CHAPTER 8 – DEVELOPMENT AND EVALUATION OF ALTERNATIVES

Chapter 5 identified the Airport's facility improvement requirements. Often there is more than one way to design and implement a recommended facility improvement. This chapter documents a select number of alternative ways to implement the major facility improvements recommended in Chapter 5. The following recommended improvement projects have no alternative (other than a No-Build Alternative), and are therefore considered to be part of the Preferred Alternative. These improvements are not analyzed as part of this chapter:

- Property Acquisitions
- Taxiway 'A' Relocation
- Apron Expansion
- AWOS Relocation
- Deicing Area Designation
- Airport Access Road Construction
- Supplemental SRE Storage Building
- Fencing Reconfigurations
- Vegetation Removal
- Lighted Windcone Relocation
- ATCT Relocation

8.1 METHODOLOGY

Airport Management and the Master Plan Committee developed and evaluated several facility improvement options designed to meet the needs of the Airport, its users, and the local community based on projected demand forecasted through the planning period. Each of these facility improvement options is described in the subsequent sections of this chapter. The evaluation of options first presents a no-build scenario to identify the practical and environmental impacts of leaving the airport and its facilities in their current configuration. Next, the evaluation presents facility improvement options, which assess development projects and identify the practical impacts, environmental impacts, and costs associated with each (capital costs only). As previously mentioned, where no additional options other than a No-Build scenario exists, those improvements (i.e., shifting Taxiway 'A', relocating the AWOS, routine maintenance of facilities, etc.) are considered part of the Preferred Alterative and outlined on Figure 8-1-Preferred Alternative.

The State of New Hampshire, Department of Environmental Services (NHDES) requires an Alternation of Terrain (AOT) Permit whenever a project proposes to disturb more than 100,000 square feet of contiguous terrain (50,000 square feet, if any portion of the project is within the protected shoreland), or disturbs an area having a grade of 25 percent or greater within 50 feet of any surface water. Due to the variability of project types and scopes, permitting costs can vary drastically depending on the size of the impact, location, resources affected, etc. Therefore, permitting costs will be assessed as projects are implemented. This will require coordination with the agencies responsible for oversight of natural and cultural resources (U.S. Fish and Wildlife, NH Division of Historical Resources, NH Fish and Game, Nashua

NH Building Safety Department, etc.) to better understand each project's requirements, and in some cases reduction in permitting requirements, particularly for projects that are safety related (e.g., tree removal). Where permitting costs cannot be ascertained at this time, they are described as "variable" in the Alternatives below.

8.2 NO-BUILD OPTION

The No-Build Option presumes that no action will be taken to pursue development projects at the Airport over the planning period. For each development option presented in this Chapter, a No-Build Option scenario is included to show all the terminal facilities in their existing locations and configuration without enhancements or upgrades.

Objectives: The objective of this Option is to:

- Provide a baseline condition upon which to contrast and compare other alternative development concepts.

Considerations: The practical and environmental considerations in this Option are:

Practical Considerations

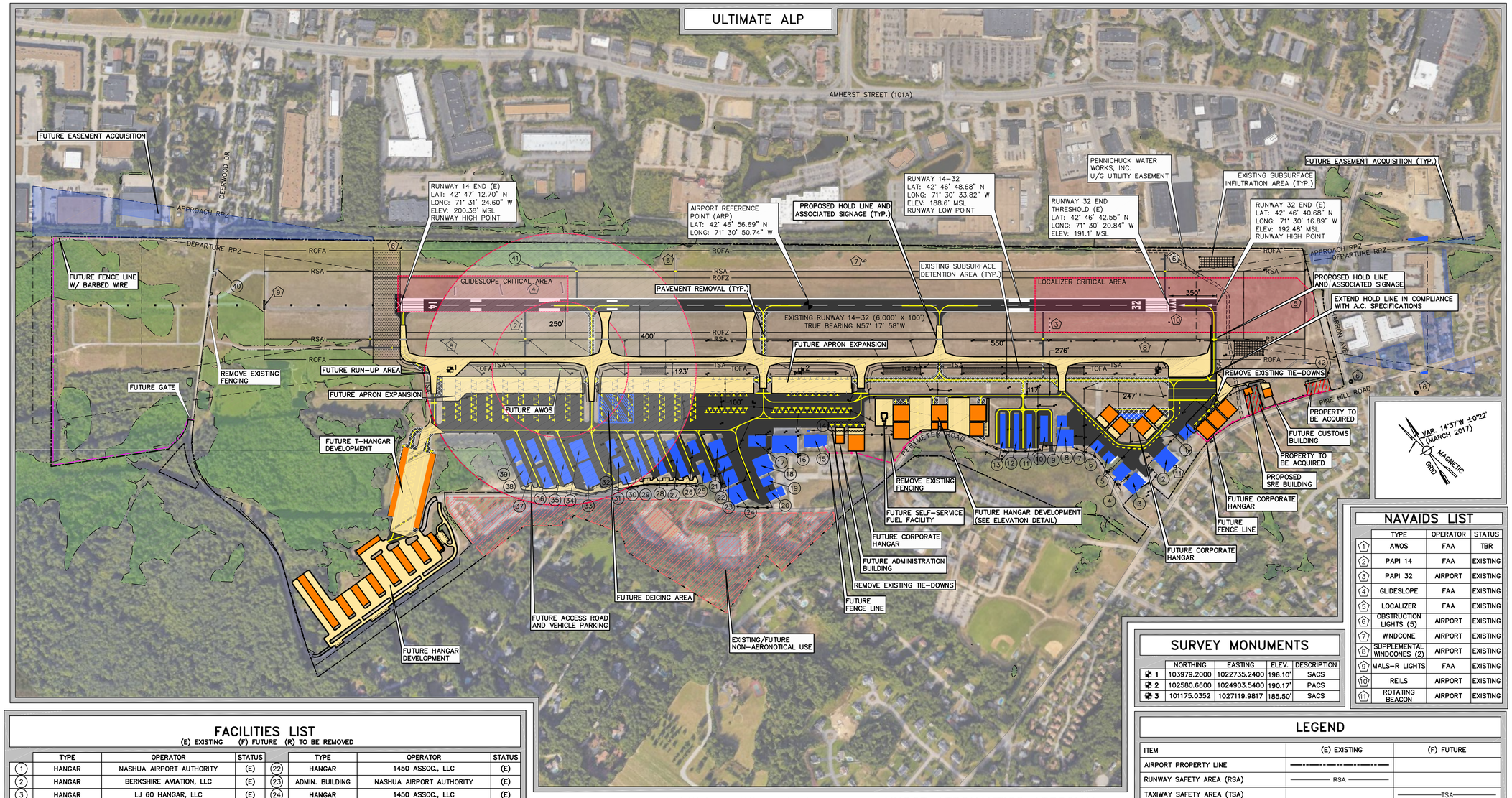
- Taxiway 'A' continues to exceed runway-to-taxiway separation requirements, thereby occupying prime airfield space and limiting the Airport's ability to expand apron facilities.
- The AWOS critical area remains obstructed by the ATCT and prevents future development of "Delta" Ramp, and other surrounding land.
- The Airport continues to lack the facility requirements and infrastructure necessary to offer deicing services to its users.
- The Airport continues to lack the facility requirements and infrastructure necessary to offer Customs and Border Patrol (CBP) services, therefore prohibiting ASH from accepting international flights.
- The Airport's administrative offices continue to lack adequate capacity and visibility, affecting its ability to accommodate airport management, aviation users, and the general public.
- The Airport is unable to accommodate forecasted hangar demand throughout the planning period, directly affecting the Airport's ability to increase revenue through land leases, hangar rentals, increased based aircraft, etc.
- Vehicle access and parking continues to be limited and disjointed.
- Vegetation continues to penetrate portions of Airport fencing.
- Airport signage on and off-airport remains very limited, inadequately assisting the public in navigating the variety of offices and businesses located at the Airport.

Environmental Considerations

- Since no construction activities are included as a part of this alternative, no impacts to historical or archaeological resources, rare species, or their habitats result from implementation of this alternative.

Estimated Cost: Since no construction is proposed as part of the No-Build Alternative, there are no capital costs associated with the implementation of this alternative. Conversely, the Airport's ability to increase economic sustainability through service improvements and/or marketing and land-development strategies may be affected the lack of growth.

ULTIMATE ALP



NAVAIDS LIST

	TYPE	OPERATOR	STATUS
1	AWOS	FAA	TBR
2	PAPI 14	FAA	EXISTING
3	PAPI 32	AIRPORT	EXISTING
4	GLIDESLOPE	FAA	EXISTING
5	LOCALIZER	FAA	EXISTING
6	OBSTRUCTION LIGHTS (5)	AIRPORT	EXISTING
7	WINDCONE	AIRPORT	EXISTING
8	SUPPLEMENTAL WINDCONES (2)	AIRPORT	EXISTING
9	MALS-R LIGHTS	FAA	EXISTING
10	REILS	AIRPORT	EXISTING
11	ROTATING BEACON	AIRPORT	EXISTING

SURVEY MONUMENTS

	NORTHING	EASTING	ELEV.	DESCRIPTION
1	103979.2000	1022735.2400	196.10'	SACS
2	102580.6600	1024903.5400	190.17'	PACS
3	101175.0352	1027119.9817	185.50'	SACS

FACILITIES LIST

(E) EXISTING (F) FUTURE (R) TO BE REMOVED

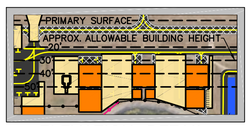
	TYPE	OPERATOR	STATUS		TYPE	OPERATOR	STATUS
1	HANGAR	NASHUA AIRPORT AUTHORITY	(E)	22	HANGAR	1450 ASSOC., LLC	(E)
2	HANGAR	BERKSHIRE AVIATION, LLC	(E)	23	ADMIN. BUILDING	NASHUA AIRPORT AUTHORITY	(E)
3	HANGAR	LJ 60 HANGAR, LLC	(E)	24	HANGAR	1450 ASSOC., LLC	(E)
4	HANGAR	OIA REAL ESTATE, LLC	(E)	25	HANGAR	STEIN REALTY, LLC	(E)
5	HANGAR	FREDRIC R. BOSWELL	(E)	26	HANGAR	STEIN REALTY, LLC	(E)
6	HANGAR	GEORGE GEORGES TRUST	(E)	27	HANGAR	BOIRE FLD CONDO III	(E)
7	HANGAR	JAMES TAMPOSI	(E)(R)	28	HANGAR	BOIRE FLD CONDO I	(E)
8	HANGAR	MDL CONSULTING ASSOC., LLC	(E)	29	HANGAR	BOIRE FLD CONDO II	(E)
9	HANGAR	DIAMOND M. INVESTMENT PROP., LLC	(E)	30	HANGAR	MACAIR	(E)
10	HANGAR	NASHUA AVIATION ASSOC. II	(E)	31	HANGAR	MACAIR	(E)
11	HANGAR	NASHUA AVIATION ASSOC. III	(E)	32	HANGAR	BOIRE PROPERTIES, LLC	(E)
12	HANGAR	1439 ASSOCIATES	(E)	33	HANGAR	BOIRE PROPERTIES, LLC	(E)
13	HANGAR	MACAIR	(E)	34	HANGAR	BOIRE PROPERTIES, LLC	(E)
14	ELECTRICAL VAULT	NASHUA AIRPORT	(E)	35	HANGAR	121 CONDO ASSOC.	(E)
15	ATCT BUILDING	SNHU	(E)	36	HANGAR	MACAIR	(E)
16	HANGAR	MACAIR	(E)	37	HANGAR	MACAIR	(E)
17	HANGAR	NASHUA JET AVIATION	(E)	38	HANGAR	127-129 HANGAR ASSOC.	(E)
18	BUILDING	SNHU	(E)	39	HANGAR	127-129 HANGAR ASSOC.	(E)
19	BUILDING	MACAIR	(E)	40	MALSR SHED	FAA	(E)
20	BUILDING	MACAIR	(E)	41	GLIDESLOPE SHED	FAA	(E)
21	HANGAR	1450 ASSOC., LLC	(E)	42	LOCALIZER SHED	FAA	(E)

