office consulted with the Massachusetts Historical Commission (MHC), the Minute Man National Historical Park, Lincoln Historical Commission, Lexington Historical Commission, and the Advisory Council on Historic Preservation, during the preparation this EA. Letters regarding consultation are included in Section 9.

Copies of the Draft EA/FONSI were made available for public review at the main public libraries in Bedford, Concord, Lexington, and Lincoln, and at the Hanscom AFB Environmental Office, Building 1825 beginning on 2 February, 2012. A public notice was published in each of these towns' newspapers, including Hanscom AFB on 2 February, 2012. The public comment period ended on 2 March, 2012 and no comments were received.

## Section 6. Affected Environment

### 6.1. Land Use

Hanscom AFB is located approximately 18 miles northwest of Boston, Massachusetts, just outside the Route 128/I-95 circumferential limited-access highway. The base is located just west of a major light industrial and office park corridor along the limited-access highway. Hanscom AFB, which occupies approximately 846 acres, is situated in the Towns of Bedford, Lexington, and Lincoln, all of which are primarily suburban residential communities. Adjacent to the base is the Hanscom Field, an airport owned and operated by the Massachusetts Port Authority (Massport), part of which is located in the town of Concord to the west, as well as the Minute Man National Historic Park which is located to the south.

Buildings 1115, 1116, and 1125 are located in the southeast corner of Hanscom AFB, adjacent to the MIT/Lincoln Labs facility to the east, the Massachusetts Joint Force National Guard facility to the north, the family housing area to the west, and the Base boundary to the south. The Land Use is designated for Research and Development. The northern and southern portions of the site are designated for Open Space use.

### 6.2. Socioeconomic Conditions

Hanscom AFB serves primarily as the Headquarters of the U.S. Air Force Electronics Systems Center (ESC), which manages the development and acquisition of electronic command and control systems. The host unit on Hanscom AFB is the 66th Air Base Group (66 ABG), which is part of ESC. The 66 ABG provides services to all the active-duty, Reserve, and National Guard military personnel, Department of Defense (DoD) civilians and contractors who work and live at Hanscom AFB. Additionally, the 66 ABG supports over 100,000 retired military personnel, annuitants, and spouses living in the seven-state area of New England and New York.

Hanscom AFB was also home to a number of "associate" units separate from ESC such as the Sensors and Space Vehicles directorates of the Air Force Research Laboratory (AFRL), which

performed research and development services. In September 2011, AFRL was relocated to Kirtland AFB and Wright-Patterson AFB.

The workforce at Hanscom AFB includes military (active-duty), government civilian, and contractors. The total 4,492-strong workforce includes 931 military personnel, 1,767 civilians, and 1,794 contractors. Hanscom AFB's total estimated economic impact is approximately \$5 billion. The government (military and civilian) payroll is approximately \$248.3 million (HAFB, 2012a).

Hanscom AFB will soon host the new Massachusetts National Guard Joint Force Headquarters. An administrative complex is currently under construction to support state and federal missions of the state's National Guard. Once completed, the entire complex will employ approximately 200 full time military and civilian personnel Monday through Friday. During assembly weekends (one weekend a month), the complex will employ an additional 200 military-only personnel. Phase I estimated completion date is March 2012 and Phase II estimated completion date is December 2012 (HAFB, 2012a).

### **6.3. Occupational Safety and Health**

All government organizations on Hanscom AFB are provided industrial hygiene support by the Bioenvironmental office (66 MDS/SDOJ). The Public Health office (66MDS/SGOL) provides support for occupational health training, and organizes and manages the Occupational and Environmental Health Working Group (OEHWG). The OEHWG is chaired by physicians from Flight Medicine. Flight Medicine handles occupational physicals (including audiograms) and work related injury care for government workers. Contractor operations on Hanscom AFB are not supported by the base occupational health programs (i.e., Bioenvironmental Engineering, Public Health, and Occupational Medicine). Contractors are required to manage their own occupational health programs including industrial hygiene surveillance, worker health and safety training, hazard abatement, and medical surveillance.

All government organizations on Hanscom AFB and geographically separated units are provided occupational and non-occupational safety support by the 66 ABG Safety office. Support includes Ground, Weapons, and Flight safety programs. Major mishap prevention programs include inspections, hazard abatement, mishap investigation, and training. Safety is also the steward for the base Environmental, Safety, and Occupational Health Council and the Commander's OSHA Voluntary Protection Program. Contractor operations on Hanscom AFB are required to manage their own safety programs including hazard abatement, mishap reporting and recording, and safety training.

All contracts for demolition contracts must follow the base civil engineering design review process, and the base Bioenvironmental and Safety offices are included in the process. While it would be the responsibility of the awarded contractor(s) to ensure the safety and health of contractor employees and others at the work site, this process ensures that applicable safety and health requirements are included in the final drawings and specifications for demolition contracts.

#### **6.4. Utilities**

##### **6.4.1. Water Supply**

Nearly the entire potable water supply to Hanscom AFB is provided by the Town of Lexington, through a 10-inch main along Hartwell Avenue and a 12-inch main along Wood Street. Lexington receives its water from the Massachusetts Water Resources Authority (MWRA), for which the Quabbin Reservoir serves as the primary source of water. Water demand at Hanscom AFB has shown a decreasing trend since the late 1980s, attributable both to a decrease in personnel on base and the implementation of conservation measures. The quantity of water that Hanscom AFB can draw from Lexington is limited by contractual agreement to 2 million gallons per day (mgd). However, Hanscom AFB's annual water demand rarely exceeds one-third of the permitted allocation (HAFB, 2003a).

The existing sites of Buildings 1115 and 1116 are currently fed by the water main entering the sites from Wright Street near the northeast corner of the base and near the top of Katahdin Hill. Building 1125 does not have water service.

#### 6.4.2. *Wastewater*

Hanscom AFB discharges sanitary sewage into the MWRA system via two pumping stations. The wastewater is conveyed via a 12-inch force-main down Hartwell Avenue and connects to a 20-inch force main from the Town of Bedford. The capacity of the wastewater line is limited to 1,500 gallons per minute (gpm) or 2.16 million gallons per day, by an agreement with the Town of Bedford and the MWRA. This is because of limitations at Bedford's Great Road Pumping Station. Wastewater flows from Hanscom AFB generally have averaged slightly more than half this maximum permitted capacity (HAFB, 2003a).

#### 6.4.3. *Solid Waste*

Approximately 83 tons of solid waste is generated each week by Hanscom AFB. Some of this material is reused on base, but the majority is removed from Hanscom AFB by private contractors and disposed of by incineration or directly hauled to materials recovery facilities for recycling. The major sources of waste include community operations, offices, and industrial areas. The types of solid waste generated include food, various grades of office paper, newspaper, cardboard, cans, glass and plastic containers, scrap metals, as well as significant quantities of yard waste and construction and demolition debris. On an annual basis, Hanscom AFB generates approximately 1,555 tons of municipal solid waste and 318 tons of construction and demolition wastes, both of which are incinerated off-base with heat recovery or recycled. Additional materials diverted from the waste stream on an annual basis include: 160 tons of wood waste (pallets, packaging), 1,995 tons of compost/organic materials (tree trunks), 77 tons of metals, 179 tons of general recyclables, and 15 tons of computers/electronics (HAFB, 2010e).

#### 6.4.4. *Electricity*

Hanscom AFB obtains its power from NSTAR (formerly Boston Edison). Nearly all transmission lines within Hanscom AFB are underground. The annual capacity is approximately 151 million kilowatt hours (kWh) (HAFB, 2003). Hanscom AFB has implemented a base wide Energy Management Control System (EMCS), which includes monitoring and control of energy

use. For example, the heat temperature is turned down when buildings are vacant (e.g. overnight) and is turned up approximately one hour before the building becomes occupied (e.g. during regular daytime working hours). More than 85% of the office building space on Hanscom AFB is connected to the EMCS. Smart local controls have been implemented in a portion of the remaining facilities. Backup and emergency power is supplied by approximately 34 stationary emergency generators and 9 mobile generators located throughout the base.

Hanscom AFB currently receives power commodity from Hess. The transmission and distribution provider is NSTAR. FY08 annual electric power consumption at Hanscom AFB was approximately 54,800,000 kilowatt (kW). Hanscom AFB's electrical service is provided at 14.4-kilovolts (kV) through three sets of 500/thousand/circular/mil (kcmil or MCM) EPR cables to the base substation. At the base perimeter, near the Small Business Office (Building 1101) and the AFRL (Gate 2), a manhole is located where responsibility for the electrical system shifts from NSTAR (the transmission and distribution [T&D] provider) and Hess (the commodity provider) to Hanscom AFB. All primary feeds are contained within a concrete encased conduit, 75% of which is under pavement (HAFB, 2010d). Electric power is supplied to the Buildings 1115 and 1116 from the existing electric distribution infrastructure in Wright Street. Building 1125 does not have electric service.

#### 6.4.5. *Telecommunications*

In addition to standard dial-up telephone service, Hanscom AFB has a fiber optic backbone cable that provides services to all base facilities. All telecommunication lines are below ground. Most inter-building communications cable on base is installed via a Manhole/Conduit system. Less than 10% is direct buried and there is no 'Aerial' system located on base. All mission facilities have an appropriate number of phone lines and fiber optic cabling installed to meet the needs of the users within that facility (HAFB, 2011a).

#### 6.4.6. *Natural Gas*

Hanscom AFB is provided natural gas through an 8-inch high pressure main. Interruptible natural gas is provided to the central heating plant as a backup fuel for the production of steam and chilled water. Firm-supply natural gas is provided to base housing for domestic hot water heaters, gas ranges and dryers. Additionally, natural gas is consumed by various other facilities on base including the CDC, the Officer's Club, swimming pool, clinic (Building 1900), the Primary and Middle Schools. For CY2009, the total natural gas usage at Hanscom AFB was 827,905.57 million cubic feet (MCF). Annual natural gas capacity is 884,040 MCF (HAFB, 2010c).

Buildings 1115, 1116, and 1125 do not have gas service.

#### 6.4.7. *Steam*

The Hanscom AFB central heating plant provides process steam to MIT Lincoln Labs and steam heat to more than 80 percent of the base facilities (excluding the privatized housing) through 39,000 linear feet of steam lines. The central heating plant, which was constructed in 1951, has four water tube type boilers. Originally rated at approximately 53,000 pounds per hour (pph) steam output each, these boilers were rebuilt and de-rated to 40,000 pph each in 1987. Based on recent testing, in their current condition the actual output of these boilers is between 31,000 and 35,000 pph each. All four boilers have dual fuel capability and utilize #6 fuel oil as the primary fuel and natural gas as a backup fuel source in accordance with the facility's Clean Air Act Title V air permit. High demand heating in severe winter conditions occasionally requires operation of all four boilers at or near maximum capacity. U.S. Air Force policy is to have N+1 capacity, or the ability to meet peak demand with one boiler offline. Currently, the central heating plant cannot meet this requirement; however, several rehabilitation projects are currently being planned which will restore system capacity. (HAFB, 2010c) For those buildings on Hanscom AFB which are not connected to the central heat plant, their source of heat includes small oil-fired steam and hot water boilers, electric rooftop units, heat pumps, and a number of small gas, propane, waste oil, or fuel oil-fired unit heaters in mechanical rooms and garages. In addition,

some buildings on base are heated with natural gas. Buildings 1115, 1116, and 1125 are not connected to the central heat plant. Building 1115 is heated by a self contained oil burner, and buildings 1116 and 1125 are not heated.

### **6.5. Transportation**

Traffic congestion in the vicinity of the base primarily occurs in the peak morning period as workers arrive from the local and regional highway system. Hanscom AFB commuters primarily use Route 2A and Route 4/225 to access Hanscom Drive and Hartwell Avenue to enter the base. Both of these state routes interchange with the Route 128/I-95 beltway that rings the Boston area and connects to other radial limited-access highways. These routes are also used by commuters from the area towns, as well as others accessing the many industrial and office parks in the area.

Vehicular traffic enters Hanscom AFB via one of three control points (a fourth gate is closed):

- Wood Street Gate - direct access to MIT Lincoln Laboratory (on-base) as well as the rest of the base; connects to Hartwell Avenue on the north and to Massachusetts Avenue on the south.
- Barksdale Gate (Hartwell Gate) – accessed via Hartwell Avenue, which provides direct access to Routes 4/225 and Route 128/I-95.
- Vandenberg Gate - the main gate for visitors, commercial vehicles, and many DoD personnel; access is from Route 2A, Hanscom Drive, and a segment of Old Bedford Road.

Over 70% of the morning traffic entering the base uses the two eastern gates (Wood Street and Barksdale). Despite having the lowest traffic counts, Vandenberg Gate still experiences traffic queuing. Visitors and trucks must stop at the gate or the adjacent visitors' center for pass clearances to enter the base.

The road network on Hanscom AFB consists of arterials, collectors, and local streets. The major arterials include:

- Barksdale Street from the Vandenberg Gate to Eglin Street,
- Eglin Street from Barksdale Street to Vandenberg Drive,

- Vandenberg Drive from Vandenberg Gate to Marrett Street,
- Marrett Street from Vandenberg Drive to Barksdale Street.