LEGEND

ITEM	(E) EXISTING	(F) FUTURE
AIRPORT PROPERTY LINE		
RUNWAY SAFETY AREA (RSA)	RSA	
TAXIWAY SAFETY AREA (TSA)		TSA
RUNWAY OBSTACLE FREE ZONE (ROFZ)	ROFZ	
RUNWAY PROTECTION ZONE (RPZ)	RPZ	
APPROACH RUNWAY PROTECTION ZONE		
DEPARTURE RUNWAY PROTECTION ZONE		
PRECISION OBSTACLE FREE ZONE		
RUNWAY OBJECT FREE AREA (ROFA)	ROFA	
TAXIWAY OBJECT FREE AREA (TOFA)		TOFA
CRITICAL AREA		
WETLANDS		
BUILDINGS		
PAVEMENT		
8' CHAINLINK FENCE		
8' CHAINLINK FENCE WITH BARBWIRE		
DEICING AREA		
EXISTING PAVEMENT TO BE REMOVED		
RESERVED FOR FUTURE NON-AERONAUTICAL USE		

ULTIMATE AIRPORT LAYOUT PLAN

SCALE: 1" = 400'



ELEVATION DETAIL

SCALE: 1" = 400'

NOTES:

1. THERE ARE TWO CRITICAL AREAS FOR THE AUTOMATED WEATHER OBSERVING SYSTEM (AWOS). THE WIND SENSOR ON THE AWOS HAS THE FOLLOWING REQUIREMENTS FOR CLEARANCE:
   A) THE WIND SENSOR SHALL BE MOUNTED BETWEEN 30 AND 33 FEET ABOVE THE AVERAGE GROUND HEIGHT WITHIN A RADIUS OF 500 FEET.
   B) 0-500 FEET FROM THE SENSOR, ALL OBJECTS SHALL BE AT LEAST 15 FEET LOWER THAN THE SENSOR HEIGHT.
   C) 500-1,000 FEET FROM THE SENSOR, ALL OBJECTS SHALL BE AT LEAST 10 FEET LOWER THAN THE HEIGHT OF THE SENSOR.

NHDOT AERONAUTICS APPROVAL

APPROVED _____

DATE _____

SPONSOR'S APPROVAL

APPROVED _____
MR. FARRELL WOODS
NASHUA AIRPORT AUTHORITY

DATE _____

APPROVED _____
MR. CHRIS LYNCH, AIRPORT MANAGER

DATE _____

GALE
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Boston Baltimore Orlando

PREPARED FOR:

Nashua Airport
BOIRE FIELD

PROJECT
AIRPORT MASTER PLAN UPDATE
NHDOT NO. SBG-12-16-2016

OWNER
CITY OF NASHUA, NEW HAMPSHIRE
AIRPORT AUTHORITY

NO.	DATE	DESCRIPTION	BY

PROJECT NO.	777042
DESIGNED BY	DCQ
DRAWN BY	DCQ
CHECKED BY	MPC
DATE	JUNE, 2018

GRAPHIC SCALE
0 200 400 800
SCALE: 1" = 400'

SHEET TITLE
ULTIMATE AIRPORT LAYOUT PLAN

FIGURE
8-1

8.3 TAXIWAY 'B', 'C', 'D', AND 'F' RECONSTRUCTION OPTIONS

In an effort to accommodate future aviation development, the Airport wishes to reconstruct Taxiway 'A' 150 feet closer to Runway 14-32, while maintaining the required 400 feet of runway-to-taxiway separation. Shifting Taxiway 'A' enables the Airport to expand its aprons and provide additional tie-downs as future demand warrants. As a result of shifting of Taxiway 'A', the intersections of Taxiway 'A' with Taxiways 'B', 'C', 'D', and 'F' are proposed to be reconfigured to comply with FAA design standards with an emphasis on eliminating potential runway incursions or "hot spots". All taxiways will be reconstructed in accordance with FAA design standards. Impervious surface calculations in the subsequent sections include all pavement removal from the Taxiway 'A' reconstruction project.

8.3.1 TAXIWAY 'B', 'C', 'D', AND 'F' RECONSTRUCTION- OPTION NO. 1

This option is for the reconfiguration and reconstruction of Taxiways 'B', 'C' and 'F', and reconstruction of Taxiway 'D' southeast of its existing location (see Figure 8-2).

Aviation Related Impacts

- Reconfiguration and reconstruction of Taxiways complies with FAA Taxiway and Taxilane design standards.
- Increases in impervious area requires snow removal and future maintenance and rehabilitation needs.

Environmental Impacts

- Approximately 107,300 square feet of additional impervious surface.

Other Impacts or Considerations

- Permitting needs (Alteration of Terrain).
- Assessment of Environmental Considerations.
- Stormwater Pollution Prevention Plan amendment.
- **Estimated Cost: $4,510,000**

8.3.2 TAXIWAY 'B', 'C', 'D', AND 'F' RECONSTRUCTION- OPTION NO. 2

This option will reconfigure and reconstruct Taxiways 'B' and 'F'; reconfigure and reconstruct Taxiway 'C' and 'D' northwest of their existing locations and remove existing pavement from those locations (see Figure 8-2).

Aviation Related Impacts

- Taxiway 'C' and 'D' comply with FAA Taxiway and Taxilane design standards at the time Taxiway 'A' is shifted 150 feet closer to Runway 14-32.
- Increases in impervious area requires snow removal and future maintenance and rehabilitation needs.

Environmental Impacts

- Approximately 130,200 square feet of additional impervious surface.

Other Impacts or Considerations

- Permitting needs (Alteration of Terrain).
- Assessment of Environmental Considerations.
- Stormwater Pollution Prevention Plan amendment.
- **Estimated Costs: $4,700,000**

8.3.3 TAXIWAY 'B', 'C', 'D', AND 'F' RECONSTRUCTION- OPTION NO. 3

This option will configure and reconstruct Taxiways 'B' and 'F'; reconfigure and reconstruct Taxiway 'C' northwest of its current location and Taxiway 'D' southeast of its current location; and remove exiting pavement from those locations (see Figure 8-2).

Aviation Related Impacts

- Taxiway 'C' and 'D' comply with FAA Taxiway and Taxilane design standards at the time Taxiway 'A' is shifted 150 feet closer to Runway 14-32.
- Increases in impervious area requires snow removal and future maintenance and rehabilitation needs.

Environmental Impacts

- Approximately 130,200 square feet of additional impervious surface.

Other Impacts or Considerations

- Permitting needs (Alteration of Terrain).
- Assessment of Environmental Considerations.
- Stormwater Pollution Prevention Plan amendment.
- **Estimated Cost: $4,700,000**

8.3.4 TAXIWAY 'B', 'C', 'D', AND 'F' RECONSTRUCTION- OPTION NO. 4

This option will reconfigure and reconstruct Taxiways 'B' and 'F'; eliminate Taxiway 'C' and Taxiway 'D'; and construct a single Taxiway (Taxiway 'C') between existing Taxiways 'C' and 'D', connecting Runway 14-32 to Taxiway 'A' (see Figure 8-2).

Aviation Related Impacts

- Taxiway 'C' complies with FAA Taxiway and Taxilane design standards at the time Taxiway 'A' is shifted 150 feet closer to Runway 14-32.
- Increases in impervious area requires snow removal and future maintenance and rehabilitation needs.

Environmental Impacts

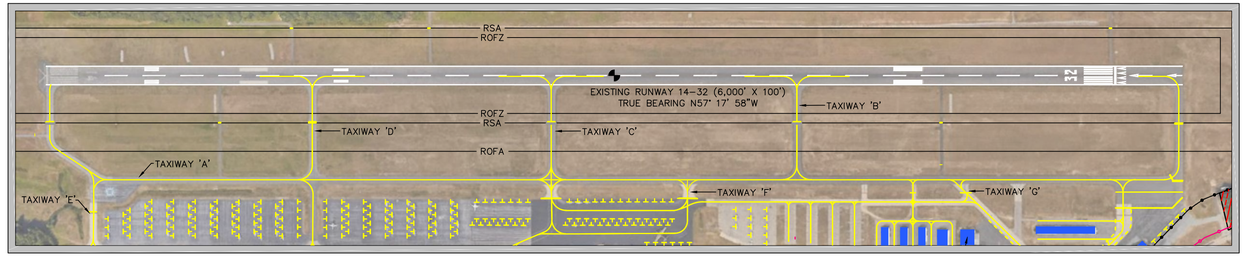
- Approximately 105,800 square feet of additional impervious surface.

Other Impacts or Considerations

- Permitting needs (Alteration of Terrain).
- Assessment of Environmental Considerations.
- **Estimated Cost: $4,480,000**

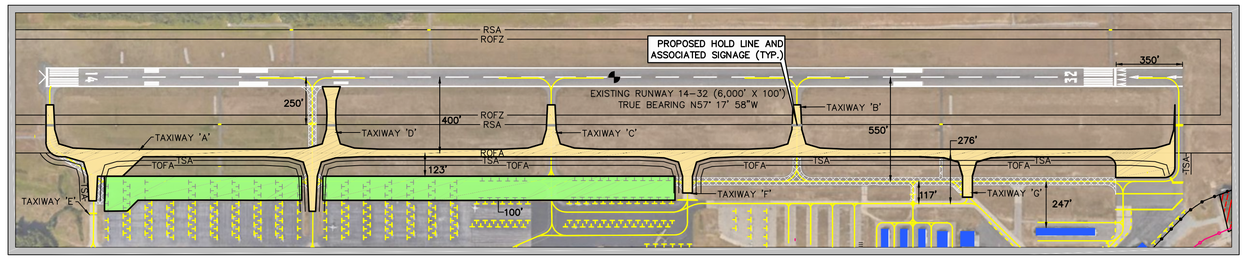
8.3.5 PREFERRED TAXIWAY 'B', 'C', 'D', AND 'F' RECONSTRUCTION OPTION

After careful consideration and discussion with airport users, Taxiway 'B', 'C', 'D', and 'F' Reconstruction-Option No. 3 was chosen as the Preferred Option. Option No. 3 complies with FAA design standards and will include right-angle intersections which are the standard for all runway/taxiway intersections. Although Option 3 increases the amount of impervious surface compared to Options 1 and 4, Option 3 from an operational perspective provides airport users landing on the Runway 14 end the ability to continue using Taxiways 'C' and/or 'D' in a similar manner to how they are used today.



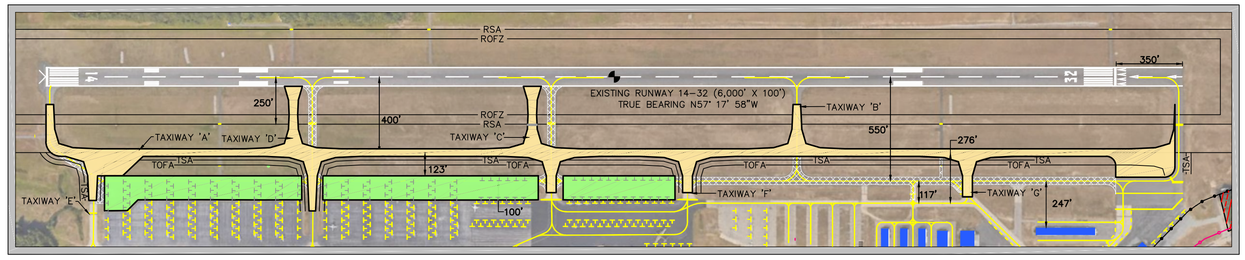
FUTURE TAXIWAYS RECONSTRUCTION–NO BUILD

SCALE: 1" = 400'



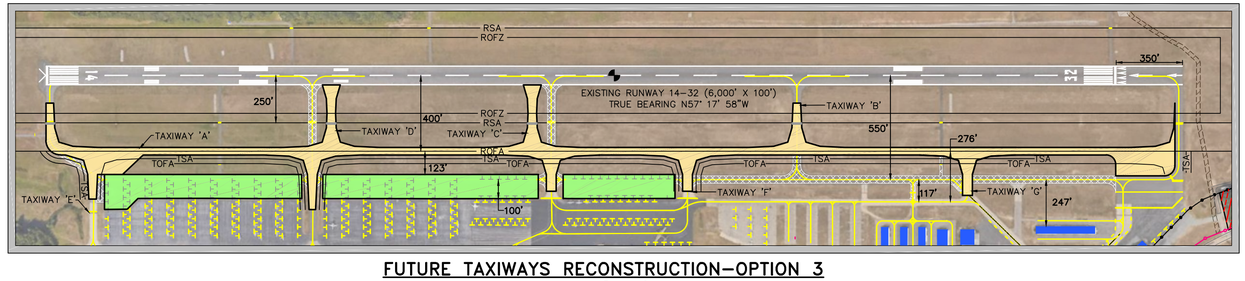
FUTURE TAXIWAYS RECONSTRUCTION–OPTION 1

SCALE: 1" = 400'



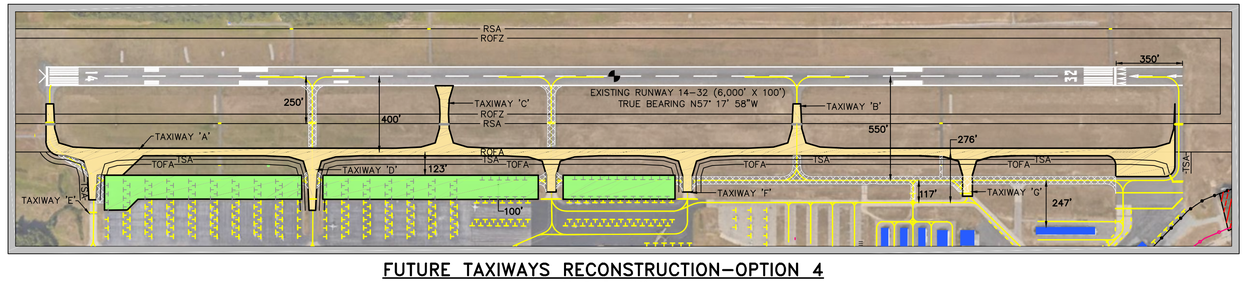
FUTURE TAXIWAYS RECONSTRUCTION–OPTION 2

SCALE: 1" = 400'



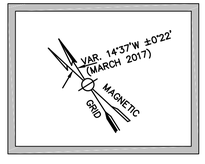
FUTURE TAXIWAYS RECONSTRUCTION–OPTION 3

SCALE: 1" = 400'



FUTURE TAXIWAYS RECONSTRUCTION–OPTION 4

SCALE: 1" = 400'



LEGEND

ITEM	(E) EXISTING	(F) FUTURE
RUNWAY SAFETY AREA (RSA)	RSA	
TAXIWAY SAFETY AREA (TSA)		TSA
RUNWAY OBSTACLE FREE ZONE (ROFZ)	ROFZ	
RUNWAY PROTECTION ZONE (RPZ)	RPZ	
RUNWAY OBJECT FREE AREA (ROFA)	ROFA	
TAXIWAY OBJECT FREE AREA (TOFA)		TOFA
WETLANDS		
BUILDINGS		
PAVEMENT		
FUTURE APRON EXPANSION		
EXISTING PAVEMENT TO BE REMOVED		

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PREPARED FOR:

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AIRPORT MASTER PLAN UPDATE
NHDOT NO. SBG–12–16–2016

OWNER
CITY OF NASHUA, NEW HAMPSHIRE
AIRPORT AUTHORITY

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PROJECT NO.	777042
DESIGNED BY	DCQ
DRAWN BY	DCQ
CHECKED BY	NAI
DATE	JUNE, 2018

GRAPHIC SCALE
0 200 400 800
SCALE: 1" = 400'

SHEET TITLE

TAXIWAY RECONSTRUCTION OPTIONS

FIGURE

8–2

8.4 SELF-SERVE FUEL OPTIONS

Currently, there are two aboveground aviation fuel tanks located at the Airport providing 100-LL fuel and Jet-A fuel. Both types of fuel are delivered to aircraft by fuel trucks. The Self-Serve Fuel Options explore the feasibility of adding a self-fueling facility for 100-LL as a means of reducing personnel costs and providing fuel 24 hours per day for airport users. The construction of a self-serve fuel facility is eligible AIP funding, however only nonprimary entitlements may be used. Further, the Sponsor must certify that all airfield needs have been accommodated. Per FAA policy, the Sponsor must adequately demonstrate that airside needs within the next three years will be accommodated through local funds or nonprimary entitlement funds. It is FAA policy that the Sponsor will not be considered for discretionary funding during that time.

8.4.1 SELF-SERVE FUEL LOCATION- OPTION NO. 1 "ALPHA" RAMP AREA

This option is for the construction of a 100-LL self-serve fuel facility (one (1) 10,000-gallon tank) in the vacant area adjacent to "Alpha" Ramp (see Figure 8-3).

Aviation Related Impacts

- Airport users have access to self-serve fuel (100-LL) 24 hours per day.
- Increases in impervious area will require snow removal and future maintenance and rehabilitation needs.
- Fueling operations are visible to the ATCT.

Environmental Impacts

- Approximately 15,720 square feet of additional impervious surface.

Other Impacts or Considerations

- Requires added operations funds to provide maintenance, repairs, certifications, and fuel delivery management to the new system.
- Permitting needs (Alteration of Terrain, SPCC Update).
- Assessment of Environmental Considerations.
- Stormwater Pollution Prevention Plan amendment.
- Required NHDES Applications:
    - "Application for the Construction of Aboveground Storage Tank (AST) or Associated Underground or Over-water Piping Systems".
    - "Registration of Aboveground Petroleum Storage Tank (AST) Systems".
- **Estimated Cost: $385,000**

8.4.2 SELF-SERVE FUEL LOCATION- OPTION NO. 2 "DELTA" RAMP AREA

This option is for the construction of a 100-LL self-serve fuel facility (one (1) 10,000-gallon tank) in the vacant area adjacent to "Delta" Ramp (see Figure 8-3).

Aviation Related Impacts

- Airport users have access to a self-serve fuel (100-LL) 24 hours per day.
- Increases in impervious area will require snow removal and future maintenance and rehabilitation needs.
- Fueling operations are visible to the ATCT.
- Requires the relocation of the existing AWOS as prerequisite project.

Environmental Impacts

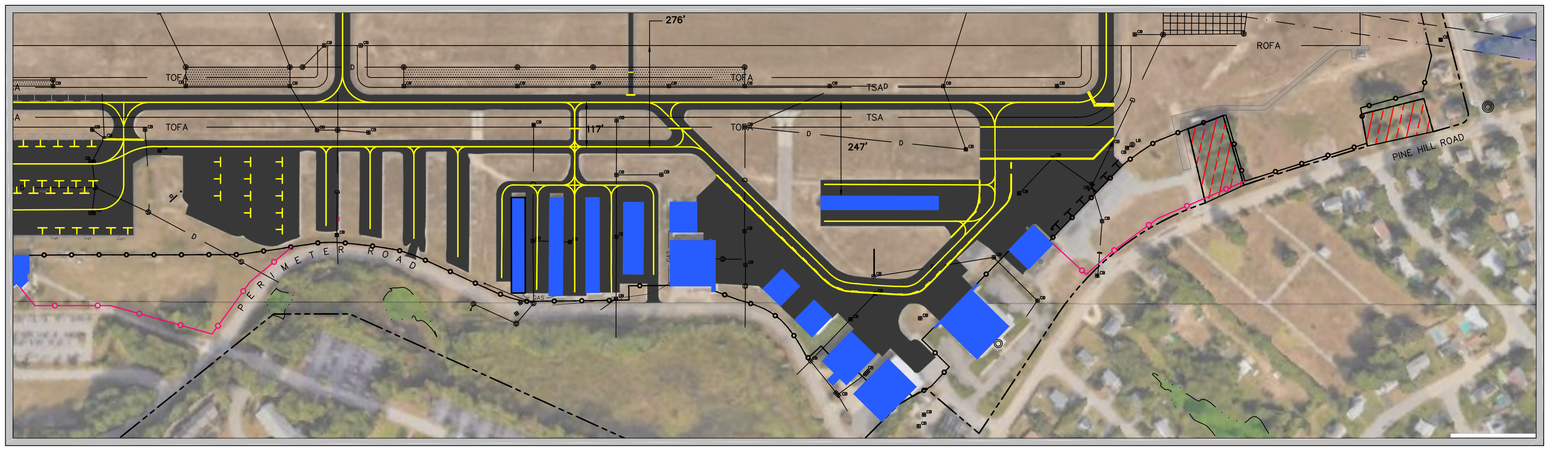
- Approximately 15,720 square feet of additional impervious surface.