## **6.6. Noise**

The primary sources of noise in the vicinity of Hanscom AFB result from normal operation of Massport's Hanscom Field airport, military flight operations at Hanscom AFB, and automobile traffic along the limited-access highway (Route 128/I-95) and various local roads. Even though military flight operations constitute approximately 1% of the total aircraft operations in the vicinity, military flight operations tend to employ noisier aircrafts and therefore, Massport calculates that military flight operations represent 11% of the aircraft-generated noise (HAFB, 2003a).

Ground-based vehicle operations at Hanscom AFB consist mainly of privately-owned vehicles and government vehicles. The privately-owned cars are used by regular daily employees and contractors. Government-owned vehicles include on-road maintenance and utility vehicles and off-road equipment, such as sweeper vacuums, cranes, lawn mowers, and forklifts (HAFB, 2003a). Noise generated independent of aircraft flight and noise on Hanscom AFB, such as maintenance and shop operations, ground traffic, and construction, is generally comparable to the noise generated in the surrounding community; therefore, noise generated during aircraft flight operations represents the most substantial noise source on the base.

## **6.7. Air Quality**

Hanscom AFB is located in an attainment/unclassifiable area for the following criteria pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). However, the entire state of Massachusetts is designated by the US EPA as moderate non-attainment for 8-hour Ozone (effective 6/15/2004). On March 12, 2008 US EPA lowered the primary ozone standard to 0.075 ppm (from 0.08 ppm) and set the secondary standard identical to the primary standard. In March 2009, Massachusetts

recommended to EPA that the entire state be designated as non-attainment for the new standard. Ozone results from photochemical reactions in the atmosphere involving precursor pollutants such as Volatile Organic Compounds (VOCs) and Nitrogen Oxides (NOx).

In January 2008 MassDEP submitted to US EPA an 8-hour Ozone State Implementation Plan (SIP) including strategies for attaining the 8-hour Ozone standard by 2010. Currently the US EPA has proposed to lower the 8-hour Ozone standard to between 0.06 and 0.07 ppm averaged over an 8-hour period. There have been numerous legal challenges to this proposed change and currently the US EPA does not have a schedule for promulgation of the final version of this regulation. Should these new standards be implemented, most of Massachusetts will likely be reclassified as severe non-attainment, requiring a revised SIP by MassDEP.

The primary stationary emission sources at Hanscom AFB are the boilers at the central heating plant. Emissions from these boilers are regulated under Title V of the Clean Air Act Amendments. Because of the ozone non-attainment status, Hanscom AFB utilizes low NOx burners and performs annual NOx Reasonably Available Control Technology (RACT) testing of these boilers. The base's Title V permit also imposes monitoring and record keeping requirements for various "emission units", such as the heat plant, but also for large emergency generators, gas-driven chillers, aboveground and underground storage tanks, and fuel dispensing equipment. Future activities that would generate additional VOC or NOx emissions will be subject to stringent permit limits and associated emission reduction strategies. The current Title V Permit for Hanscom AFB is effective from 9 October 2008 to 9 October 2013. Of the approximately 43 emergency generators located on-base, 5 exceed the 300 kW threshold and are listed as individual emission units in the Title V permit; the remainder of the existing generators are considered insignificant sources and bundled together for purposes of estimating emissions. Since the promulgation of 310 CMR 7.26(42) by MassDEP in 2006, newly installed emergency generators (after March 23, 2006) greater than 37 kW output are subject to regulation and are required to be listed as emission units on the Title V permit.

The US EPA published revised National Emission Standards for Hazardous Air Pollutants (NESHAP) for new and existing area source boilers (40 CFR Part 63 Subpart JJJJJ) in the Federal Register on March 21, 2011. This rule became effective May 20, 2011. Initial notification for existing sources was submitted by September 17, 2011 and notification for new sources is required within 120 days after startup of a new source. The final rule covers boilers located at area source facilities that burn coal, oil, or biomass, or non-waste materials, but not boilers that burn only gaseous fuels or any solid waste. Area sources are commercial (laundries, apartments, hotels), institutional (schools, churches, medical centers, municipal buildings) or industrial (manufacturing, refining, processing, mining) facilities that emit or have the potential to emit less than 10 tons per year of a single hazardous air pollutant, or less than 25 tons per year of combined hazardous air pollutants. Under this definition, HAFB has 4 boilers at the central heating plant that exceed the 10 MMBtu/hr threshold and are considered existing large oil-fired boilers. These emission units (EU), EU1, EU2, EU3 and EU4 with heat input capacities of 49.15 MMBtu/hr each will need to have biennial tune-ups and a one-time energy assessment. Existing small (< 10 MMBtu/hr) oil-fired boilers are also covered under the rule. These units will require a biennial tune-up in accordance with the US EPA work practice standard. All boilers affected by 40 CFR Part 63 Subpart JJJJJ will be considered emission units in the Title V permit and be subject to associated recordkeeping, monitoring and testing requirements (HAFB 2012c). Building 1115 is heated by a self contained oil burner. Buildings 1116 and 1125 are not heated.

The primary mobile sources of emissions in the vicinity include aircraft operation at Massport's Hanscom Field, along with ground vehicles on local and/or base roadways, and small combustion engines (e.g. lawn mowers, leaf blowers etc.). Although not regulated for criteria pollutants, most mobile emission sources at HAFB are required to report Greenhouse Gas emissions under 310 CMR7.71 (HAFB 2012c).

## **6.8. Geology and Soils**

### **6.8.1. Geology**

Hanscom AFB is located in an area that was occupied by a Pleistocene-age lake known as Glacial Lake Concord. The series of rounded hills and valleys that exist in the area are the result of bedrock structure and glacial erosion. Exposed areas of bedrock are found in the highly elevated outlying areas. Most of Hanscom AFB is underlain by the Andover granite, with a portion of the northeast part of the Base underlain by the Assabet quartz diorite and the Shawsheen gneiss. The present extent of Glacial Lake Concord deposits outlines the lower elevated area in which Hanscom AFB is situated. The glaciolacustrine (lake bed sediments) that formed the bottom of Glacial Lake Concord were evenly distributed over thousands of years, creating little topographic relief. Buildings and facilities located along Barksdale Street and Vandenberg Drive are built on these lake bed deposits. (HAFB, 2011b)

### **6.8.2. Soils**

The soils at Hanscom AFB have been substantially disrupted by construction and earth-moving activities. The Soil Conservation Service Interim Report for Middlesex County (March 1991) identifies most of the soils on the base as a combination of Udorthents (soils altered by earthmoving activities) and/or Urban Lane (soils mostly covered by impervious surfaces). The majority of the remaining soils on base (outside the housing area) are loamy sands or fine sandy loams associated with glaciofluvial deposits. (HAFB, 2011b)

## **6.9. Surface Water and Groundwater**

### **6.9.1. Surface Water**

The headwaters of the Shawsheen River, a tributary to the Merrimack River, are located on Hanscom AFB. Runoff flows north through a culvert near the intersection of Marrett Street and Vandenberg Drive, and flows along the eastern edge of Massport's airfield. The river is confined by steep slopes, ranging from 7 to 15 feet high. The Shawsheen River has been designated by MassDEP as a Class B water body and, as such, is protected as habitat for fish, other aquatic life

and wildlife, and for primary and secondary contact recreation. The majority of the surface runoff from Hanscom AFB enters a subterranean system of culverts and drains into the Shawsheen River. Surface runoff from the eastern portion of the base drains eastward into Kiln Brook, which also drains into the Shawsheen River.

The Merrimack River watershed is rated by US EPA as having high vulnerability to water quality problems. In highly vulnerable watersheds, aquatic conditions exist well below state water quality goals. Watershed data suggests significant pollution or other stressors are present; therefore, the watershed has a high vulnerability to decline in aquatic health. Ten-year mean water balance calculations indicate that the surface runoff contribution to the stream flow at the Hanscom sub-watershed is the highest (67 percent of stream flow from surface runoff) among all sub-watersheds in the Shawsheen watershed (MRWC, 2001). Significant watershed concerns identified by the Merrimack River Watershed Council include seasonally low baseflow, flash flooding, and water quality impairment.

In addition, the Shawsheen River is designated as an impaired water body for “Other Habitat Alterations” under Section 303(d) of the Clean Water Act (HAFB 2003b). A total maximum daily load (TMDL) evaluation has been completed by Hanscom AFB, which identifies the condition of the headwaters and specifies reduction in storm water pollutant loads. The watershed that includes the Shawsheen River is highly developed, which has led to contaminants associated with runoff, excessive storm water flow rates, and insufficient stream flow rates. New development projects at Hanscom AFB are required to meet state stormwater management standards, as well as improve site drainage characteristics, such as recharge and infiltration, to comply with the Clean Water Act.

There have been significant improvements in the storm drainage facilities at Hanscom AFB since 2009. Improvements include annual maintenance checks of catch basins and if needed, flushing of storm drain lines at least every third year. The Base has attempted to reduce runoff to the storm water system and increase infiltration in all construction work. As a matter of general

policy, all proposed actions at Hanscom AFB must be designed to result in a net decrease in runoff and an increase in detention and/or groundwater recharge. Since 2009 Hanscom AFB has removed existing shallow sump catch basins and installed hooded deep sump catch basins at 5 locations, re-graded existing lawn areas to create stormwater grass swales and redirected stormwater runoff from existing paved surfaces to the new swales at 3 locations.

#### **6.9.2. Groundwater**

Groundwater at Hanscom AFB is fairly shallow, averaging 10 to 20 feet below ground surface (bgs); and is commonly encountered from 3 to 7 feet bgs near wetlands, in the lower elevations of the base, or during periods of seasonally high groundwater elevation. Flow in the upper aquifer is mostly controlled by surface drainage features and storm drainage systems. Groundwater flow in the lower and bedrock aquifers typically follow the topography of the area. In many places, the groundwater contains naturally occurring dissolved iron and manganese that exceed limits for drinking water (HAFB, 1998a).

#### **6.10. Floodplains**

The site of the preferred alternative is located within the boundaries of the Town of Lexington, Massachusetts. According to the Federal Emergency Management Agency (FEMA) and Flood Insurance Rate Maps (FIRM) for Bedford, Lexington, and Lincoln, there are two areas that are in the 100-year and 500-year flood zones. Neither of these areas is close to the proposed alternative. One of these areas is along the north boundary, north of Buildings 1813 and 1811. The other area is along the abandoned Boston and Maine Railroad tracks (these tracks, once part of the base, have been excessed). Based on this information, demolition of these buildings would have no impacts on floodplains either from the Federal or State perspective.

## **6.11. Biological Resources**

### **6.11.1. Vegetation**

Most of the land area at Hanscom AFB, along with its native vegetation cover, has been altered by the development of base structures, streets, and recreational areas. For the most part, uplands are dominated by roadways, parking areas, structures, and recreational fields. Remnant grasslands occur in scattered patches and linear strips along developed areas occupying less than 5% of the uplands. Regardless of the context, all of these areas contain vegetation that is typical or representative of species present within the region (HAFB, 2011b).

The developed areas of the Base are planted with grasses, shrubs, and trees for aesthetic reasons and for erosion control. The soils of the Base are extremely susceptible to erosion when left unprotected. The short turf grasses planted in these areas require extensive care; however, they are essential for minimizing erosion on the Base. The maintenance program provides grass, shrub, and tree planting guidelines and ensures that the exposure of soils (and resulting erosion) will be minimized. Base horticultural practices (e.g., plant selection, fertilization, terracing) have been standardized to achieve optimal growth and planting success (HAFB, 2011b).

Introduced trees and shrubs are selected on the basis of aesthetics and their adaptability and tolerance to local climate and soils. Ornamental plantings are located throughout the improved portions of the base. The groomed (mowed) and landscaped areas on-base include the administrative and base housing lawns, the athletic fields, and other recreational areas. Current vegetative cover in these areas is dominated by rye, fescue, and bluegrass. Most of these areas are groomed to a height of less than 3 inches (HAFB, 2011b).

The existing site of Buildings 1115 and 1116 is a narrow flat site with landscaped grass, and a mix of native hard and soft wood trees. The site is adjacent to the southeastern boundary of the base at the high point of land on Katahdin Hill. The site of Building 1125 is a level site bounded on the east by pavement and on the other three sides by a mix of native hard and soft wood trees.

### 6.11.2. *Wetlands*

Hanscom AFB contains a diverse network of interconnected wetland systems, occupying approximately 5% of the base (approximately 43 acres). Many of these wetland systems have been subject to the same reconfiguration by human activities which has had a significant impact on the vegetative communities. The remaining wetlands are in various stages of succession, ranging from wet meadows to mature forested swamps.

Hanscom AFB is situated in the Towns of Bedford, Lexington, and Lincoln. The existing Buildings 1115, 1116, and 1125 are located in Lexington, MA. There are no wetlands within the area of the proposed action or adjacent to the area.

### 6.11.3. *Wildlife*

Hanscom AFB lacks continuity of undisturbed areas. While the fragmented nature of the base habitat has created a favorable environment for avian and small mammal species well adapted to humans and development, wildlife abundance and species diversity are relatively low at Hanscom AFB, principally due to extensively developed areas and/or degraded natural habitats. The proposed site does not provide significant habitat for wildlife due to its developed condition, mowing/maintenance activities, and human traffic. Less developed portions located near wetlands are more suitable for wildlife. These habitat areas however have been largely subject to reconfiguration by human activities. Due to the level of development of the land on Hanscom AFB, hunting, fishing, and trapping programs are inappropriate. Management concerns for fish and wildlife are essentially limited to wildlife population control and monitoring for the reduction/elimination of current wildlife inhabitants and the appearance of species formally not found on the base (HAFB, 2011b).

Following a site visit by Massachusetts Department of Fisheries and Wildlife, the Division sent a letter dated April 18, 1996 to the Environmental Manager, concurring that Hanscom AFB be

classified as a Category II installation. As a Category II installation, Hanscom AFB is exempt from many of the planning and staffing requirements of the Sikes Act (16 USC 67 a-1[b]). Also, Hanscom is exempt from developing hunting, fishing, or trapping programs. However, the Massachusetts Division of Fisheries and Wildlife stated in their letter that Memoranda of Understanding will be pursued with Hanscom AFB to develop wildlife population control measures, should such a need arise (HAFB, 2011b).

#### 6.11.4. *Threatened or Endangered Species*

The Eastern Longhorn Elderberry Beetle (*Desmocerus palliatus*) was a state listed Species of Special Concern. In 2006, however, the state removed this species from the protection list and it is no longer a state threatened species. Nevertheless, Hanscom AFB still takes specific measures establishing “no-cut” areas, signage, and education for personnel in the Grounds Maintenance and Entomology Shops to ensure these personnel recognize the importance of protecting the habitat of this species. This species is dependent upon the Elderberry bush as its food source for survival. Preserving areas where elderberry bushes can sustain and improve the beetle population is a long-term goal which has been met by the base and throughout the whole state. Furthermore, this species typically is present within or adjacent to wetlands and the plant is often protected in conjunction with base efforts to protect wetlands (HAFB, 2011b).

There are no federally listed or proposed threatened or endangered species at Hanscom AFB. There are, however, two state listed species that have been identified at Hanscom AFB. The Natural Heritage and Endangered Species Program (NHESP) of the Massachusetts Division of Fisheries & Wildlife have identified portions of Hanscom AFB as within *Priority Habitat*, Priority Habitat 300 (PH 300), of the state-listed species, Grasshopper Sparrow, *Ammodramus svannarum*, and the Upland Sandpiper, *Bartramia longicauda* (HAFB, 2011b).

The Grasshopper Sparrow (*Ammodramus svannarum*), listed as threatened, and Upland Sandpiper (*Bartramia longicauda*), listed as endangered are known to inhabit the grasslands adjacent to the runways on Massport’s Hanscom Field and a small portion of the Hanscom

FamCamp that abuts the airstrip. Habitat for these two species is almost exclusive to grasslands fields. The small portion of their habitat within the FamCamp should be managed to appropriately restricting mowing during the breeding, nesting, and brooding season between April 15 and August 31 (HAFB, 2011b). These species are not known to inhabit the site of the proposed action.

### **6.12. Cultural Resources**

The Hanscom AFB region contains areas of prominent prehistoric and historic importance. There are hundreds of properties listed in the records of the Massachusetts Historic Commission (MHC) located in the four surrounding towns alone. Hanscom AFB is adjacent to the Minute Man National Historical Park (listed on the National Register of Historic Places) and to the Great Meadows National Wildlife Refuge. In addition, there are other significant places, which served as naturally fortified positions from which the militia fired on the British, located within Hanscom AFB. Four prehistoric archaeological sites are located adjacent to the base, and several small prehistoric sites (temporary camps, chipping stations, and lithic workshops) have been reported in the vicinity of the base. The 1998 Phase I Archaeological Survey, which focused on 34 areas previously identified as having moderate to high potential for archaeological resources, concluded that there are no areas on Hanscom AFB that contain significant prehistoric or archeological resources. Although there are no significant prehistoric sites within Hanscom AFB, a sensitivity map for the main base identifies 11 areas of moderate/high sensitivity. Further surveys to modern standards of these areas will be reviewed and programmed if appropriate (HAFB, 2010b). Building 1125 is on the perimeter of an area that is of moderate/high sensitivity. Buildings 1115 and 1116 are not within any of the 11 identified areas.

In June 2010, Hanscom AFB submitted the results of the May 2010 architectural survey and National Register of Historic Places eligibility evaluation to the Massachusetts Historical Preservation Officer requesting their review and concurrence of the evaluations. The three structures, Buildings 1115, 1116 and 1125, were among the properties evaluated and recommended eligible for the National Register as an historic district. (HAFB, 2010b)

In June 2011, the MHC concurred that the structures and the area meets the criteria of eligibility for listing in the National Register as a historic district. The MHC also recommended that the proposed demolition constitutes an adverse effect to the area and that the Air Force should begin consultation to explore alternatives to avoid, minimize or mitigate the adverse effect.

The Air Force is currently preparing a draft Memorandum of Agreement stipulating proposed mitigation measures for the loss of the structures (Buildings 1115, 1116 and 1125) to the MHC for review and signing by the Massachusetts State Historic Preservation Officer (MA SHPO).

### **6.13. Installation Restoration Program / Hazardous Waste**

#### **6.13.1. Installation Restoration Program**

Historical operations at Hanscom Air Force Base involved the generation, use, and disposal of numerous hazardous substances, such as chlorinated solvents, fuel, aromatic solvents, tetraethyl lead, and PCBs. To address the potential that historic waste and resource management practices may have had adverse environmental impacts the Department of Defense (DoD) initiated an environmental restoration program in the 1980's with the overall goal of cleaning up contamination on DoD installations (HAFB, 2012b).

Hanscom AFB conducts environmental restoration efforts via the United States Air Force (USAF) Installation Restoration Program (IRP). The IRP is a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) based environmental restoration program. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) is the principal IRP response process except at sites covered by the CERCLA petroleum exclusion. The Massachusetts Contingency Plan (MCP) is the principal IRP response process at the CERCLA petroleum exclusion sites (HAFB, 2012b).

The USAF began implementing the IRP at Hanscom AFB with initial surveys and records reviews, interviews and field investigations to identify potentially contaminated sites. This initial effort identified 13 sites that warranted further investigation and potential cleanup. Subsequent discoveries increased the number of IRP sites to 22 and also identified one IRP Area of Concern. Investigations and appropriate response actions have been completed at 14 IRP Sites and the 1 Area of Concern, and they have been closed out with regulatory concurrence. The remaining 8 IRP Sites all have a remedy in place and are progressing to complete response and closure (HAFB, 2012b).

Regulatory review of Hanscom AFB's IRP is provided by the United States Environmental Protection Agency (EPA) Region I and the Massachusetts Department of Environmental Protection (MassDEP). The EPA is the lead regulatory agency for NCP sites whereas MassDEP is the regulatory agency for MCP (petroleum contamination) sites (HAFB, 2012b).

There are no opened IRP Sites in the vicinity of Buildings 1115, 1116, or 1125. IRP Site 14 includes several Underground Storage Tanks (USTs) locations on the base proper identified as potentially having petroleum contaminated soil and/or groundwater during a Multi-Site UST Replacement project in the late 1980s. In 2001 IRP Site 14 was closed (no further response action required) with regulatory concurrence. It is noted that one of the UST sites included in the IRP Site 14 Multi-Site UST Investigation was the former UST associated with former Building 1120 which is approximately 200 ft from Building 1125 (HAFB, 2012b).

#### 6.13.2. *Hazardous Waste*

Hazardous waste generated on the base comes from the normal operation and maintenance activities of the 66 ABG organizations, as well as from the research and development operations at the MIT Lincoln Laboratory. Hazardous wastes, including adhesives, sealants, greases, waste paint and thinners, solvents, and corrosive cleaning compounds are accumulated at initial accumulation points (IAPS), and transferred to the 90-day accumulation site, with final disposal off-base. Hanscom AFB's hazardous materials and waste management procedures are targeted at

reducing the purchases of industrial toxic substances, eliminating the purchase of ozone depleting chemicals, and reducing the amount of hazardous waste disposed. No IAPs are present at Buildings 1115, 1116, and 1125.

In January 2012, visual inspections, bulking sampling, and inventories of suspect asbestos-containing materials (ACM) in Buildings 1115, 1116, and 1125 were generated. Floor tile, floor tile mastic, carpet adhesive, roof flashing material, and built up roofing (BUR) material were found to be ACM in Building 1115. Floor tile, joint compound, and rolled roofing material were found to be ACM in Building 1116. No ACMs were identified in Building 1125 (ME, 2012).

Lead-based paint (LBP) surveys were also conducted for Buildings 1115 and 1116 in January 2012. A survey for Building 1125 was not necessary because the building was built in 1993. LBP was identified on the painted interior surface of the exterior block walls and the exterior fire doors in Building 1115. LBP was also identified in the interior painted surfaces of exterior block walls and exterior steel fire doors in Building 1116 (ME, 2012).

A hazardous materials survey was also conducted in Buildings 1115, 1116, and 1125 in January 2012. Fluorescent light ballasts, fluorescent and high intensity light bulbs, potential PCB-containing equipment, caulking, mercury-containing electrical equipment, underground fuel storage tanks (USTs), electronic devices, white goods, and other hazardous materials were inventoried for each building (ME, 2012).

## **Section 7. Environmental Consequences**

### **7.1. Land Use**

#### **7.1.1. No-Action Alternative**

The no-action alternative would not demolish Buildings 1115, 1116, and 1125 on Hanscom AFB. The existing Buildings would not be demolished and land use would not be impacted during the implementation of the no-action alternative.

#### **7.1.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125**

Short-term impacts associated with the demolition would include temporary minor disruption of adjacent land uses due to elevated noise levels, increased dust, interference with roadway access, and visual effects. Implementation of the preferred alternative can be expected to have a positive impact towards meeting the Air Force goal of reducing the size of the physical plant by 20% by the year 2020.

### **7.2. Socioeconomic Conditions**

#### **7.2.1. No-Action Alternative**

The no-action alternative would continue, on a limited basis, maintenance and repairs to Buildings 1115, 1116, and 1125. The no-action alternative would result in no change to the current socioeconomic conditions of Hanscom AFB.

#### **7.2.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125**

Positive short-term employment benefits will accrue to the construction industry during the demolition period as a result of the preferred alternative. A short-term increase in the revenue generated in the surrounding area may also result due to demolition contractor employees utilizing local businesses for supplies and personal use.

Executive Orders 12898 and 13045 mandate that federal agencies identify Environmental Justice issues where disproportionately high and adverse human health or environmental effects on minority and low-income populations, and children may occur. No minority or low-income populations were identified at Hanscom AFB or surrounding area, so the preferred alternative would not disproportionately impact the types of individuals or communities resulting in environmental justice concerns.

### **7.3. Occupational Safety and Health**

#### **7.3.1. No-Action Alternative**

The no-action alternative would continue, on a limited basis, maintenance and repairs to Buildings 1115, 1116, and 1125. Implementation of the no-action alternative would result in no direct or indirect impact on the safety and health of Air Force employees and others at the site.

#### **7.3.2. Alternative 1 - Preferred Alternative – Existing Site**

The preferred alternative would implement occupational safety and health procedures to ensure the safety and health of individuals at the worksite. Implementation of the preferred alternative would result in no direct or indirect impact on the safety and health of Air Force employees and others at the site.

### **7.4. Utilities**

#### **7.4.1. Water Supply**

##### **7.4.1.1. No-Action Alternative**

The no-action alternative would continue, on a limited basis, maintenance and repairs to Buildings 1115, 1116 and 1125, and would result in no change to the current water supply use.

##### **7.4.1.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125**

Hanscom AFB is provided potable water by the Town of Lexington, which receives its water from the MWRA. In the short-term, demolition of Buildings 1115, 1116, and 1125 may require

relocation of existing water mains feeding the site. Proper dig permitting procedures must be followed during the relocation of water mains. Also, demolition activities may utilize the local water supply for dust control, although this function may alternatively be provided by mobile water tanks filled off-site. The potential use of the local water supply for dust control is not anticipated to have an adverse effect to the water supply at Hanscom AFB.

The preferred alternative is not expected to result in an increase in the demand for water. There is no long-term impact to the water supply system of the base expected. Implementation of the preferred alternative would not significantly increase the demand for potable water supply at Hanscom AFB.

#### **7.4.2. Wastewater**

##### **7.4.2.1. No-Action Alternative**

The no-action alternative would continue operations, maintenance and repairs to Buildings 1115, 1116 and 1125, and would result in no change to the current wastewater discharge level.

##### **7.4.2.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125**

No short-term impacts on wastewater facilities are anticipated during the demolition of Buildings 1115, 1116, and 1125. Portable toilets may be available for the demolition workers, and waste would be transported to an off base treatment facility.

The preferred alternative will not result in an increase in the volume of wastewater pumped from the base into the connection with the Town of Bedford's sewerage system for treatment by the Massachusetts Water Resources Authority.

### 7.4.3. *Solid Waste*

#### 7.4.3.1. *No-Action Alternative*

The no-action alternative would continue operations, maintenance and repairs to Buildings 1115, 1116 and 1125, and would result in no change to the current solid waste discharge level.

#### 7.4.3.2. *Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125*

In the short-term, the preferred alternative would generate solid waste, primarily associated with demolition waste materials. Waste material that is not suitable for reuse or recycling would be disposed of appropriately. All solid waste would be handled in accordance with standard Hansom AFB procedures. Any hazardous materials would be disposed in accordance with state and federal regulations.

### 7.4.4. *Electricity*

#### 7.4.4.1. *No-Action Alternative*

The no-action alternative would continue operations, maintenance and repairs to Buildings 1115, 1116 and 1125, and would result in no change to the current electricity usage level.

#### 7.4.4.2. *Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125*

Short-term disruption of power to the immediate area around the demolition site may occur while the electrical connections are removed. The preferred alternative will not have any impact on the Base electrical system in the long term.