Other impacts or Considerations

- Requires added operations funds to provide maintenance, repairs, certifications, and fuel delivery management to the new system.
- Permitting needs (Alteration of Terrain, SPCC Update).
- Assessment of Environmental Considerations.
- Stormwater Pollution Prevention Plan amendment.
- Required NHDES Applications:
    - "Application for the Construction of Aboveground Storage Tank (AST) or Associated Underground or Over-water Piping Systems".
    - "Registration of Aboveground Petroleum Storage Tank (AST) Systems".
- **Estimated Cost: $385,000**

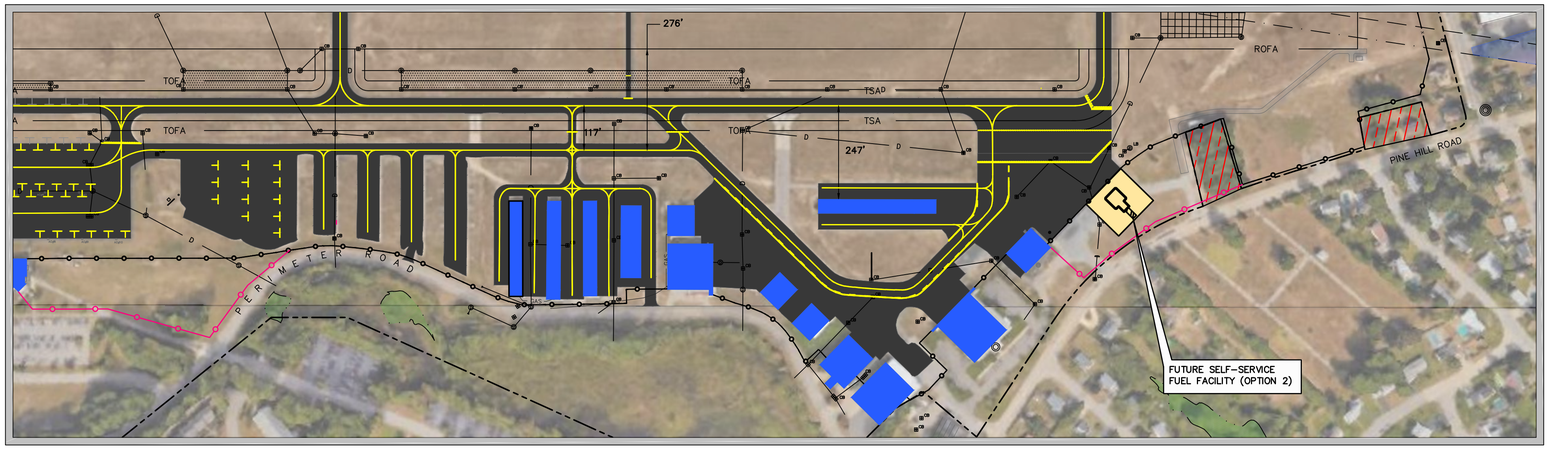
8.4.3 PREFERRED SELF-SERVE FUEL LOCATION OPTION

After evaluating the two Self-Serve Fuel Location Options, the Airport's Preferred Option is Option No. 2. In this configuration, the self-serve fuel facility will be much more visible to ATCT personnel, centrally located for ease of access, and it will avoid utilizing airport property in the area of "Alpha" Ramp that could otherwise be used for future hangar development/expansion options.



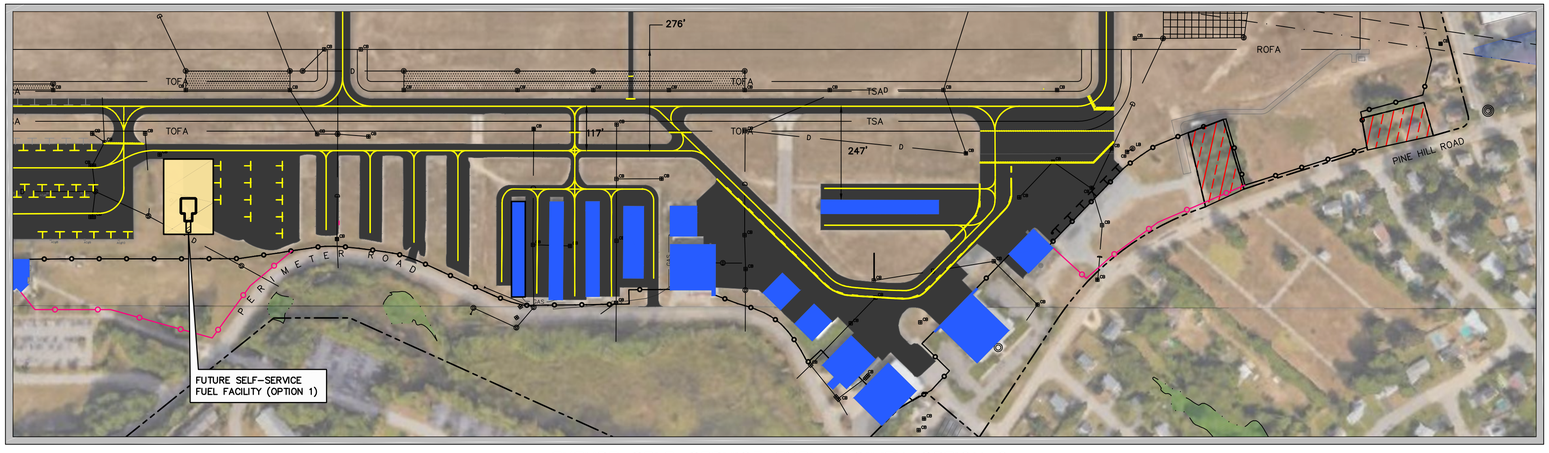
FUTURE SELF-SERVICE FUEL FACILITY-NO BUILD

SCALE: 1" = 200'



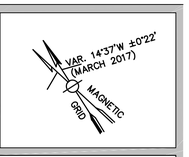
FUTURE SELF-SERVICE FUEL FACILITY-OPTION 1

SCALE: 1" = 200'



FUTURE SELF-SERVICE FUEL FACILITY-OPTION 2

SCALE: 1" = 200'



LEGEND

ITEM	(E) EXISTING	(F) FUTURE
AIRPORT PROPERTY LINE		
WETLANDS		
BUILDINGS		
PAVEMENT		
8' CHAINLINK FENCE		
8' CHAINLINK FENCE WITH BARBWIRE		

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DATE	JUNE, 2018

GRAPHIC SCALE
0 200 400 800
SCALE: 1" = 400'

SHEET TITLE
SELF-SERVICE FUEL OPTIONS

FIGURE
8-3

8.5 "INDIA" RAMP DEVELOPMENT OPTIONS

These development options explore potential aeronautical and nonaeronautical uses on the existing "India" Ramp and on the vacant land owned by the airport south of "India" Ramp. Development of "India" Ramp and the vacant land south of "India" Ramp could be developed by the Airport Sponsor or through private development.

8.5.1 "INDIA" RAMP DEVELOPMENT- OPTION NO. 1

This option is for the construction of a hangar development in the vacant area south of "India" Ramp to include T-Hangars, an access road, and vehicle parking (see Figure 8-4).

Aviation Related Impacts

- Construction of T-hangar facilities allows the Airport to accommodate future based aircraft demand.
- Construction of T-hangar facilities provides additional sources of revenue for the Airport.
- Construction of designated vehicle parking facility in the 'India" Ramp development provides a clear place for users to park vehicles, reducing the need to park in or near aircraft movement areas.
- Increases in impervious area requires snow removal and future maintenance and rehabilitation needs.

Environmental Impacts

- Approximately 366,000 square feet of additional impervious surface.

Other Impacts or Considerations

- Permitting needs (Alteration of Terrain).
- Assessment of Environmental Considerations.
- Stormwater Pollution Prevention Plan amendment.
- **Estimated Cost: $2,649,000**

8.5.2 "INDIA" RAMP DEVELOPMENT- OPTION NO. 2

This option is for the reservation of land south of "India" Ramp for aeronautical development (see Figure 8-4).

Aviation Related Impacts

- Designation of land south of "India" Ramp for aeronautical use reserves land for future construction of hangar and apron facilities, or other aeronautical uses, as needed.

Environmental Impacts

- No wetland impacts associated with designating land.
- No additional impervious surface associated with designating land.

Other Impacts or Considerations

- No permits anticipated.
- Assessment of Environmental Considerations.
- **Estimated Cost: $0.00**

8.5.3 "INDIA" RAMP DEVELOPMENT- OPTION NO. 3

This option is for the construction of a new T-hangar complex in the area of existing tie-downs on "India" Ramp; and the reservation of land in the vacant area south of "India" Ramp for future non-aeronautical development (see Figure 8-4).

Aviation Related Impacts

- Construction of a T-hangar complex in the area of existing tie-downs off "India" Ramp allows the Airport to accommodate future based aircraft demand.
- Designation of land south of "India" Ramp for aeronautical or nonaeronautical use reserves land for future construction of hangar and apron facilities, or other aeronautical or nonaeronautical uses, as needed.
- Development of "India" Ramp as noted provides an additional source of revenue for the Airport.

Environmental Impacts

- Approximately 5,400 square feet of additional impervious surface.

Other Impacts or Considerations

- Permitting needs (Alteration of Terrain).
- Assessment of Environmental Considerations.
- **Estimated Costs: $1,300,000**

8.5.4 "INDIA" RAMP DEVELOPMENT- OPTION NO. 4

This option is for the construction of a new T-hangar complex in the area of the existing tie-downs on "India" Ramp; and the construction of a hangar development in vacant area south of "India" Ramp to include T-hangars, access road, and vehicle parking (see Figure 8-4).

Aviation Related Impacts

- Construction of a T-hangar complex in the area of existing tie-downs off "India" Ramp allows the Airport to accommodate future based aircraft demand.
- Construction (through private development) of T-hangar facilities south of "India" Ramp provides additional sources of revenue for the Airport.
- Construction of a designated vehicle parking facility in the "India" Ramp hangar development provides a clear place for users to park vehicles, reducing the need to park in or near aircraft movement areas.

- Increases in impervious area requires snow removal and future maintenance and rehabilitation needs.

Environmental Impacts

- Approximately 374,600 square feet of additional impervious surface.

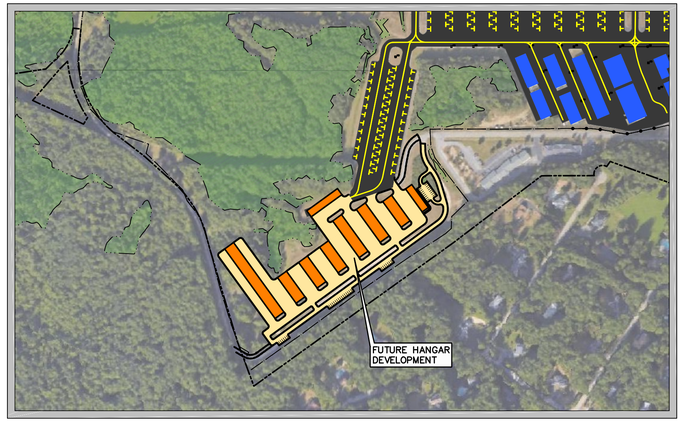
Other Impacts or Considerations

- Permitting needs (Alteration of Terrain).
- Assessment of Environmental Considerations.
- Stormwater Pollution Prevention Plan amendment.
- **Estimated Cost: $3,805,000**

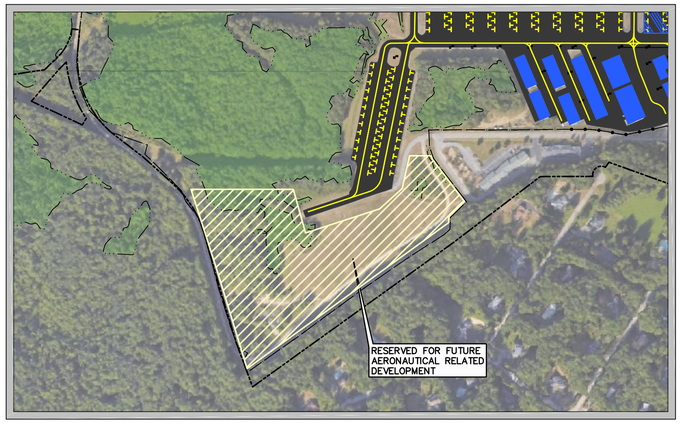
8.5.5 PREFERRED "INDIA" RAMP DEVELOPMENT OPTION

In an effort to accommodate future hangar demand, the Airport's Preferred "India" Ramp Development Option is Option No. 4. Option No. 4 enables the Airport to develop two new T-hangars in the location of existing tie-downs on "India" Ramp as demand warrants. It should be noted that while this option eliminates the tie-downs on "India" Ramp, additional tiedowns will be incorporated into other areas of the airport to make up for this loss (i.e., expansion of existing aprons with the shifting of Taxiway 'A'). Additionally, Option No. 4 leaves open the possibility for private development of a T-hangar complex on land owned by the Airport south of "India" Ramp, which may provide additional sources of revenue for the Airport. It is important to note that on a planning level, Option No. 4 has been designed to avoid all presently known wetlands but would need to be revised should this option come to fruition.