### 7.4.5. *Telecommunications*

#### 7.4.5.1. *No-Action Alternative*

The no-action alternative would continue operations, maintenance and repairs to Buildings 1115, 1116 and 1125, and would result in no change to the current telecommunications system.

**7.4.5.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125**

Existing telephone and communication lines would be removed and terminated. No disruption of telephone/communication service in the immediate area is expected

**7.4.6. Natural Gas****7.4.6.1. No-Action Alternative**

The no-action alternative would continue operations, maintenance and repairs to Buildings 1115, 1116 and 1125, and would result in no change in natural gas usage on Hanscom AFB.

**7.4.6.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125**

No impacts are expected to occur in the short-term with regard to natural gas on Hanscom AFB. The demolition activities will not require the use of natural gas. Existing natural gas distribution lines will be identified and properly marked to minimize accident potential. The preferred alternative will not increase natural gas usage on base and will not have a significant impact on natural gas in the long term.

**7.5. Transportation****7.5.1. No-Action Alternative**

The no-action alternative would continue operations, maintenance and repairs to Buildings 1115, 1116 and 1125, and would result in no impacts regarding transportation.

**7.5.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125**

There would be a minimal short-term increase in commercial vehicles on Vandenberg Road and other connecting roadways related to demolition. Personal and commercial vehicles operated by

the contractor and subcontractors would be on-site or at areas designated by Hanscom AFB. Personal and commercial vehicles operated by the contractors and subcontractors are not expected to have an adverse impact on the roadway. After the completion of the preferred alternative, little change in the amount of vehicle traffic on base would be anticipated. Overall, the preferred action would result in no significant impact in transportation at Hanscom AFB.

## **7.6. Noise**

### **7.6.1. No-Action Alternative**

The no-action alternative would continue operations, maintenance and repairs to Buildings 1115, 1116, and 1125. Noise levels at the facilities would remain constant and there would be no increase in noise levels in the vicinity of the existing site. Noise levels would not be impacted during implementation of the no-action alternative.

### **7.6.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125**

The demolition phase of the preferred alternative will create a temporary increase in noise due to demolition activities and equipment. Activities would include: excavation, grading, and other associated activities, with equipment such as bulldozers, cranes, and other noise generating heavy equipment. In the long term, the demolition would have no impact on noise.

## **7.7. Air Quality**

### **7.7.1. No-Action Alternative**

The no-action alternative would continue operations, maintenance and repairs to Buildings 1115, 1116 and 1125. Air quality at the existing facilities would remain constant as those associated with vehicular traffic and the minimal stationary source emissions from the building. Air quality would not be impacted during implementation of the no-action alternative.

*7.7.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125*

The preferred alternative may result in short-term localized air quality impacts. All demolition vehicles and some equipment would produce emissions that could temporarily affect air quality. The demolition activities have the potential to generate fugitive dust. Material loading and transfer (gravel and topsoil), and grading also have the potential to generate fugitive dust. Dust would be controlled onsite by using water to wet down disturbed areas. Moreover, the number of vehicles and the duration of demolition required to perform the work is limited. Emissions are therefore not anticipated to cause an adverse impact to regional air quality. There is no anticipated long-term air quality impacts related to the preferred alternative.

A General Conformity – Record of Non-Applicability for the preferred alternative was completed and general conformity under the Clean Air Act, Section 176(c), was evaluated for the preferred alternative according to the requirements of 40 CFR 93, Subpart B (see Section 10). The requirements of this rule are not applicable to the preferred alternative because the total direct and indirect emissions in tons per year (tpy) for the applicable pollutants of concern (i.e., NO<sub>x</sub> and VOC) are estimated to be below the conformity threshold values established in 40 CFR 93.153(b).

In addition, the preferred alternative is not considered regionally significant under 40 CFR 93.153(i), as the estimated emissions, using reasonable and conservative assumptions, are significantly less than 10% of the regional emissions. Therefore, a conformity determination is not required.

## **7.8. Geology and Soils**

### **7.8.1. Geology**

#### **7.8.1.1. No-Action Alternative**

The no-action alternative would continue operations, maintenance and repairs to Buildings 1115, 1116, and 1125. There would be no geologic impacts in the vicinity of the proposed site due to facility demolition. Geology would not be impacted during implementation of the no-action alternative.

#### **7.8.1.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125**

Grading and topography changes may be necessary to design an appropriate drainage system at the site. The preferred alternative's impact to surface topography and geology would be generally minimal because the proposed site has been previously disturbed.

### **7.8.2. Soils**

#### **7.8.2.1. No-Action Alternative**

The no-action alternative would continue operations, maintenance and repairs to Buildings 1115, 1116, and 1125. There would be no soil impacts due to facility demolition. Soil would not be impacted during implementation of the no-action alternative.

#### **7.8.2.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125**

The preferred alternative would require the excavation and grading of soils for the demolition. All activities would follow base BMPs regarding minimizing sedimentation and erosion during storm events. Controls would be left in place until vegetation has become established on disturbed area minimizing the impacts on soils. Soils would not be impacted during implementation of the preferred alternative, because the soils were previously disturbed.

## **7.9. Surface Water and Groundwater**

### **7.9.1. Surface Water**

#### **7.9.1.1. No-Action Alternative**

The no-action alternative would continue operations, maintenance and repairs to Buildings 1115, 1116, and 1125. There would be no surface water impacts due to facility demolition. Surface water would not be impacted during implementation of the no-action alternative.

#### **7.9.1.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125**

It is anticipated that the implementation of the preferred alternative would result in a positive long-term impact to surface water at Hanscom AFB due to the decrease in impervious surface resulting in a decrease of runoff. The proposed demolition will comply with Hanscom AFB Best Management Practices (BMP) that will reduce any impact to surface water through net decrease in runoff, and increases in detention and groundwater recharge. In addition, the drainage design would meet both Massachusetts stormwater management standards, as well as comply with the Clean Water Act, which would help protect the headwaters of the Shawsheen River.

### **7.9.2. Groundwater**

#### **7.9.2.1. No-Action Alternative**

The no-action alternative would continue operations, maintenance and repairs to Buildings 1115, 1116, and 1125. There would be no groundwater impacts due to facility demolition. Groundwater would not be impacted during implementation of the no-action alternative.

#### **7.9.2.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125**

It is unlikely that subsurface excavations related to the demolition will encounter groundwater. Furthermore, as a matter of general policy at Hanscom AFB, the preferred alternative must be designed to result in a net decrease in runoff and an increase in detention and/or groundwater recharge. This would result in a positive impact to groundwater at Hanscom AFB.

## **7.10. Floodplains**

### **7.10.1.1. No-Action Alternative**

There are no floodplain issues if the no-action alternative was taken.

### **7.10.1.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125**

Demolition of Buildings 1115, 1116 and 1125 would have no impacts on floodplains.

## **7.11. Biological Resources**

### **7.11.1. Vegetation**

#### **7.11.1.1. No-Action Alternative**

The no-action alternative would continue operations, maintenance and repairs to Buildings 1115, 1116, and 1125. There would be no modification to the buildings at the existing site, so vegetation would not be impacted during implementation of the no-action alternative.

#### **7.11.1.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125**

The existing Buildings 1115, 1116, and 1125 are located on a flat site surrounded with landscaped grass, and a mix of native hard and soft wood trees. Work activities will be limited to developed portions of the property. The remaining mature trees will have protective barriers placed around them to minimize the potential for damage. Smaller trees and shrubs may be cleared incidental to other demolition activities. Existing grassy vegetation is likely to be disturbed by track-mounted construction equipment. The short-term loss of some vegetation is not anticipated to substantially impact the biological community on, or in the vicinity of, the preferred alternative site. Once the preferred alternative is completed, the replacement of lawn type ground cover would occur.

### 7.11.2. *Wetlands*

#### *7.11.2.1. No-Action Alternative*

The no-action alternative would continue operations, maintenance and repairs of Building 1115, 1116, and 1125. The existing site is not near wetlands. Wetlands would not be impacted during implementation of the no-action alternative.

#### *7.11.2.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125*

Implementation of the preferred alternative would decrease the amount of impervious area that contributes to the rainfall runoff amounts and the increase of surface water. By following Hanscom AFB Best Management Practices (BMP) a net decrease in runoff, and increase in detention and groundwater recharge would occur. The drainage design would also meet Massachusetts stormwater management standards and comply with the Clean Water Act, which would help protect the headwaters of the Shawsheen River. Therefore, it is anticipated that the implementation of the preferred alternative would result in a positive impact to wetlands at Hanscom AFB.

### 7.11.3. *Wildlife*

#### *7.11.3.1. No-Action Alternative*

The no-action alternative would continue operations, maintenance and repairs of Buildings 1115, 1116, and 1125. There would be no modification to the buildings or surrounding area at the existing site, so wildlife would not be impacted during implementation of the no-action alternative.

#### *7.11.3.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125*

Demolition of the facilities at this location would not impact wildlife in the area because the sites have been previously disturbed and are relatively small. These sites do not provide a significant habitat for wildlife in its managed condition. The implementation of this alternative would have no impact on wildlife or wildlife habitat.

#### 7.11.4. *Threatened or Endangered Species*

##### 7.11.4.1. *No-Action Alternative*

The no-action alternative would continue operations, maintenance and repairs to Buildings 1115, 1116, and 1125. The no-action alternative would not impact threatened or endangered species on Hanscom AFB.

##### 7.11.4.2. *Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125*

There are no federally listed or proposed threatened or endangered species at Hanscom AFB. The state-listed species Grasshopper Sparrow, *Ammodramus svannarum*, and the Upland Sandpiper, *Bartramia longicauda* have been identified in portions of Hanscom AFB, but not near the demolition site.

The Eastern Longhorn Elderberry Beetle (*Desmocerus palliatus*), which was previously listed on the State's Species of Special Concern list, and its main food source, elderberry bush, are typically present within or adjacent to wetlands. Following the Order of Conditions and Hanscom AFB Best Management Practices (BMP) to protect wetlands would minimize any impact to elderberry bushes and the beetle population if they are present near the site. The preferred alternative would not impact threatened or endangered species on Hanscom AFB.

## 7.12. *Cultural Resources*

### 7.12.1. *No-Action Alternative*

The no-action alternative would continue operations, maintenance and repairs to Buildings 1115, 1116, and 1125. Implementation of the no-action alternative would not impact cultural resources.

*7.12.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125*

Although there are no significant prehistoric sites within Hanscom AFB, a sensitivity map for the main base identifies 11 areas of moderate/high sensitivity (HAFB, 2010b). Building 1125 is on the perimeter of an area that is of moderate/high sensitivity. Buildings 1115 and 1116 are not within any of the 11 identified areas.

In June 2010, Hanscom AFB submitted the results of the May 2010 architectural survey and National Register of Historic Places eligibility evaluation to the Massachusetts Historical Preservation Officer requesting their review and concurrence of the evaluations. Buildings 1115, 1116, and 1125 were among the properties evaluated and recommended eligible for the National Register as an historic district. (HAFB, 2010b)

In June 2011, the MHC concurred that the structures and the area meets the criteria of eligibility for listing in the National Register as a historic district. The MHC also recommended that the proposed demolition constitutes an adverse effect to the area and that the Air Force should begin consultation to explore alternatives to avoid, minimize or mitigate the adverse effect.

The Air Force is currently preparing a draft Memorandum of Agreement (MOA) stipulating proposed mitigation measures for the loss of the structures (Buildings 1115, 1116, and 1125) to the MHC for review and signing by the Massachusetts State Historic Preservation Officer (MA SHPO). The proposed action or the award of contract(s) for the proposed action cannot occur prior to the completion of the MOA.

### **7.13. Installation Restoration Program / Hazardous Waste**

#### **7.13.1. Installation Restoration Program**

##### **7.13.1.1. No-Action Alternative**

The no-action alternative would leave the vacant Buildings 1115, 1116, and 1125 in-place. No active sites at Hanscom AFB are located on or near these buildings. The no-action alternative would not directly impact nor impede monitoring of any active IRP sites.

##### **7.13.1.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125**

The preferred alternative would demolish Buildings 1115, 1116, and 1125. No active sites listed in the IRP for Hanscom AFB are located on or near these buildings. The preferred alternative would not directly impact nor impede monitoring of any active IRP sites on Hanscom AFB.

#### **7.13.2. Hazardous Waste**

##### **7.13.2.1. No-Action Alternative**

The no-action alternative would leave the vacant Buildings 1115, 1116, and 1125 in-place and would not impact hazardous waste on Hanscom AFB.

##### **7.13.2.2. Alternative 1 - Preferred Alternative – Demolish Buildings 1115, 1116, and 1125**

The preferred alternative is not located in the vicinity or down gradient from any known hazardous waste sites. During demolition, hazardous materials and waste would likely be used and generated, including: equipment fuel, engine oil, hydraulic oil, grease, and other equipment operation and maintenance material. Any hazardous materials used during construction would be used, stored, transported, and disposed in accordance with base, military, state, and federal regulations.

Hanscom AFB has a Pollution Prevention Plan which prohibits the use of all Class I ozone-depleting chemicals, and directs organizations to minimize the use of Class II ozone-depleting

chemicals and toxic substances. Consequently, hazardous waste generation is anticipated to be reduced to the maximum extent possible during operation of the new facility. Any demolition debris will be segregated from hazardous materials requiring special disposal in accordance with federal and state regulation, as well as Hanscom AFB policies. No adverse impacts resulting from demolition are anticipated.