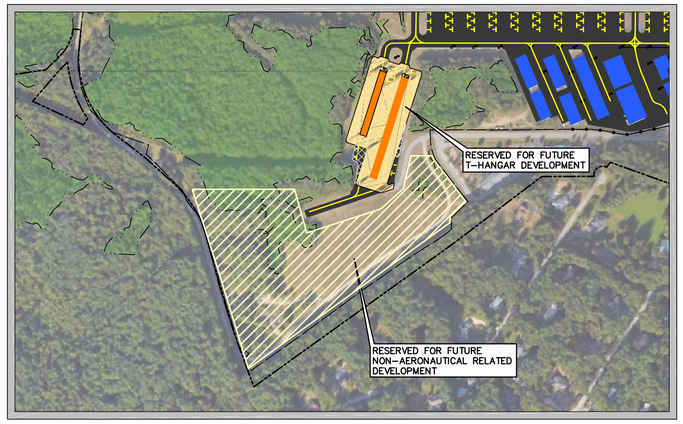
INDIA RAMP–NO BUILD
SCALE: 1" = 400'



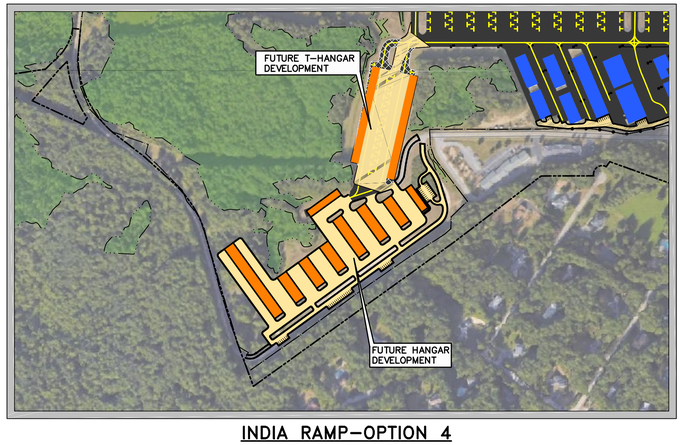
INDIA RAMP–OPTION 1
SCALE: 1" = 400'



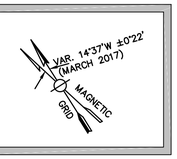
INDIA RAMP–OPTION 2
SCALE: 1" = 400'



INDIA RAMP–OPTION 3
SCALE: 1" = 400'



INDIA RAMP–OPTION 4
SCALE: 1" = 400'



LEGEND

ITEM	(E) EXISTING	(F) FUTURE
AIRPORT PROPERTY LINE		
WETLANDS		
BUILDINGS		
PAVEMENT		
8' CHAINLINK FENCE		
8' CHAINLINK FENCE WITH BARBWIRE		
EXISTING PAVEMENT TO BE REMOVED		

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PREPARED FOR:

Nashua Airport
BOIRE FIELD

PROJECT
AIRPORT MASTER PLAN UPDATE
NHDOT NO. SBG–12–16–2016

OWNER
CITY OF NASHUA, NEW HAMPSHIRE
AIRPORT AUTHORITY

NO.	DATE	DESCRIPTION	BY

PROJECT NO.	777042
DESIGNED BY	DCQ
DRAWN BY	DCQ
CHECKED BY	NAI
DATE	JUNE, 2018

GRAPHIC SCALE
0 200 400 800
SCALE: 1" = 400'

SHEET TITLE
INDIA RAMP OPTIONS

FIGURE
8–4

8.6 HANGAR CONSTRUCTION OPTIONS

In an effort to plan for future hangar development needs and maximize the availability of land at the Airport, this development option explores the feasibility of siting future corporate hangar development to accommodate future based aircraft demand. Development of hangars is eligible for AIP funding provided that only nonprimary entitlement funds are used for the construction of hangars, and that the Sponsor can adequately demonstrate that the airside needs within the next three years will be accommodated through local funds or nonprimary entitlement funds. Further, the Sponsor must not plan on using discretionary funds to meet the future three years of airside needs. It is FAA policy that the Sponsor will be limited to nonprimary entitlement funds during that time unless there is a specific safety issue that must be addressed and was not foreseeable under normal planning efforts of the Sponsor.

8.6.1 HANGAR CONSTRUCTION- OPTION NO. 1

This project is for the construction of a corporate hangar building south of "Alpha" Ramp, a corporate hangar building with apron south of "Echo" Ramp, and a hangar complex with access road and vehicle parking in the "Delta" Ramp area. This project includes approximately 124,000 square feet of pavement removal in the "Delta" Ramp area (see Figure 8-5).

Aviation Related Impacts

- Construction of hangar facilities allows the Airport to accommodate future based aircraft demand.
- Construction of hangar facilities provides additional sources of revenue for the Airport.
- Construction of a designated vehicle parking facility in the "Delta" Ramp hangar complex provides a clear place for users to park vehicles, reducing the need to park in potential aircraft movement areas.
- Requires the relocation of the existing AWOS as prerequisite project.

Environmental Impacts

- Approximately 75,800 square feet of additional impervious surface.

Other Impacts or Considerations

- Permitting needs (Alteration of Terrain).
- Assessment of Environmental Considerations.
- **Estimated Cost:**
    - "Alpha" Ramp Corporate Hangar Construction $1,050,000
    - "Delta" Ramp Corporate Hangar Construction $5,500,000
    - "Echo" Ramp Corporate Hangar Construction $1,050,000

Total $7,600,000

8.6.2 HANGAR CONSTRUCTION- OPTION NO. 2

This project is for the construction of three (3) corporate hangar buildings with apron south of "Alpha" Ramp, a corporate hangar building with apron south of "Echo" Ramp, and a hangar complex with access road and vehicle parking in the "Delta" Ramp area. This project includes approximately 124,000 SF of pavement removal in the "Delta" Ramp area (see Figure 8-5).

Aviation Related Impacts

- Construction of hangar facilities allows the Airport to accommodate future based aircraft demand.
- Construction of hangar facilities provides additional sources of revenue for the Airport.
- Construction of a designated vehicle parking facility in the "Delta" Ramp hangar complex provides a clear place for users to park vehicles, reducing the need to park in or near aircraft movement areas.
- Requires the relocation of the existing AWOS as prerequisite project.

Environmental Impacts

- Impervious surface is increased by approximately 119,900 square feet as a result of this project.

Oher Impacts or Considerations

- Permitting needs (Alteration of Terrain).
- Assessment of Environmental Considerations.
- **Estimated Costs:**
  - "Alpha" Ramp Corporate Hangar Construction (3 Buildings) $2,600,000
  - "Echo" Ramp Corporate Hangar Construction $1,050,000
  - "Delta" Ramp Hangar Complex Construction $5,500,000

Total Cost **$9,150,000**

8.6.3 HANGAR CONSTRUCTION- OPTION NO. 3

This project is for the construction of three (3) corporate hangar buildings with apron south of "Alpha" Ramp, a corporate hangar building with apron south of "Echo" Ramp, a hangar complex with access road and vehicle parking in the "Delta" Ramp area, and construction of four (4) new corporate hangars with associated aprons west of "Alpha" Ramp. This project includes approximately 39,000 square feet of pavement removal from the "Alpha" Ramp area and 124,000 SF of pavement removal in the "Delta" Ramp area (see Figure 8-5).

Aviation Related Impacts

- Construction of hangar facilities allows the Airport to accommodate future based aircraft demand.
- Construction of hangar facilities provides additional sources of revenue for the Airport.

- Construction of a designated vehicle parking facility in the "Delta" Ramp hangar complex provides a clear place for users to park vehicles, reducing the need to park in or near aircraft movement areas.
- Requires the relocation of the existing AWOS as prerequisite project.

Environmental Impacts

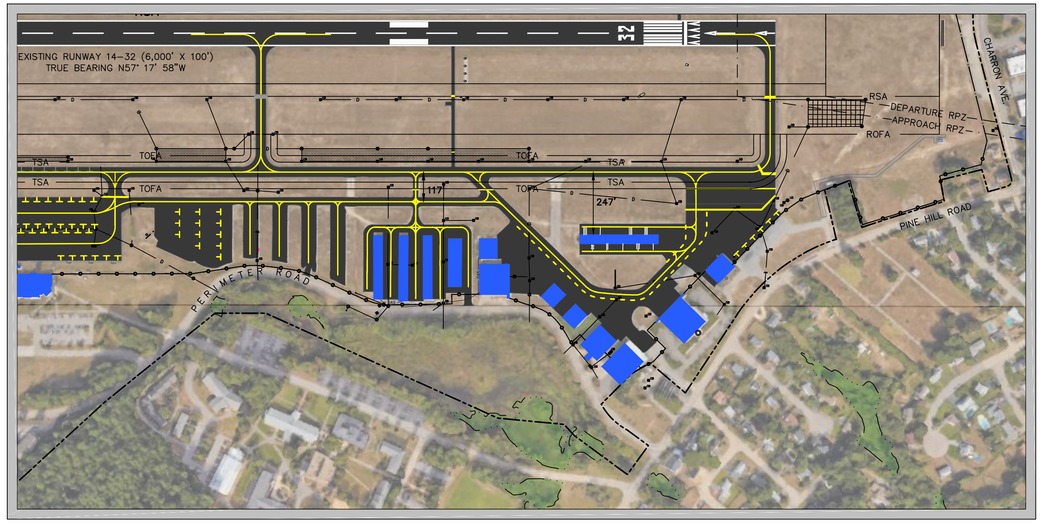
- Approximately 136,700 square feet of additional impervious surface.

Other Impacts or Considerations

- Permitting needs (Alteration of Terrain).
- Assessment of Environmental Considerations.
- Stormwater Pollution Prevention Plan amendment.
- **Estimated Cost:**
  - "Alpha" Ramp (south) Corporate Hangar Construction (3 Buildings) $2,600,000
  - "Alpha" Ramp (west) Corporate Hangar Construction (4 Buildings) $3,400,000
  - "Echo" Ramp Corporate Hangar Construction $1,000,000
  - "Delta" Ramp Hangar Complex Construction $5,500,000
  - **Total Cost** **$12,500,000**

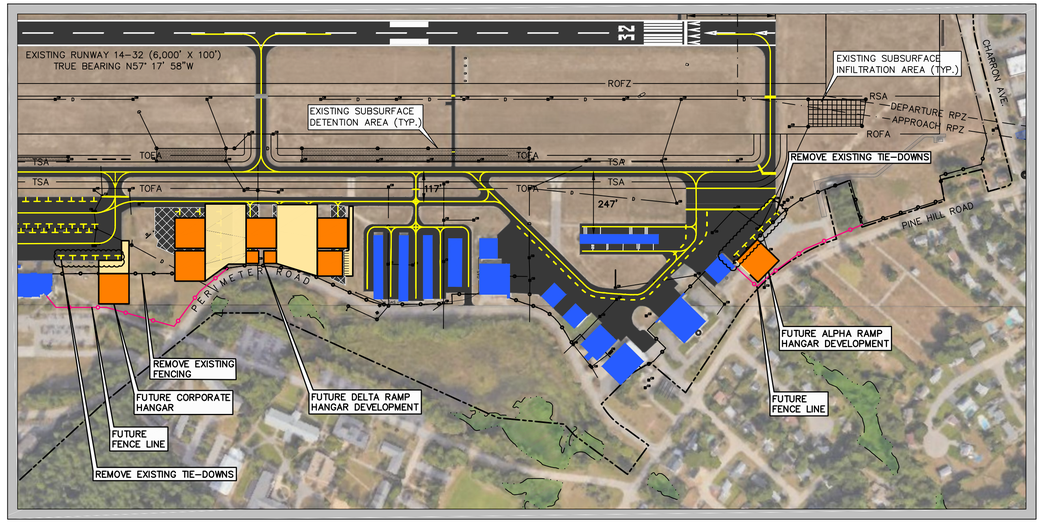
8.6.4 PREFERRED HANGAR CONSTRUCTION OPTION

The Airport's Preferred Hangar Construction Option is Option No. 3. Option 3 enables the Airport to maximize to the extent practical available land on airport property for future hangar use. This option aids the Airport in addressing future hangar demand and will provide the Airport with additional sources of revenue as hangars are constructed.



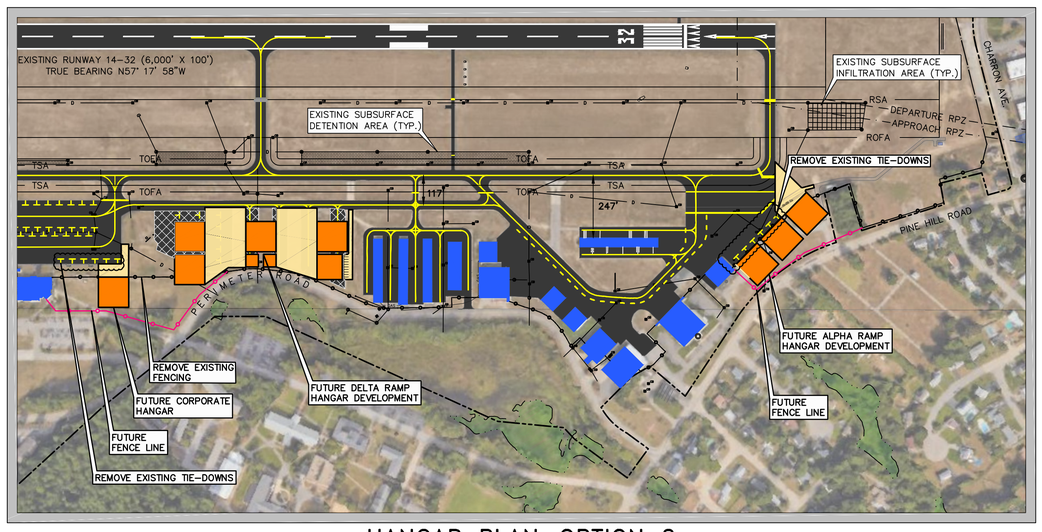
HANGAR PLAN–NO BUILD

SCALE: 1" = 300'



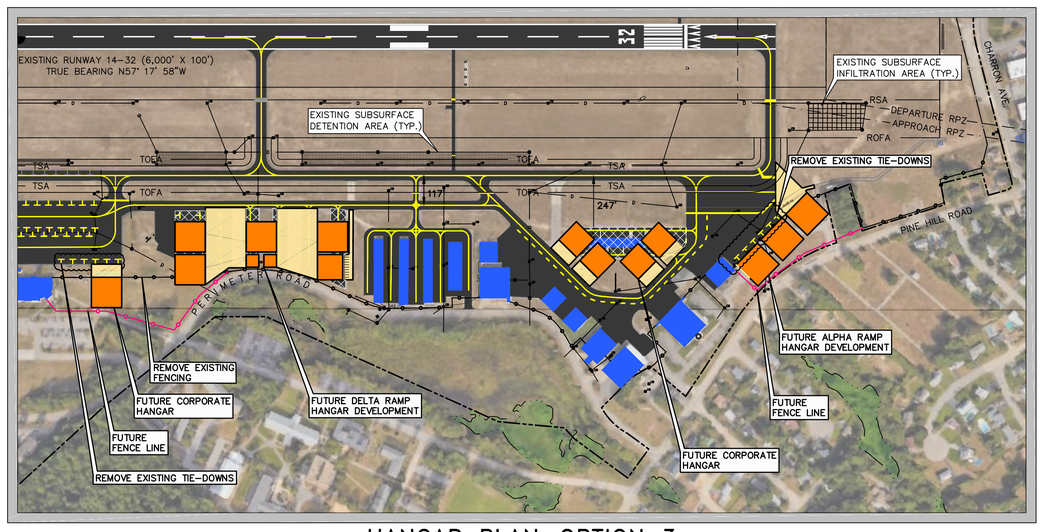
HANGAR PLAN–OPTION 1

SCALE: 1" = 300'



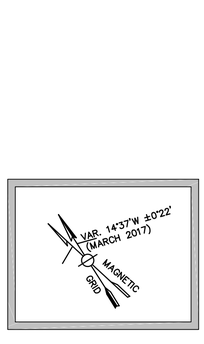
HANGAR PLAN–OPTION 2

SCALE: 1" = 300'



HANGAR PLAN–OPTION 3

SCALE: 1" = 300'



LEGEND

ITEM	(E) EXISTING	(F) FUTURE
AIRPORT PROPERTY LINE		
WETLANDS		
BUILDINGS		
PAVEMENT		
8' CHAINLINK FENCE		
8' CHAINLINK FENCE WITH BARBWIRE		
EXISTING PAVEMENT TO BE REMOVED		
RUNWAY SAFETY AREA (RSA)	RSA	
TAXIWAY SAFETY AREA (TSA)	TSA	
RUNWAY OBSTACLE FREE ZONE (ROFZ)	ROFZ	
RUNWAY OBJECT FREE AREA (ROFA)	ROFA	
TAXIWAY OBJECT FREE AREA (TOFA)	TOFA	

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PREPARED FOR:

Nashua Airport
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PROJECT
AIRPORT MASTER PLAN UPDATE
NHDOT NO. SBG-12-16-2016

OWNER
CITY OF NASHUA, NEW HAMPSHIRE
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GRAPHIC SCALE
0 150 300 600
SCALE: 1" = 300'

SHEET TITLE
HANGAR OPTIONS

FIGURE
8-5

8.7 ADMINISTRATION AND CUSTOMS BUILDING OPTIONS

This section explores options for the relocation of the Airport's administration building, and the siting of a Customs Building.

8.7.1 ADMINISTRATION AND CUSTOMS BUILDING- OPTION NO. 1

This option includes the renovation of the former Daniel Webster College building to contain administrative offices and an airport welcome center. This option also includes the construction of a standalone Customs and Border Patrol (CBP) facility in the vacant area adjacent to "Alpha" Ramp (see Figure 8-6).

Aviation Related Impacts

- An administrative facility with accurate signage, situated in an accessible location serves as a public entrance to the Airport, minimizing confusion about how to access the airfield and serving as a gateway for visitors.
- The Airport is responsible for payment of CPB Inspector salaries ($140,874 per inspector for the first year and $123,438 for succeeding years), Affected Domestic Producer costs ($17,042 to $21,062 per inspector for the first year and $13,620 to $17,640 for succeeding years, depending on the location), and other associated costs such as overtime.
- The Airport can accept international flights with the addition of a CBP facility.

Environmental Impacts

- Approximately 6,854 square feet of additional impervious surface.

Other Impacts or Considerations

- The Airport must meet all justification requirements set forth by US CBP, including submission of a support letter from the Governor of the state, a series of site visits with CBP officials to confirm need and adequacy of facilities, completion of a Memorandum of Understanding with US CBP, and completion of an Agriculture Compliance Agreement with FBOs and garbage haulers.
- Permitting needs (Alteration of Terrain, Building and Land Use Permit Application).
- Assessment of Environmental Considerations.
- Stormwater Pollution Prevention Plan amendment
- **Estimated Cost:**
    - Renovation of the Former Daniel Webster Building and Construction of a CBP Facility $1,800,000
    - CBP Inspector Salary (annually) and other associated costs $162,000

Total Cost $1,962,000

8.7.2 ADMINISTRATION AND CUSTOMS BUILDING- OPTION NO. 2

This option is for the construction of a combined administration building with welcome center and CBP facility in the vacant area adjacent to the former Daniel Webster College building (see Figure 8-6).

Aviation Related Impacts

- An administrative facility with accurate signage, situated in an accessible location serves as a public entrance to the Airport, minimizing confusion about how to access the airfield and serving as a gateway for visitors.
- The Airport is responsible for payment of CPB Inspector salaries ($140,874 per inspector for the first year and $123,438 for succeeding years), Affected Domestic Producer costs ($17,042 to $21,062 per inspector for the first year and $13,620 to $17,640 for succeeding years, depending on the location), and other associated costs such as overtime.
- The Airport can accept international flights with the addition of a CBP facility.
- The Airport will have a new building to maintain.

Environmental Impacts

- Approximately 7,421 square feet of additional impervious surface.

Other Impacts or Considerations

- The Airport must meet all justification requirements set forth by US CBP, including submission of a support letter from the Governor of the state, a series of site visits with CBP officials to confirm need and adequacy of facilities, completion of a Memorandum of Understanding with US CBP, and completion of an Agriculture Compliance Agreement with FBOs and garbage haulers.
- Permitting needs (Alteration of Terrain, Building and Land Use Permit Application)..
- Assessment of Environmental Considerations.
- **Estimated Cost:**
    - Construction of Administration Building with Welcome Center and CBP Facility $3,140,000
    - CBP Inspector Salaries (annually) and other associated costs $162,000

Total Cost $3,302,000

8.7.3 ADMINISTRATION AND CUSTOMS BUILDING- OPTION NO. 3

This option is for the construction of a CBP facility with apron in the vacant area adjacent to “Alpha” Ramp; and the construction of an administration building with welcome center and apron in the vacant area adjacent to the former Daniel Webster College Building (see Figure 8-6).