Removal of asbestos containing material (ACM) must be done by a licensed asbestos contractor. Additionally, full containment and a licensed project monitor may be required. The asbestos contractor must comply with all state and federal regulations. Overall, the following of all local, state, and federal regulations would result in no adverse impact in regards to hazardous wastes on Hanscom AFB.

Demolition of building materials containing Lead Based Paint (Paint) must be done in accordance with OSHA and Massachusetts Department of Occupational Safety (DOS). Disposal of the waste must be determined by Toxicity Characteristics and Leaching Procedure (TCLP). If TCLP test indicate that the waste is considered hazardous waste, then disposal of the waste must in accordance with Hanscom AFB Hazardous Waste Management procedures, as well as all federal and state regulations. Any Hazardous Materials still remaining in the buildings must also be disposed of in the same manner.

#### **7.14. Cumulative Impacts**

Cumulative impacts are those changes to the physical, biological, and socioeconomic environments that would result from the combination of construction, operation, and associated impacts of the preferred alternative when added to other past, present, and reasonably foreseeable actions. The development projects discussed below may have the potential to result in additive or multiplicative impacts to resources when evaluated together with the preferred alternative of this EA.

Hanscom AFB developed an EA and a Finding of No Significant Impact (FONSI) in April 2008 for a new Acquisition Management Facility (AMF) (Building 1604). The construction of the AMF building was completed in 2009 and Building 1600 is planned to be demolished in the future. Completion of this project would not impact socio-economics, transportation, noise, cultural resources, or the environmental restoration program at the base, as the personnel for this activity already exist at the base. All new construction additions have the potential to increase air emissions and impact utilities on the base. The commissioning of the new AMF building in combination with demolition of the existing building, however, would increase the overall efficiency of building and result in no net impact. The AMF building was designed with LEED principles and the proposed drainage system was designed in accordance with Hanscom AFB's drainage requirements. There are no anticipated significant impacts when evaluated together with the preferred alternative.

In 2009, an EA was developed for the construction of the Massachusetts Army National Guard (MANG) Joint Force HQ Building at Hanscom AFB. A Finding of No Significant Impact (FONSI) was signed in January 2010. Construction began in 2010 and is anticipated to last 28 months. No significant impacts to aerospace, socioeconomic/environmental justice, noise, climate change, geology and soils, floodplains, or the environmental restoration program/hazardous waste were identified in the EA. The action requires land use to change from outdoor recreation to administrative. The minor increase in base population would cause minor increases in demands on the water supply, wastewater, electrical, telecommunications, and natural gas systems. Short term increases in solid waste during construction would be minor because reusable/recycled material would be utilized, as well as efficient building technologies that are incorporated into the building design. Traffic congestion is estimated to increase and traffic demand management (TDM) strategies are planned to be implemented. Construction-related air quality short-term impacts are anticipated. Five natural-gas fired heating units and one natural gas-fired emergency generator would be installed. The project is not considered regionally significant because the project emissions are calculated to be less than 10 percent of the regional emissions and would not impact the area's air quality. No surface waters are located on the site, although a drainage swale is located to the west of the site. Construction activities

would be conducted in accordance with applicable BMPs to avoid impacts to nearby Shawsheen River. There are no anticipated significant impacts when evaluated together with the preferred alternative.

Also in 2010, an EA and FONSI were developed for the addition of a Mental Health Clinic to the existing base clinic, Building 1900. If this action was to occur, no significant impacts associated with the land use, socioeconomics, transportation, noise, air quality, geology/soils, surface water and groundwater, biological resources, or cultural resources would be anticipated. However, minor impacts may occur in the short-term. The construction, demolition and site restoration activities have potential to affect adjacent land uses due to elevated noise levels, increased dust, minor interferences with roadway access, and visual effects. The construction of the Mental Health Clinic Addition and the associated reconfiguration of the parking lot would create construction and demolition debris, and may cause minor soil and groundwater disturbance. A short-term loss of some vegetation is not anticipated to substantially impact the biological community on, or in the vicinity of the site. Construction began in January 2012 and there are no anticipated significant impacts when evaluated together with the preferred alternative.

In 2011, a draft EA and FONSI for the replacement of the middle school at Hanscom AFB was made available for public review. The proposed action is to replace the Hanscom Middle School at the existing site. If this action was to occur, no significant impact associated with land use, socioeconomics, transportation, noise, air quality, geology/soils, surface water/groundwater, floodplains, biological resources, cultural resources, hazardous waste, or the environmental restoration program would be anticipated. Minor impacts, however, may occur in the short-term. The construction, demolition, and site restoration activities have potential to affect adjacent land uses due to elevated noise levels, increased dust, minor interferences with roadway access, and visual effects. The construction of the new middle school would create construction and demolition debris, and may cause minor soil and groundwater disturbance. Smaller trees and shrubs may be cleared incidental to other demolition activities. Existing grassy vegetation related to the “swing space” area is also likely to be disturbed. The short-term loss of some vegetation is not anticipated to substantially impact the biological community on, or in the vicinity of, the

proposed action's site. There are no anticipated significant impacts when evaluated together with the preferred alternative.

In 2011, MIT Lincoln Laboratory (MIT LL) began developing a draft EA for a proposed action to expand the MIT LL campus. MIT LL proposes to construct approximately 250,000 to 350,000 square feet of replacement laboratory, office, and administrative space. As of January, 2012, the draft EA is still being prepared. The location of one of the alternatives is adjacent to the location of the preferred alternative described in this EA. Currently, there are no anticipated significant impacts when evaluated together with the preferred alternative.

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## Section 8. Measures To Reduce Potential For Impact

While some impacts to the natural and human environment may occur during implementation of the preferred alternative, these impacts are minor and are not atypical compared with other routine demolition projects. Commonly applied Best Management Practices and other measures identified below further reduce the likelihood that these activities would have a significant impact on the environment

Parameter:	BMP or Other Measure to Reduce Impact:
Land Use	A phased demolition schedule will be implemented to reduce peak traffic/noise levels and thus minimize disruption to nearby land uses.
Transportation	Transportation of heavy trucks would only be allowed during normal business hours to avoid the disturbance of surrounding residential areas.
Utilities	Existing utility alignments will be identified through markings (similar to "Dig Safe") prior to any excavation to prevent damage to existing infrastructure.
Solid Waste	Solid waste management would be in compliance with Hanscom AFB recycling policies to minimize the amount of solid waste disposed without beneficial reuse during demolition.
Air Quality	All equipment and vehicles used during demolition would be maintained in good operating condition so that exhaust emissions are minimized. Dust will be controlled on-site by using water to wet down disturbed areas.
Surface Water	During demolition, silt fence and/or hay bales will be placed around catch basins to reduce potential for sediment/eroded materials to be transported to the Shawsheen River via the storm sewers. The facility's stormwater management will reduce peak flow rates from the parcel to the Shawsheen River. Drainage design must meet both Massachusetts stormwater management standards, and comply with Clean Water Act.
Groundwater	If dewatering is necessary during construction, the water will be treated for total suspended solids (TSS) removal prior to discharge to receiving water. Upon completion, the facility's stormwater management system will retain stormwater allowing for a greater rate of infiltration to groundwater.
Vegetation	Existing vegetation on the site would be protected during demolition.
Cultural Resources	a. The undisturbed archaeological sensitive area around Building 1125 will be protected during the demolition phase.  b. The Air Force is currently preparing a draft Memorandum of Agreement (MOA) stipulating proposed mitigation measures for the loss of the structures (Buildings 1115, 1116, and 1125) to the MHC for review and signing by the Massachusetts State Historic Preservation Officer (MA SHPO). The proposed action or the award of contract(s) for the proposed

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	<p>action cannot occur prior to the completion of the MOA.</p> <p>c. If resources are inadvertently discovered during the project duration, then the site Project Manager will immediately notify the Hanscom AFB Cultural Resources Manager and cease work in the area of the discovery.</p>
Hazardous Waste	<p>All hazardous materials used or encountered during construction, demolition, or operation would be handled and disposed in accordance with Hanscom AFB policies and protocols and all applicable state and federal regulations. Removal of asbestos containing building materials (ACBM) must be done by a licensed asbestos contractor. Additionally, full containment and a licensed project monitor may be required. The asbestos abatement contractor must comply with all state and federal regulations.</p>

## Section 9. Consultation

### 9.1. Letter to Massachusetts Historical Commission, 13 January 2012



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 66th AIR BASE GROUP (AFMG)  
HANSCOM AIR FORCE BASE MASSACHUSETTS

Mr. Donald C. Morris, PE  
66 ABG/CEV  
120 Grenier Street  
Hanscom AFB, MA 01731-1910

January 13, 2012

Ms. Brona Simon  
Commonwealth of Massachusetts  
Executive Director  
Massachusetts Historical Commission  
220 Morrissey Boulevard  
Boston, MA 02125

Dear Ms. Simon

RE: MHC # RC.50777; Air Force Research Laboratory (AFRL) Katahdin Hill  
Demolition of Buildings B1115, B1116, B1125, and B1127, off Scott Road and Wright Street,  
Hanscom Air Force Base, Lexington, MA.

This office has reviewed the Massachusetts Historical Commission's (MHC) comments on the referenced undertaking, in correspondence dated June 23, 2011 and in the "MHC Opinion: Eligibility for National Register for the Air Force Cambridge Research Center-Phillips Laboratories" (AFCRL Phillips Laboratories) dated June 30, 2011.

As requested the Air Force, with the assistance of its cultural resource consultant, the Public Archaeology Laboratory (PAL), has reexamined potential historic properties at Hanscom Air Force Base (AFB), including the AFCRL Phillips Laboratories (a/k/a Cambridge Research Center), AFCRL Katahdin Hill, and MIT Lincoln Laboratory for their potential unification into a single National Register of Historic Places (National Register) historic district.

Our reexamination finds that there is justification for establishing a single combined AFCRL Historic District incorporating the AFCRL Katahdin Hill and AFCRL Phillips Laboratories. The two relatively unaltered laboratory complexes present a significant entity of buildings and structures that are unified by common historical associations with basic scientific research in support of national air defense during the Cold War Era (1946-1989). A new National Register Criteria Statement Form (attach 1) and Boundary Justification w/map (attach 2) for this AFCRL Historic District are enclosed.

The Air Force does not find that there is sufficient justification for including the MIT Lincoln Laboratory in a combined historic district with the AFCRL Phillips Laboratories and AFCRL Katahdin Hill. The two AFCRL areas and MIT Lincoln Laboratory have evolved with different tenants and missions, and the MIT Lincoln Laboratory has substantial integrity issues due to building alterations and infill construction, that disqualify it for listing in the National Register. Additional information regarding this evaluation is included in the Response to Comments (attach 3).

The Air Force has determined that the proposed demolition of Buildings B1115, B1116, B1125, and B1127 will have an adverse effect under Section 106 of the National Historic Preservation Act due to the removal of historic resources that contribute to the historical significance of the National Register-eligible AFCRL Historic District. As stated in our letter of May 24, 2011, Air Force planning for this area, since the AFRL was relocated from Hanscom AFB in September 2011, includes demolition of these four under-utilized buildings in line with the Air Force 2020 goal to reduce by 20% the cost of maintaining and operating facilities. Additionally, a recently completed evaluation by the Air Force Real Property Agency determined that none of the former AFRL facilities have commercial value or development potential. Consequently, the Air Force is proposing to demolish B1126, B1104 and B1103 in addition to the buildings already proposed for demolition. There are no prudent or feasible alternatives to demolishing these buildings.

The Air Force plans to prepare and forward a draft Memorandum of Agreement stipulating proposed mitigation measures for the loss of the structures to the MHC for review and signing by the Massachusetts State Historic Preservation Officer (MA SHPO).

The Air Force also recognizes its responsibilities under Section 110 of the National Historic Preservation Act for the long-term oversight of the National Register-eligible AFCRL Historic District. In order to meet those responsibilities, the Air Force intends to prepare and enter into a Programmatic Agreement (PA) developed under 36 CFR 800.14(b) with the Advisory Council on Historic Preservation (ACHP) and the MA SHPO that outlines the approach and process the Air Force will follow for ongoing maintenance and repair, new construction, potential demolition, and other activities within the district. The policies and procedures will be in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

A draft PA will be prepared and circulated in early 2012 to the ACHP and the MHC for review, and the executed PA will be incorporated into the next Integrated Cultural Resources Management Plan Update for Hanscom AFB.

In accordance with Sections 106 and 110 of the National Historic Preservation Act, the Air Force requests your concurrence with the Air Force's identification of historic properties and determination of project effects for the proposed demolition of seven buildings (four identified on 24 May 2011 and three additional buildings) at Hanscom AFB. Please contact me at 781-225-6142 or at [donald.morris@hanscom.af.mil](mailto:donald.morris@hanscom.af.mil) if you require additional information.

Sincerely,



DONALD C. MORRIS, PE  
Cultural Resources Manager

Attachments:

1. National Register Criteria Statement Form
2. Boundary Justification
3. Response to Comments

**9.2. Letter From Massachusetts Historical Commission, 17 January 2012**REC'D 23 FEB 12  
DEM

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

January 17, 2012

Donald C. Morris, PE  
 Cultural Resources Manager  
 Department of the Air Force  
 66 ABG/CEV  
 120 Grenier Street  
 Hanscom AFB, MA 01731-1910

RE: Air Force Research Laboratory (AFRL) Katahdin Hill, Demolition of Buildings B, 1103, B1104, B1115, B1116, B1125, B1126, & B1127, off Scott Road and Wright Street, Hanscom Air Force Base, Lexington, MA MHC# RC.50777

Dear Mr. Morris:

Thank you for your submission regarding the above referenced project, received January 17, 2012. The staff of the Massachusetts Historical Commission (MHC) has reviewed the information submitted and has the following comments.

This project previously proposed the demolition of Buildings B1115, B1116, B1125, and B1127. The MHC understands that the revised project now proposes demolition of Buildings B1126, B1104, and B1103 in addition to those previously proposed. These seven (7) buildings are located within an area on Hanscom Air Force Base (AFB) known as the Air Force Research Laboratory (AFRL) Historic District.

The AFRL Historic District is composed of the Air Force Cambridge Research Laboratory (AFCRL) Katahdin Hill and ARCL Phillips Laboratory, two relatively unaltered laboratory complexes which together present a significant entity of buildings and structures that are unified by common historical associations and inter-related functions. The MHC concurs with your opinion that these two areas together comprise a single larger district that meets the criteria of eligibility for listing in the National Register of Historic Places.

The MHC concurs with your finding that demolition of these structures will have an "adverse effect" (36 CFR 800.5(a)(2)(i)) to the AFRL Historic District. In order to resolve this adverse effect, the MHC looks forward to review of the Memorandum of Agreement (MOA) as proposed in your submission.

The MHC looks forward to continued consultation regarding these proposed demolitions. Additionally, the MHC looks forward to working with the Air Force on the proposed Programmatic Agreement (MA) to be developed under 36 CFR 800.14(b).

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966 (36 CFR 800). Please do not hesitate to contact Brandee Loughlin of my staff if you have any questions.

Sincerely,

Brona Simon  
 State Historic Preservation Officer  
 Executive Director

Massachusetts Historical Commission

cc: Lexington Historical Commission  
 Minute Man Hist  
 220 Morrissey Boulevard, Boston, Massachusetts 02125  
 (617) 727-8470 • Fax: (617) 727-5128  
 www.sec.state.ma.us/mhc

### 9.3. Letter to Lincoln Historical Commission, 8 March 2012

**DEPARTMENT OF THE AIR FORCE**HEADQUARTERS 88th AIR BASE GROUP (AFMC)  
HANSCOM AIR FORCE BASE MASSACHUSETTS

Mr. Donald C. Morris, PE  
66 ABG/CEV  
120 Grenier Street  
Hanscom AFB, MA 01731-1910

March 8, 2012

Ms. Lucretia H. Giese  
Chair, Lincoln Historical Commission  
16 Lincoln Road  
Lincoln, MA 01773

Re: Hanscom Air Force Base, Lexington, MA Air Force Cambridge Research Laboratory (AFCRL)  
Historic District Demolition of Buildings B1115, B1116 and 1125, off Scott Road and Wright Street

Dear Ms. Giese,

The U.S. Air Force proposes to demolish two contributing buildings and one non-contributing building in the Air Force Cambridge Research Laboratory (AFCRL) Historic District within Hanscom Air Force Base (AFB) in the town of Lexington, Massachusetts. In accordance with provisions of Section 106 of the National Historic Preservation Act and implementing regulations 36 CFR 800, the USAF is notifying the Lincoln Historical Commission of this proposed action to provide an opportunity for review and comment.

The AFCRL Historic District is located in the southeast section of Hanscom Air Force Base in the towns of Lexington and Lincoln, Massachusetts. The district consists of two adjacent areas. In the Katahdin Hill area, the majority of the buildings are 1-story, No-style, concrete block buildings with flat roofs that date from 1952 to 1990. Other buildings in the area are 1.5 or 2-story, No-style buildings. Many of the buildings are connected by covered passageways. The Phillips Laboratories buildings are multi-story, Modern-style reinforced and cast concrete buildings that date from 1954 and 1956 and were designed as a formalized arrangement on a level open site.

The Air Force has determined, and the Massachusetts State Historic Preservation Office has concurred in a letter dated January 17, 2012, that the Air Force Cambridge Research Laboratory (AFCRL) Katahdin Hill Historic District is eligible for listing in the National Register of Historic Places at a national level of significance as a highly intact complex that is exceptionally significant for its associations with Cold War defense research and development programs, and that the proposed demolition will result in an adverse effect to the historic district.

In 2005, the Base Realignment & Closure recommendations were approved by the Secretary of Defense. These recommendations included the relocation of the Air Force Research Laboratory (AFRL) from Hanscom AFB to Wright Patterson AFB, Dayton, Ohio and Kirtland AFB, Albuquerque, New Mexico. Since the AFRL was relocated from Hanscom AFB in September 2011, the Air Force is planning for reutilization of this area for Hanscom AFB activities.

It is an Air Force 2020 goal that Hanscom AFB reduces by 20% the cost of maintaining and operating facilities. In order to meet this goal, the Air Force has identified the demolition of the three referenced underutilized facilities in the Katahdin Hill section of the AFCRL Historic District. Additionally, a

recently completed evaluation by the Air Force Real Property Agency determined that none of the former AFRL facilities have commercial value or development potential. There are no prudent or feasible alternatives to demolition of these buildings. The buildings proposed for demolition are as follows:

1115 built 1952, contributing  
1116 built 1967, contributing  
1125 built 1993, noncontributing

Should you require additional information for your review, please contact me at 781-225-6142 or at [donald.morris@hanscom.af.mil](mailto:donald.morris@hanscom.af.mil).

Sincerely,



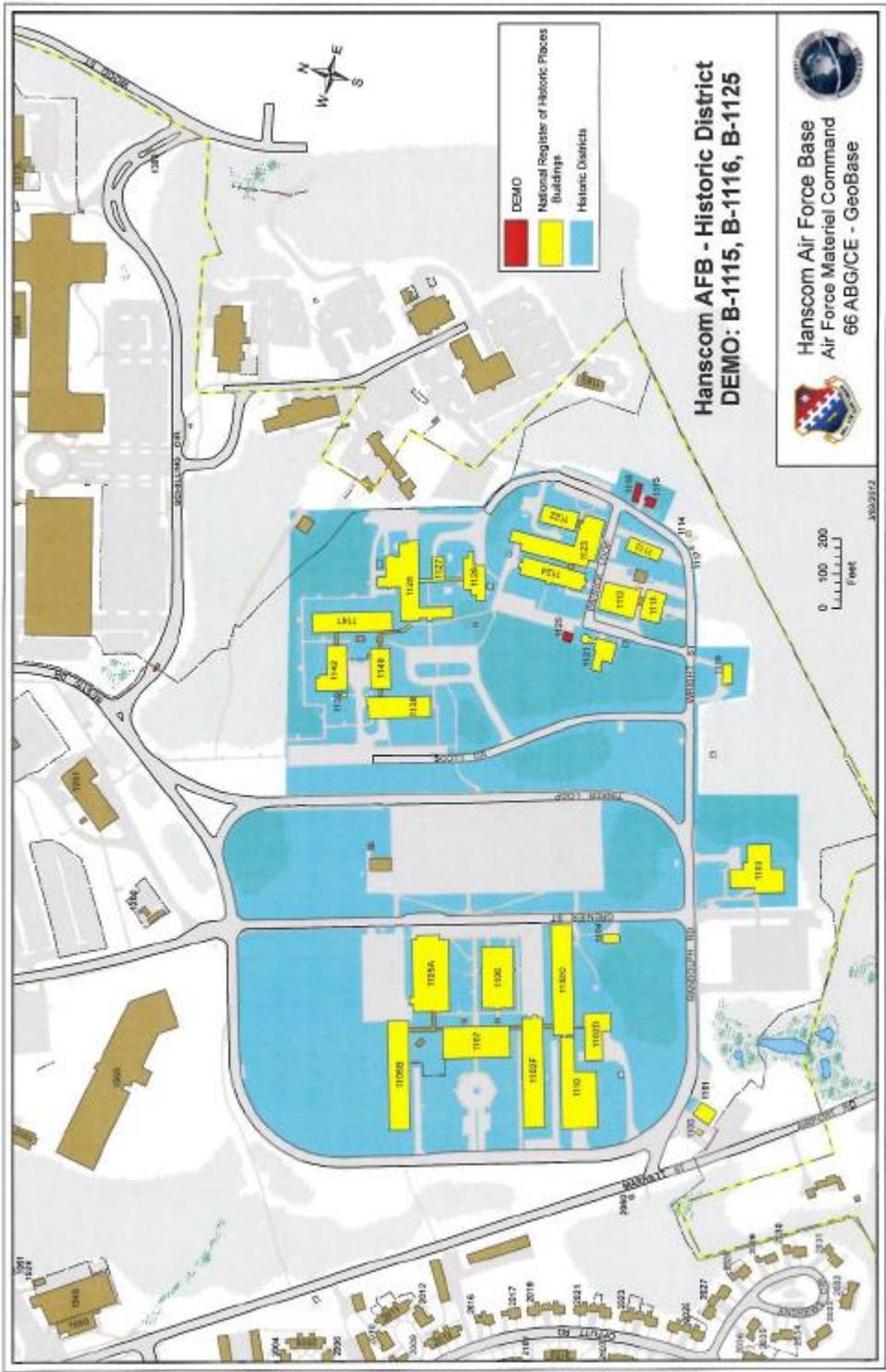
DONALD C. MORRIS, PE  
Cultural Resources Manager

Enclosures

1. AFCRL Historic District map, showing proposed demolition
2. SHPO letter of concurrence with Finding of Adverse Effect

cc:

Massachusetts Historical Commission  
Lexington Historical Commission  
Minute Man National Historical Park, Concord MA  
Air Force Material Command (AFMC) Cultural Resources Manager



**9.4. Letter to Lexington Historical Commission, 8 March 2012****DEPARTMENT OF THE AIR FORCE**  
HEADQUARTERS 68th AIR BASE GROUP (AFMG)  
HANSCOM AIR FORCE BASE MASSACHUSETTS

Mr. Donald C. Morris, PE  
66 ABG/CEV  
120 Grenier Street  
Hanscom AFB, MA 01731-1910

March 8, 2012

David Kelland, Chair  
Lexington Historical Commission  
1625 Massachusetts Ave.  
Lexington, MA 02420

Re: Hanscom Air Force Base, Lexington, MA Air Force Cambridge Research Laboratory (AFCRL)  
Historic District Demolition of Buildings B1115, B1116 and 1125, off Scott Road and Wright Street

Dear Mr. Kelland,

The U.S. Air Force proposes to demolish two contributing buildings and one non-contributing building in the Air Force Cambridge Research Laboratory (AFCRL) Historic District within Hanscom Air Force Base (AFB) in the town of Lexington, Massachusetts. In accordance with provisions of Section 106 of the National Historic Preservation Act and implementing regulations 36 CFR 800, the USAF is notifying the Lexington Historical Commission of this proposed action to provide an opportunity for review and comment.

The AFCRL Historic District is located in the southeast section of Hanscom Air Force Base in the towns of Lexington and Lincoln, Massachusetts. The district consists of two adjacent areas. In the Katahdin Hill area, the majority of the buildings are 1-story, No-style, concrete block buildings with flat roofs that date from 1952 to 1990. Other buildings in the area are 1.5 or 2-story, No-style buildings. Many of the buildings are connected by covered passageways. The Phillips Laboratories buildings are multi-story, Modern-style reinforced and cast concrete buildings that date from 1954 and 1956 and were designed as a formalized arrangement on a level open site.

The Air Force has determined, and the Massachusetts State Historic Preservation Office has concurred in a letter dated January 17, 2012, that the Air Force Cambridge Research Laboratory (AFCRL) Katahdin Hill Historic District is eligible for listing in the National Register of Historic Places at a national level of significance as a highly intact complex that is exceptionally significant for its associations with Cold War defense research and development programs, and that the proposed demolition will result in an adverse effect to the historic district.

In 2005, the Base Realignment & Closure recommendations were approved by the Secretary of Defense. These recommendations included the relocation of the Air Force Research Laboratory (AFRL) from Hanscom AFB to Wright Patterson AFB, Dayton, Ohio and Kirtland AFB, Albuquerque, New Mexico. Since the AFRL was relocated from Hanscom AFB in September 2011, the Air Force is planning for reutilization of this area for Hanscom AFB activities.

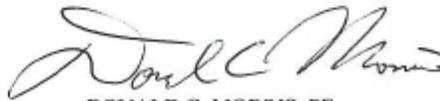
It is an Air Force 2020 goal that Hanscom AFB reduces by 20% the cost of maintaining and operating facilities. In order to meet this goal, the Air Force has identified the demolition of the three referenced underutilized facilities in the Katahdin Hill section of the AFCRL Historic District. Additionally, a

recently completed evaluation by the Air Force Real Property Agency determined that none of the former AFRL facilities have commercial value or development potential. There are no prudent or feasible alternatives to demolition of these buildings. The buildings proposed for demolition are as follows:

1115 built 1952, contributing  
1116 built 1967, contributing  
1125 built 1993, noncontributing

Should you require additional information for your review, please contact me at 781-225-6142 or at [donald.morris@hanscom.af.mil](mailto:donald.morris@hanscom.af.mil).