Aviation Related Impacts

- An administrative facility with accurate signage, situated in an accessible location serves as a public entrance to the Airport, minimizing confusion about how to access the airfield and serving as a gateway for visitors.
- The Airport must meet all justification requirements set forth by US CBP, including submission of a support letter from the Governor of the state, a series of site visits with CBP officials to confirm need and adequacy of facilities, completion of a Memorandum of Understanding with US CBP, and completion of an Agriculture Compliance Agreement with FBOs and garbage haulers.
- The Airport is responsible for payment of CPB Inspector salaries ($140,874 per inspector for the first year and $123,438 for succeeding years), Affected Domestic Producer costs ($17,042 to $21,062 per inspector for the first year and $13,620 to $17,640 for succeeding years, depending on the location), and other associated costs such as overtime.
- The Airport can accept international flights with the addition of a CBP facility.
- The Airport will have two (2) new buildings to maintain.

Environmental Impacts

- Approximately 14,275 square feet of additional impervious surface.

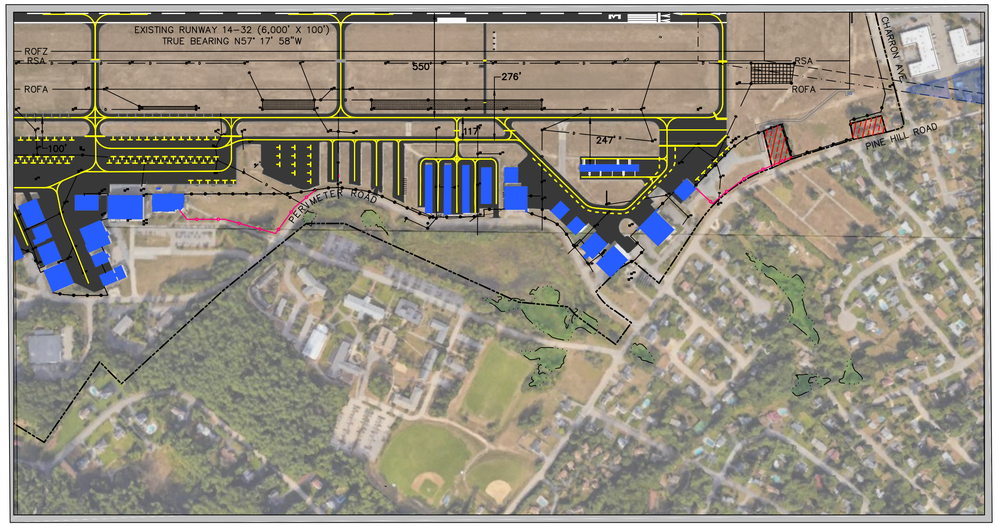
Other Impacts or Considerations

- Permitting needs (Alteration of Terrain, Building and Land Use Permit Application).
- Assessment of Environmental Considerations.
- Stormwater Pollution Prevention Plan amendment
- **Estimated Costs:**
  - Construction of Administration Building with Welcome Center and Separate CBP Building $3,400,000
  - CBP Inspector Salaries (annually) and other associated costs $162,000

Total Cost $3,562,000

8.7.4 PREFERRED ADMINISTRATION AND CUSTOMS BUILDING OPTION

After careful consideration, the Airport's Preferred Option is Option No. 3. Option 3 allows the Airport to pursue the development of standalone facility to serve as welcome center and house administrative offices, which are needed for increased capacity, visibility (for airport management, aviation users and the general public), and security purposes. As demand and need for a CBP facility are realized, the Airport will have dedicated space available for such use.



ADMINISTRATION BUILDING–NO BUILD

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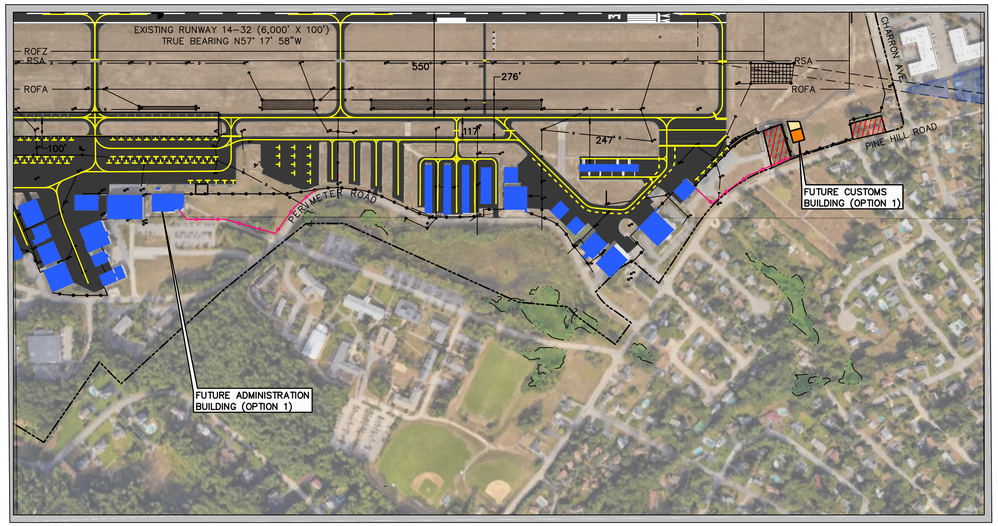
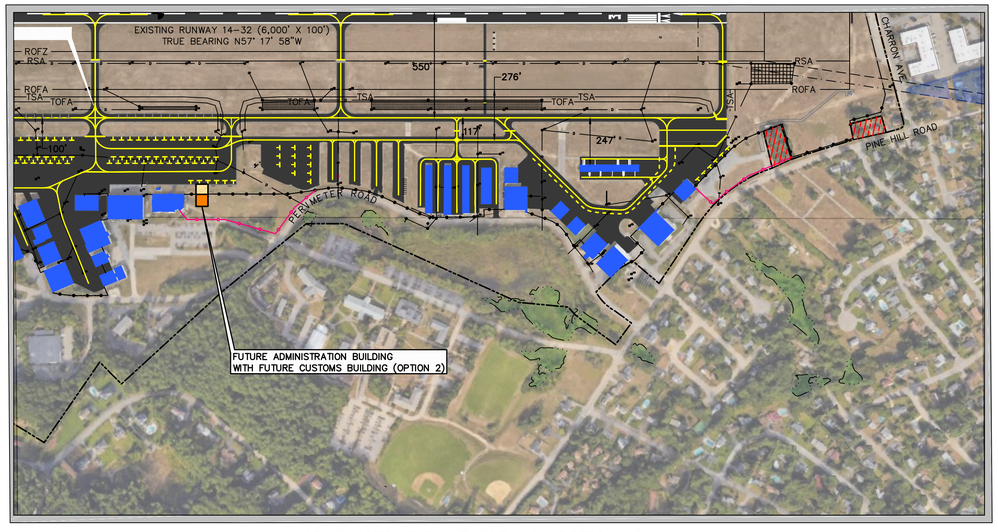


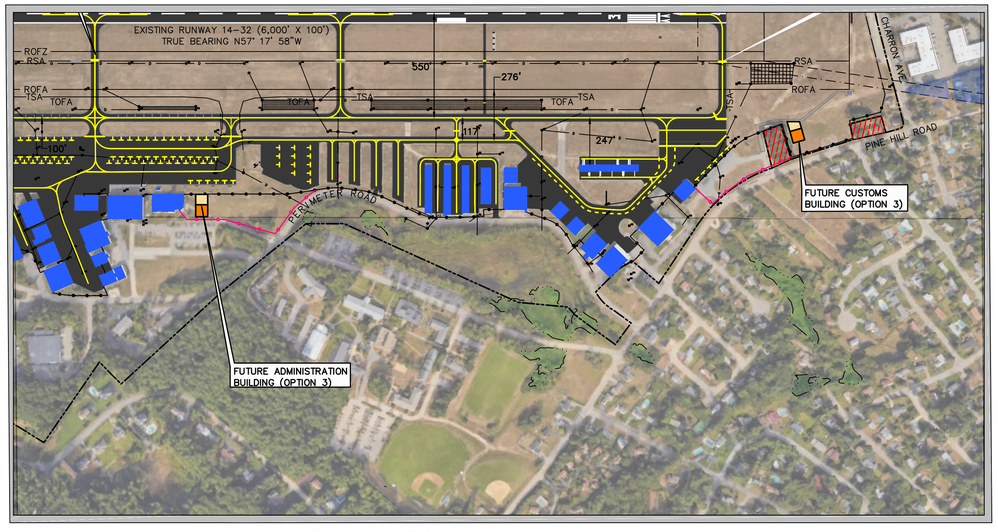
ADMINISTRATION BUILDING–OPTION 1

SCALE: 1" = 400'



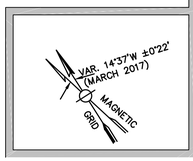
ADMINISTRATION BUILDING–OPTION 2

SCALE: 1" = 400'



ADMINISTRATION BUILDING–OPTION 3

SCALE: 1" = 400'



LEGEND

ITEM	(E) EXISTING	(F) FUTURE
AIRPORT PROPERTY LINE		
TAXIWAY SAFETY AREA (TSA)		TSA
TAXIWAY OBJECT FREE AREA (TOFA)		TOFA
RUNWAY SAFETY AREA (RSA)	RSA	
WETLANDS		
BUILDINGS		
PAVEMENT		
8' CHAINLINK FENCE		
8' CHAINLINK FENCE WITH BARBWIRE		
FUTURE EASEMENT ACQUISITION		

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GRAPHIC SCALE
0 200 400 800
SCALE: 1" = 400'

SHEET TITLE
ADMINISTRATION AND CUSTOMS BUILDING OPTIONS

FIGURE
8-6

CHAPTER 9 – SCHEDULE OF IMPROVEMENTS

This chapter presents the recommended Schedule of Improvements for addressing facility needs shown on the Airport Layout Plan (ALP) and described in Chapter 5 – Facility Requirements in an effort to develop a Capital Improvement Plan in accordance with FAA and NHDOT guidelines. This schedule includes estimated project costs, including costs associated with obtaining required permits and completing project design, project administration, and resident engineering; and reflects the Airport's desired implementation schedule.

In addition to the development of future capital improvements, as outlined in Chapter 5- Facility Requirements, it is recommended that the Airport continue to monitor and plan routine maintenance, rehabilitation, reconstruction, or replacement of existing facilities, infrastructure, and equipment (i.e. fencing, runways, SRE, Nav-aids, etc.) when their minimum useful life is met and/or not performing as intended. It is important to note that simply meeting the minimum useful life does not justify replacing the item if the facility, infrastructure, or equipment is performing as intended. Further, for lower ranking projects identified on the FAA national priority rating system that would likely require discretionary funding, the Airport may wish to explore alternative funding sources to address project needs.

9.1 CONSIDERATIONS FOR INFLATION

The total cost of implementing a particular project is based upon estimates of construction costs, the costs of engineering and design work, and minor construction items and contingencies. These preliminary estimates are based, in most cases, on unit prices common to airport and highway construction in New Hampshire in 2018. The costs cited are estimates only and should not be interpreted as final or conclusive.