Sincerely,



DONALD C. MORRIS, PE  
Cultural Resources Manager

Enclosures

1. AFCRL Historic District map, showing proposed demolition
2. SHPO letter of concurrence with Finding of Adverse Effect

cc:

Massachusetts Historical Commission  
Minute Man National Historical Park, Concord MA  
Lincoln Massachusetts Historical Commission  
Air Force Material Command (AFMC) Cultural Resources Manager

**9.5. Letter To the Advisory Council on Historic Preservation, 12 March 2012****DEPARTMENT OF THE AIR FORCE**  
HEADQUARTERS 66th AIR BASE GROUP (AFMG)  
HANSCOM AIR FORCE BASE MASSACHUSETTS

Mr. Donald C. Morris, PE  
66 ABG/CEV  
120 Grenier Street  
Hanscom AFB, MA 01731-1910

March 12, 2012

John M. Fowler, Executive Director  
Advisory Council on Historic Preservation  
Old Post Office Building  
1100 Pennsylvania Avenue, NW, Suite 803  
Washington, DC 20004

Re: Hanscom Air Force Base, Lexington, MA Air Force Cambridge Research Laboratory (AFCRL) Historic District  
Demolition of Buildings B1115, B1116, 1125, off Scott Road and Wright Street

Dear Mr. Fowler,

The U.S. Air Force (Air Force) proposes to demolish two contributing buildings and one non-contributing building in the Air Force Cambridge Research Laboratory (AFCRL) Historic District within Hanscom Air Force Base (AFB) in the town of Lexington, Massachusetts. In accordance with provisions of Section 106 of the National Historic Preservation Act and implementing regulations 36 CFR 800.5, the USAF is providing this letter to the Advisory Council on Historic Preservation (ACHP) as notification that this undertaking will have an adverse effect on historic properties.

The AFCRL Historic District is located in the southeast section of Hanscom Air Force Base in the towns of Lexington and Lincoln, Massachusetts. The district consists of two adjacent areas. In the Katahdin Hill area, the majority of the buildings are 1-story, No-style, concrete block buildings with flat roofs that date from 1952 to 1990. Other buildings in the area are 1.5 or 2-story, No-style buildings. Many of the buildings are connected by covered passageways. The Phillips Laboratories buildings are multi-story, Modern-style reinforced and cast concrete buildings that date from 1954 and 1956 and were designed as a formalized arrangement on a level open site.

The Air Force has determined, and the Massachusetts State Historic Preservation Office has concurred in a letter dated January 17, 2012, that the Air Force Cambridge Research Laboratory (AFCRL) Katahdin Hill Historic District is eligible for listing in the National Register of Historic Places at a national level of significance as a highly intact complex that is exceptionally significant for its associations with Cold War defense research and development programs, and that the proposed demolition will result in an adverse effect to the historic district.

In 2005, the Base Realignment & Closure recommendations were approved by the Secretary of Defense. These recommendations included the relocation of the Air Force Research Laboratory (AFRL) from Hanscom AFB to Wright Patterson AFB, Dayton, Ohio and Kirtland AFB, Albuquerque, New Mexico. Since the AFRL was relocated from Hanscom AFB in September 2011, the Air Force is planning for re-utilization of this area for Hanscom AFB activities.

It is an Air Force 2020 goal that Hanscom AFB reduces by 20% the cost of maintaining and operating facilities. In order to meet this goal, the Air Force has identified the demolition of the three referenced underutilized facilities in the Katahdin Hill section of the AFCRL Historic District. Additionally, a recently completed evaluation by the Air Force Real Property Agency determined that none of the former AFRL facilities have commercial value or development potential. There are no prudent or feasible alternatives to demolition of these buildings. The buildings proposed for demolition are as follows:

1115	built 1952, contributing
1116	built 1967, contributing
1125	built 1993, noncontributing

The Air Force has solicited the comments of the National Park Service at the adjacent Minute Man National Historical Park in a letter dated 24 May 2011, the Lexington Historical Commission in a letter dated 8 March 2012 and the Lincoln Historical Commission in a letter dated 8 March 2012. To date, no responses have been received.

Through consultation with the MA SHPO, the Air Force is developing a Memorandum of Agreement specifying the future actions we will implement to mitigate the adverse effects of demolition of the three contributing buildings. We have prepared a draft MOA which proposes that the basis for the mitigation of the adverse effects of this undertaking will include the following measures:

- Produce archival photographic documentation of the buildings prior to demolition.
- Any future new construction on the site of the buildings to be demolished will be compatible with the historic architectural character of the area, and the MA SHPO will be provided an opportunity to review and comment on the proposed design.

In addition, the Air Force also recognizes its responsibilities under Section 110 of the National Historic Preservation Act for the long-term oversight of the National Register-eligible AFCRL Historic District. In order to meet those responsibilities, the Air Force intends to prepare and enter into a Programmatic Agreement (PA) developed under 36 CFR 800.14(b) with the ACHP and the MA SHPO that outlines the approach and process the Air Force will follow for ongoing maintenance and repair, new construction, potential demolition, and other activities within the district. The policies and procedures will be in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

The Air Force is requesting that the ACHP review the information outlined in this letter, and the attached documentation, for the purposes of determining if the Council wishes to join the consultation process for this undertaking. If the ACHP chooses to participate, the Air Force would appreciate a response within 15 days of receipt of this notice. Should you require additional information, please contact me at 781-225-6142 or at [donald.morris@hanscom.af.mil](mailto:donald.morris@hanscom.af.mil).

Sincerely,



DONALD C. MORRIS, PE  
Cultural Resources Manager

Enclosures:

1. AFCRL Historic District map, showing proposed demolitions
2. SHPO letter of concurrence with Finding of Adverse Effect

cc:

Massachusetts Historical Commission  
Minute Man National Historical Park, Concord MA  
Lexington Massachusetts Historical Commission  
Lincoln Massachusetts Historical Commission  
Air Force Material Command (AFMC) Cultural Resources Manager

**9.6. Letter To MHC Proposing Memorandum of Agreement, 20 March 2012**

DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 66th AIR BASE GROUP (AFMG)  
HANSCOM AIR FORCE BASE MASSACHUSETTS

Mr. Donald C. Morris, PE  
66 ABG/CEV  
120 Grenier Street  
Hanscom AFB, MA 01731-1910

March 20, 2012

Ms. Brona Simon  
Commonwealth of Massachusetts  
Executive Director  
Massachusetts Historical Commission  
220 Morrissey Boulevard  
Boston, MA 02125

Dear Ms. Simon

RE: MHC # RC.50777; Air Force Cambridge Research Laboratory (AFCRL) Historic District  
Demolition of Buildings B1115, B1116, B1125, and B1127, off Scott Road and Wright Street, Hanscom Air  
Force Base, Lexington, MA Memorandum of Agreement

Thank you for your letter of January 17, 2012 concurring with the U.S. Air Force's determination of National Register of Historic Places eligibility for the Air Force Cambridge Research Laboratory (AFCRL) Historic District and the Section 106 finding of adverse effect (36 CFR 800.5(a) (2) (i)) for the proposed demolition of Buildings B1115, B1116, B1125, and B1127 in the Katahdin Hill section of the historic district.

In order to resolve this adverse effect, the Air Force has prepared a Memorandum of Agreement (MOA) between the Air Force and the Massachusetts State Historic Preservation Office (SHPO) / Massachusetts Historical Commission (MHC). The MOA stipulates that the Air Force will complete a state-level archival photographic documentation of the three contributing buildings (B1115, B1116, and B1127) and will provide the SHPO an opportunity to comment on plans for any new construction on or near the sites of Buildings B1115, B1116, B1125, and B1127. The Air Force requests that the SHPO review the MOA and, if you are in agreement with its terms and language, please sign two copies and return them to this office. If you have any comments and would like revisions made to the MOA, please let me know.

The National Park Service at Minute Man National Historical Park, the Advisory Council on Historic Preservation, and the Lexington and Lincoln Historical Commissions have been notified about the proposed undertaking.

Please contact me at 781-225-6142 or at [donald.morris@hanscom.af.mil](mailto:donald.morris@hanscom.af.mil) if you require additional information.

Sincerely,

DONALD C. MORRIS, PE  
Cultural Resources Manager

Attachment:  
Memorandum of Agreement

**9.7. Proposed MOA**

**MEMORANDUM OF AGREEMENT  
BETWEEN THE  
UNITED STATES AIR FORCE  
AND THE  
MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER  
REGARDING THE DEMOLITION OF BUILDINGS  
B1115, B1116, B1125, AND B1127  
HANSCOM AIR FORCE BASE  
LEXINGTON, MASSACHUSETTS**

**WHEREAS**, the U.S. Department of Defense, United States Air Force (USAF) plans to carry out demolition of Buildings B1115, B1116, B1125, and B1127 in the Katahdin Hill area at Hanscom Air Force Base (AFB) in Lexington, Massachusetts, as a result of the 2005 Base Realignment and Closure that included relocation of the Air Force Cambridge Research Laboratory from Hanscom AFB to Wright Patterson AFB in Dayton, OH and the subsequent Air Force 2020 goal to reduce by 20 percent the cost of maintaining and operating under-utilized facilities; and

**WHEREAS**, the USAF has determined that the undertaking will have an adverse effect on the Air Force Cambridge Research Laboratory Historic District (AFCRL Historic District), which is eligible for listing in the National Register of Historic Places, and has consulted with the Massachusetts State Historic Preservation Officer (MA SHPO) pursuant to 36 CFR § 800, of the regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. § 470.f); and

**WHEREAS**, the USAF has consulted with the National Park Service at the Minute Man National Historical Park, which is 400 feet from the nearest building and is not visible from the AFCRL Historic District; and

**WHEREAS**, the USAF has notified the Lexington Historical Commission and the Lincoln Historical Commission regarding the proposed action and the effects of the undertaking on historic properties; and

**WHEREAS**, in accordance with 36 CFR § 800.6(a)(1), the USAF has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii);

**NOW, THEREFORE**, the USAF and the MA SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

## STIPULATIONS

The USAF shall ensure that the following measures are carried out:

### I. ARCHIVAL PHOTOGRAPHIC DOCUMENTATION

(a) Prior to any demolition or construction activities associated with the project, the USAF shall ensure that a qualified historic preservation consultant prepares archival photographic documentation of the contributing Buildings B1115 (built 1952), B1116 (built 1967), and B1127 (built 1963). B1125, built in 1993, is noncontributing structure and does not require documentation. The documentation shall include printed digital photographs, a DVD-R, and technical documentation prepared according to the MA SHPO's *Photographic Documentation Technical Requirements for Digital Images*. The scope of the photographic documentation will be developed in consultation with the MA SHPO. All documentation shall be enclosed in suitable archival-quality enclosures within an archival-quality box.

(b) Unless otherwise agreed to by the MA SHPO, the USAF will ensure that all documentation is completed and accepted by the MA SHPO for subsequent transmittal to the Massachusetts State Archives prior to the commencement of demolition activities and that a copy of this documentation is provided to a local repository identified by the MA SHPO.

(c) The USAF will maintain a non-archival copy in the History Office at Hanscom AFB. The USAF will endeavor to identify a regional federal archival facility that will accept and curate an archival copy of the documentation and, if one is identified, will provide an archival copy to that office.

### II. FUTURE NEW CONSTRUCTION

If and when any new construction is proposed in the future on or adjacent to the site of Buildings B1115, B1116, B1125, and B1127, the USAF will provide the MA SHPO an opportunity to review the design plans. The design and siting of any new building or structure will relate to the surrounding character of the Katahdin Hill area of the AFCRL Historic District.

### III. ADMINISTRATIVE PROVISIONS

#### Dispute Resolution

If at any time during the implementation of this Memorandum of Agreement (MOA), the USAF or the MA SHPO objects to any actions proposed or the manner in which the terms of this MOA are implemented and cannot resolve the issue between them, they shall consult in order to resolve the objection. If such objection(s) cannot be resolved, the USAF will forward all documentation relevant to the dispute to the

ACHP. Within 30 days after receipt of all pertinent documentation, the ACHP will either:

- Provide the USAF with recommendations, which USAF will take into account in reaching a final decision regarding the dispute; or
- Notify the USAF that it will comment pursuant to 36 CFR Section 800.7(b) and Section 110(1) of the National Historic Preservation Act and then proceed to comment. Any ACHP comment provided in response to such a request will be taken into account by the USAF in accordance with 36 CFR Section 800.6(a)(1)(C)(ii) with reference to the subject of the dispute.

If the ACHP does not provide comments regarding the dispute within 30 days after receipt of adequate documentation, the USAF may render a decision regarding the dispute. In reaching its decision, the USAF will take into account all comments regarding the dispute from the parties to the MOA.

Any recommendation or comment provided by the ACHP will be understood to pertain only to the subject of the dispute; USAF's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

The USAF will notify all parties of its decision in writing before implementation of that portion of the undertaking that was subject to dispute. The USAF's decision will be final.

#### Amendments and Noncompliance

Any signatory to this MOA who determines that its terms will not or cannot be carried out or that an amendment to its terms must be made, that party shall immediately consult with the other signatories to the agreement to develop an amendment to this MOA pursuant to 36 CFR §§ 800.6(c)(7) and 800.6(c)(8). The amendment will be effective on the date a copy signed by all of the original signatories is filed with the ACHP. If the signatories cannot agree to appropriate terms to amend the MOA, any signatory may terminate the agreement in accordance with stipulation below regarding duration.

#### Termination

If an MOA is not amended following the consultation set out in this stipulation, it may be terminated by any signatory. Within 30 days following termination, the USAF shall notify the signatories if it will initiate consultation to execute an MOA with the signatories under 36 CFR § 800.6(c)(1) or request the comments of the ACHP under 36 CFR § 800.7(a) and proceed accordingly.

Duration

If the terms of this MOA have not been implemented by December 30, 2014, this MOA shall be considered null and void. In such event, the USAF shall so notify the parties to this MOA, and if it chooses to continue with the undertaking, shall reinitiate review of the undertaking in accordance with 36 CFR § 800.

Execution of this MOA by the USAF and the MA SHPO and implementation of its terms evidences that the USAF has afforded the ACHP an opportunity to comment on the proposed demolition of Buildings B1115, B1116, B1125, and B1127 at Hanscom Air Force Base and its effects on historic properties and that the USAF has taken into account the effects of the undertaking on historic properties.

**MEMORANDUM OF AGREEMENT  
BETWEEN  
UNITED STATES AIR FORCE  
AND THE  
MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER  
REGARDING THE DEMOLITION OF BUILDINGS  
B1115, B1116, B1125, AND B1127  
HANSCOM AIR FORCE BASE  
LEXINGTON, MASSACHUSETTS**

**UNITED STATES AIR FORCE**

By: \_\_\_\_\_ Date: \_\_\_\_\_  
Stacy L. Yike, Col, USAF, Installation Commander  
Commander, 66th Air Base Group

**MEMORANDUM OF AGREEMENT  
BETWEEN  
UNITED STATES AIR FORCE  
AND THE  
MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER  
REGARDING THE DEMOLITION OF BUILDINGS  
B1115, B1116, B1125, AND B1127  
HANSCOM AIR FORCE BASE  
LEXINGTON, MASSACHUSETTS**

**MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICE/  
HISTORICAL COMMISSION**

By: \_\_\_\_\_ Date: \_\_\_\_\_  
Brona Simon, Executive Director  
Massachusetts State Historic Preservation Officer

**9.8. Letter to MHC, Archival Photographic Package, 11 April 2012****DEPARTMENT OF THE AIR FORCE**  
HEADQUARTERS 66th AIR BASE GROUP (AFMG)  
HANSCOM AIR FORCE BASE MASSACHUSETTS

Mr. Donald C. Morris, PE  
66 ABG/CEV  
120 Grenier Street  
Hanscom AFB, MA 01731-1910

11 April 2012

Ms. Brona Simon  
Commonwealth of Massachusetts  
Executive Director  
Massachusetts Historical Commission  
220 Morrissey Boulevard  
Boston, MA 02125

Dear Ms. Simon

RE: MHC # RC.50777; Air Force Research Laboratory (AFRL) Historic District Demolition of Buildings B1115, B1116, B1125, and B1127, off Scott Road and Wright Street, Hanscom Air Force Base, Lexington, MA Archival Photographic Documentation United States Air Force Cambridge Research Laboratories Historic District Building Nos. 1115, 1116, and 1127

This letter transmits the *Archival Photographic Documentation of the United States Air Force Cambridge Research Laboratories Historic District, Building Nos. 1115, 1116, and 1127* prepared under the terms of the Section 106 Memorandum of Agreement (MOA) between the US Air Force (Air Force) and the Massachusetts State Historic Preservation Officer/Massachusetts Historical Commission (MHC) for the above-referenced demolition of Buildings B1115, B1116, B1125 (non-historic), and B1127. The documentation was prepared by our cultural resources consultant, PAL (The Public Archaeology Laboratory, Inc.), and will be delivered to the MHC under separate cover by PAL.

The documentation consists of the following materials:

- One (1) archival package of photographic prints, accompanying title page, key to photographs (map), index to photographs (captions), and MHC photo submission form, along with one DVD-R with electronic images, and a compiled PDF of the documentation package suitable for printing and binding, for delivery to the MHC to transmit to the State Archives; and

Following acceptance of the documentation package by the MHC, the Air Force will send one (1) archival package of photographic prints, one archival unbound hard copy of the photographic documentation, and one duplicate of the State Archives DVD-R to a suitable Air Force repository, once one is identified. The Air Force will also transmit a similar package to the Lexington Historical Commission to be archived in a town facility.

If you have any comments on the documentation, please let me know within 30 days. The Air Force appreciates your assistance with the completion of Section 106 consultation for the proposed undertaking. Please contact me at 781-225-6142 or at [donald.morris@hanscom.af.mil](mailto:donald.morris@hanscom.af.mil) if you require additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Donald C. Morris".

DONALD C. MORRIS, PE  
Cultural Resources Manager

Attachments:  
1. Archival Photographic Documentation (separate cover)

## Section 10. General Conformity – Record of Non-Applicability

### GENERAL CONFORMITY - RECORD OF NON-APPLICABILITY

<b>Project / Action Name:</b>	Hanscom Air Force Base – Demo Buildings 1115, 1116, and 1125
<b>Begin Date:</b> 7/2012	<b>End Date:</b> 10/2012

General Conformity under the Clean Air Act, Section 176(c), has been evaluated for the project described above according to the requirements of 40 CFR 93, Subpart B. The requirements of this rule are not applicable to this proposed project/action because the total direct and indirect emissions in tons per year (tpy) for the applicable pollutants of concern (i.e., NO<sub>x</sub> and VOC) for the year showing the highest emissions have been estimated to be:

2012 Emission Summary	VOC (tpy)	NO <sub>x</sub> (tpy)
Construction Phase	0.126	0.630
Operational Phase	-0.0003	-0.0125
<b>TOTAL</b>	0.126	0.618

These emission rates are below the conformity threshold values established in 40 CFR 93.153(b) of:

Conformity Threshold Rate:	
VOC	50 tpy
NO <sub>x</sub>	100 tpy

In addition, the project/action is not considered regionally significant under 40 CFR 93.153(i), as the estimated emissions, using reasonable and conservative assumptions, are significantly less than 10% of the regional emissions. Therefore, a conformity determination is not required.

Supporting documentation and emissions estimates for the project/action (i.e., construction/renovation and operational phases) are attached and included in the NEPA documentation.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

## SUPPORTING DOCUMENTATION

**Description of Project / Action:**

Hanscom Air Force Base (AFB) proposes to demolish the existing Buildings 1115, 1116, and 1125 in the area formerly occupied by Air Force Research Laboratories (AFRL). The proposed action includes the demolition of three single story buildings totaling less than 1,700 SF with the entire project area totaling less than 8,000 SF.

The proposed action is to demolish Buildings 1115, 1116, and 1125 on Hanscom AFB. Building 1115 is a 496 SF structure which was constructed in 1952. The main portion of the building is a single story, reinforced concrete, concrete block, and brick structure with a wood entry. Building 1116, constructed in 1967, is a 999 SF, single story, timber, half-barrel structure supported by a reinforced concrete foundation. Building 1125, constructed in 1993, is a 200 SF, single story, timber structure supported by a reinforced concrete foundation. None of these buildings have been occupied since 2010, and heat service was discontinued to these buildings in July 2011.

Restoration activities include removal of subsurface utilities, removal of existing sidewalks and foundations, replacing a small amount of bituminous concrete, spreading topsoil and seeding former building footprints. Former building locations are intended to be maintained in the future as grassed areas.

**Methodology:**

The General Conformity Applicability Analysis was conducted using the methodology outlined in the appropriate Department of Defense general conformity guidance documents (USAF, 2003). A record of Non-Applicability (RONA) was prepared since the NO<sub>x</sub> and VOC emissions are less than the General Conformity *de minimus* thresholds and are not considered to be regionally significant.

Calculations were performed using an excel spreadsheet that used EPA approved emission factors (USEPA, 1991). The spreadsheet quantified emissions from site demolition, grading, paving, and heavy equipment used for all related construction activities, and POVs used to transport workers to/from the site for the estimated duration of the project. Since this project involves demolition of existing structures with no future structures planned, no stationary emission sources are anticipated for post construction conditions. Emissions from previous stationary sources were quantified by using fuel oil consumption from the last full year of use (CY 2010). Building 1116 was heated by electric space heaters and Building 1125 was not heated, therefore no pre-demolition emissions from stationary sources are quantified. Building 1115 was heated by a #2 fuel oil fired boiler and pre demolition emissions are estimated based on CY2010 fuel usage records. This was performed by using an Excel spreadsheet utilizing information from the aforementioned EPA document, as well as from EPAs AP42 emission factor document (USEPA, 1995).

Since it is unclear what the staffing levels for these buildings were in the recent past, no emissions reductions are claimed from discontinuing commuter trips of former workers.

Emission reductions from former stationary sources (boiler at Bldg. 1115) will continue beyond the project period assuming that the former building site(s) remain vacant.

**Input Parameters and Assumptions:**

Project specific parameters were used or assumed for the proposed project. Although the exact means and methods of construction would be the responsibility of the contractor, it was necessary to make certain assumptions, such as the quantity and type of construction vehicles, to estimate emissions. When possible, conservative assumptions were made.

*Construction Activities:*

The entire project area would be approximately 8,000 square feet including the area currently occupying buildings 1115, 1116 and 1125. This demolition project, including removal of subsurface utilities, hazardous material abatement and site restoration, was assumed to be 90 days in duration. Other parameters and assumptions were made for the following related activities:

Heavy Construction Equipment

This includes emissions from heavy construction equipment involved in demolition, utility removal and site restoration activities, excavation, foundation removal soil movement, debris hauling and asphalt paving. Although estimation is required, estimates of type and number of equipment is conservative based on small footprint of the overall project and relatively simple demolition activities, not requiring phasing or temporary facilities. Equipment was conservatively assumed to run for 8 hours per day for the full 63 working days of the project. The only exception was paving equipment, which was assumed to run for 8 hours per day for 5 days due to the limited paving required for this project.

Construction Employee Travel

It was estimated that an average of 4 contractors would be required to be on-site every day, five days a week for the full project duration of 90 days. No overtime or off shift work was assumed so 21 working days per month for three months (63 total working days) was assumed. Although the employees may not be the same throughout the project (i.e. hazardous material abatement contractors will not be the same employees used during demolition or site restoration activities) little to no overlap was assumed. The assumption of 4 employees on site at any given time is a reasonably expected level of activity. To obtain worst case emissions, no carpooling or public transportation was assumed (i.e., every contractor drove individual POV). It was assumed that half of the contractors drove gasoline engine passenger vehicles, while the other half drove gasoline engine trucks (GVW >6,000 lbs).

Operational Activities:

## Stationary Emission Sources

All existing stationary emission sources (i.e. heating units) will be removed during demolition activities. To obtain worst case pre-demolition emissions, no low NOx controls were assumed. Calculated emissions from Building 1115 are based on actual fuel oil usage from 2010 (1,253 gallons).

**Results:**

Estimated calculations based on the estimated VOC and NOx emissions, using conservative and reasonable assumptions, show that the total project emissions are well below the regulatory thresholds of 50 tpy and 100 tpy, respectively.

Year	Phase	Emissions				
		VOC	NOx	CO	SO2	PM
2012	Demolition	0.604	2.906	9.460	1.163	2.370
	Operational (reduction)	0.000	0.000	0.000	0.000	0.000
	<b>Total 2012 Project Emissions</b>	<b>0.604</b>	<b>2.906</b>	<b>9.460</b>	<b>1.163</b>	<b>2.370</b>

**Regional Significance**

An action is regionally significant if the total direct and indirect emissions of an individual pollutant amount to 10 percent or more of the non-attainment area emissions of that pollutant. Table E1-1 of the Commonwealth of Massachusetts State Implementation Plan (SIP) for the ozone non-attainment area (MADEP, 2008) shows the total area-wide emissions to be as follows:

VOC 540.3 tons/day

NOx 475.2 tons/day

The total emissions from the project were estimated to be significantly less than 10 percent of the area-wide emissions as described in the applicable SIP.

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## Section 11. List of Preparers

The Environmental Office (66ABG/CEV) prepared this document to fulfill the requirements of the National Environmental Policy Act (NEPA) for the proposed action to demolish Buildings 1115, 1116, and 1125. The following persons authored and provided direct oversight for the preparation of this environmental assessment:

### MANAGEMENT

Donald C. Morris, P.E., 66 ABG/CE. B.S. in Civil Engineering; As the Environmental Director, provided technical review and oversight for preparation of this environmental assessment.

### TASK LEADER

Maravelias, James. Portage, Inc. A.L.M. in Sustainability and Environmental Management; As a Senior Project Scientist with broad experience in the management and regulation of hazardous waste and the U.S. Air Force Environmental Impact Analysis Process (EIAP), managed the preparation and was the primary author of this environmental assessment.

### QUALITY ASSURANCE LEADER

Cravedi, Gregory. 66 ABG/CE. B.S. in Management; As an Environmental Protection Specialist, assisted in historical research, site assessment, and provided technical review of this environmental assessment.

### CONTRIBUTING AUTHORS

Best, Thomas. 66 ABG/CE. B.S. in Civil Engineering; As the Environmental Restoration Program manager, assisted in historical research and site assessment for this environmental assessment.

Campbell, Ian. Portage, Inc. B.S. in Environmental Studies; As a Senior Project Scientist with broad experience in environmental compliance and air quality permitting, provided input to selected sections of this environmental assessment.

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Spelfogel, Robert. 66 ABG/CE. M.S. in Environmental Engineering; As the Environmental Compliance Program Manager, assisted in review of various environmental protocols for this environmental assessment.

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