It is important to consider that inflation will likely affect future CIP project costs. Project cost estimates should be updated at the time a project is ready to be implemented using data contained in the Construction Cost Index presented in Engineering News Record, in order to reflect current labor rates and material costs.

9.2 ENVIRONMENTAL PLANNING PROJECT COSTS

Costs associated with obtaining environmental permits are estimated using assumed scopes of work and from experience with similar types of projects and cannot be accurately estimated until a project scope of work is developed. Developing the scope of work is a process that takes place approximately one year prior to the start of a project in preparation for funding applications. As previously noted, actual costs of planning or environmental review and permitting projects are not known with any degree of accuracy until the project scope of work is developed. Therefore, the costs of these type of projects may vary from the estimated costs due to changes in the actual scope of the project at the time of implementation.

9.3 FORECASTED VS ACTUAL DEMAND

Although it is the intent of the Schedule to program improvements required to meet the projected demand through the short-, mid-, and long-term planning periods, it is not recommended that facilities be built unless actual demand for the improvement develops. In all probability, demand will likely not occur exactly as forecasted, which in turn may affect development timetables. In addition, any noticeable delays in environmental and other review processes may require alterations to the Schedule. In such a case, some of the work items for a given period may have to be postponed or moved into a later planning period.

Because some of the long-term improvements are based on forecasts alone, there is no guarantee that these improvements will need to be constructed. Thus, the Airport should closely monitor demand and be prepared to initiate steps to implement long-term recommendations as demand dictates. However, the Airport should begin the process of implementing short-term recommendations as soon as practicable, given funding constraints, as demand for these projects is evident.

9.4 SHORT-TERM IMPROVEMENTS

This section provides summary descriptions of the individual projects included in the Airport's short-term Capital Improvement Program from FY 2018-2022. The following descriptions are for planning purposes only and may require refinement and review prior to starting work on a particular project.

9.4.1 TAXIWAY 'A' RECONSTRUCTION

This project is for the reconstruction and relocation of Taxiway 'A' to comply with FAA regulations of runway-to-taxiway separation (400 feet required), which will consist of shifting the taxiway 150 feet closer to Runway 14-32. The reconstruction will include:

- Full-depth reconstruction including the removal of existing pavement and base materials, subgrade preparation, placement of a gravel subbase and aggregate base layers, and placement of bituminous concrete pavement.
- Reconstruction of taxiway safety areas.
- Construction of two (2) runup areas.
- Application of taxiway markings, edge lighting, signage, etc.
- Erosion control.
- Restoration of disturbed areas.

Taxiway reconstruction is eligible for federal funding assistance provided that the taxiway connects runways, taxiways, public-use aprons, or buildings eligible at the airport and the dimensions of the pavement are based on critical aircraft justification. Based on these criteria, this project is eligible for state and federal funding. This project is anticipated to occur in two phases and is currently programmed on the Airport's CIP, with the design occurring in FFY-2020 and the construction occurring in FFY-2021.

Estimated project cost: $6,700,000

9.4.2 TAXIWAY RECONFIGURATION

This project is for the reconstruction of Taxiways 'B' and 'F', and the reconstruction and reconfiguration of Taxiway 'C' northwest of its current location and Taxiway 'D' southeast of its current location. This project will consist of:

- Full-depth reconstruction including the removal of existing pavement and base materials, subgrade preparation, placement of a gravel subbase and aggregate base layers, and placement of bituminous concrete pavement.
- Pavement removal from existing Taxiways 'C' and 'D'.
- Reconstruction of taxiway safety areas.
- Application of taxiway markings, edge lighting, signage, etc.
- Erosion control.
- Restoration of disturbed areas.

Taxiway reconstruction is eligible for federal funding assistance.

Estimated project cost: $2,175,000

9.4.3 AWOS RELOCATION

This project is to relocate the Airport's existing AWOS from its current location adjacent to "Delta" Ramp to a new, unobstructed location, adjacent to "Hotel" Ramp. This project serves as a precursor to the Airport's ability to utilize "Delta" Ramp and adjacent land for potential future hangar development, self-serve fuel, and/or administration building siting. In order to move forward with this project, the Airport must enter into a reimbursable agreement with FAA. When planning for this project, the Airport should take into account the FAA's processing period of 6-8 months to implement the reimbursable agreement.

AWOS relocation projects are eligible for federal funding assistance.

Estimated project cost: $430,000

9.4.4 DEICING AREA DESIGNATION

This project is to designate an area for deicing operations on "Golf" Ramp during winter operations, and the purchase of associated equipment.

While the deicing equipment itself is eligible for AIP reimbursement, the Airport is responsible for securing funding for supplementary items such as the deicing pad, storage buildings, deicing vehicle, and other associated amenities.

Estimated project cost: $75,000

9.4.5 WINDCONE RELOCATION

This project is to relocate the Airport's existing lighted windcone to a more suitable location where the wind will not be blocked by surrounding trees or structures. Airport users have recommended that the windcone be relocated between Runway 14-32 and Taxiway 'A' at midfield.

Windcone construction projects that meet FAA standards are eligible for federal funding assistance.

Estimated project cost: $20,000

9.4.6 AIRPORT ACCESS ROAD CONSTRUCTION

This project is for the construction of an access road with vehicle parking along Perimeter Road (inside the fence), adjacent to hangar buildings 27-39. This project will include:

- Full-depth construction, including the removal of existing pavement and base materials, subgrade preparation, placement of a gravel subbase and aggregate base layers, and placement of bituminous concrete pavement.
- Delineation of parking spaces.
- Installation of drainage improvements.
- Erosion control.
- Restoration of disturbed areas.

A portion of an airport access road that meets any of the following criteria is considered ineligible for federal funding:

- Does not exclusively serve airport traffic.
- Is exclusively for the purpose of connecting parking facilities or other non-aeronautical facilities to an eligible portion of the access road.
- Solely serves industrial or non-aeronautical areas or facilities.
- Is necessary only to maintain FAA facilities installed under the Facilities & Equipment program.
- Is not on airport property or an airport-owned easement.
- Is not needed for the circulation of airport passengers or cargo.

Based on these criteria, this project would be considered an access road project and would be eligible for federal funding assistance. However, because this project is a low-ranking project according to the FAA national priority rating system, securing discretionary funding is not very likely. It is recommended that the Airport seek alternative funding sources.

Estimated project cost: $2,925,000

9.5 MID-TERM IMPROVEMENTS

This section provides summary descriptions of the individual projects included in the Airport's mid-term Capital Improvement Program from FFY 2023-2027. The following descriptions are for planning purposes only and may require refinement and review prior to starting work on a particular project.

9.5.1 PROPERTY ACQUISITION

This project is for the acquisition of two (2) properties on the north side of Pine Hill Road for the purposes of clearing vegetative obstructions from the Airport's Part 77 surfaces. This project will include, for each property:

- Appraisals.
- Review Appraisals.
- Negotiations.
- Legal Services.
- Survey Services.
- Relocation Services (where applicable).
- Grant Administration Services.

Land acquisition projects are eligible for reimbursement only after the sponsor has submitted evidence that the sponsor will obtain good title to the land. Typical examples of this evidence are a binding purchase agreement that will convey good title, evidence of a condemnation deposit, a condemnation award, or a court settlement.

Estimated project cost: $325,000

9.5.2 SELF-SERVE FUEL FACILITY CONSTRUCTION

This project is for the construction of a 24-hour, 100-LL self-serve fuel facility in the area adjacent to "Delta" Ramp. This facility will include one (1) 10,000-gallon storage tank. This project will include:

- Installation of containment system.
- Installation of electrical components.
- Installation of apron lighting, markings, and bollards.

Fuel farm construction is eligible for state and federal funding assistance provided that the construction occurs at a nonprimary airport and that nonprimary entitlements are used. Additionally, the fuel farm must be owned by the sponsor, but may be operated by an FBO. Eligibility includes bulk fuel storage tanks, containment area, pavement area, pumps, and equipment. Based on these criteria, this project is eligible for federal funding assistance.

Estimated project cost: $385,000

9.5.3 "INDIA" RAMP DEVELOPMENT

This project is for the construction of new T-Hangar buildings to replace existing tie-downs on "India" Ramp, and the construction of a T-Hangar complex in the vacant land area south of "India" Ramp. The project will include:

- Full-depth construction, including the removal of existing pavement and base materials, subgrade preparation, placement of a gravel subbase and aggregate base layers, and placement of bituminous concrete pavement.
- Application of apron markings.
- Installation of drainage improvements.
- Erosion control.
- Restoration of disturbed areas.
- Installation of electrical components.
- Hangar foundations and hangar installation.

Apron construction is eligible for AIP funding provided that it will be used for aircraft parking. The project cannot include pavement for auto parking or other non-aeronautical uses or for exclusive use areas (must be open to the public to park their aircraft). Hangar buildings are eligible with nonprimary entitlements as long as the use and lease of the building meets the compliance requirements in the current version of FAA Order 5190.6. It is anticipated that much, if not all, of this project will be privately developed.

Estimated project cost: $TBD

9.5.4 FENCING RECONFIGURATION AND VEGETATION REMOVAL

This project is for the reconfiguration of fencing along Pine Hill Road in the vicinity of the Runway 32 end, the reconfiguration of fencing along Perimeter Road in the vicinity of "Delta" Ramp, and the construction of fencing with a new gate in the Runway 14 end to encompass the MALSR light area.

Fencing projects are eligible for federal funding assistance.

Estimated project cost: $820,000

9.5.5 SRE ACQUISITION

This project is for the acquisition of snow removal equipment (SRE) as current equipment exceeds its useful life and becomes eligible for federal funding assistance. Currently, the Airport is eligible for the following types of equipment as the existing fleet exceeds its useful life:

- 1 Rotary Plow.
- 2 Displacement Plows.
- 1 Sweeper.
- 1 Hopper Spreader.
- 1 Front End Loader.

Estimated project cost: $TBD

9.5.6 ATCT RELOCATION

This project is for the relocation of the Airport's ATCT to a new location that provides ATC personnel with an unobstructed view of all controlled movement areas of the Airport and of air traffic in the vicinity of the Airport. Contract Air Traffic Control Towers are not eligible for FAA funding assistance. The Airport will be responsible for securing funding other than federal funds for this project. Additionally, the ATCT must be sited through the Airport Facilities Terminal Integration Laboratory (AFTIL) based on the current version of FAA Order 6480.4, Air Traffic Control Tower Siting Process.

Estimated project cost: $TBD

9.5.7 SRE BUILDING CONSTRUCTION

This project is for the construction of a supplemental SRE building (approximately 3,000 SF) with paved access to the airfield in the vacant area adjacent to "Alpha" Ramp, on a parcel of newly-acquired property. The exact size of this facility will be calculated based upon current available storage space and additional space required to house all federally-funded equipment. It is important to note that this project is predicated on the Airport's ability to acquire on Pine Hill Road abutting airport property. Further, land clearing will be required prior to construction.

SRE building construction is eligible for federal funding assistance; however, costs for the construction of SRE building space for personnel quarters, training space, or other non-equipment storage functions are not eligible at non-primary airports like Boire Field.

Estimated project cost: $850,000

9.6 LONG-TERM IMPROVEMENTS

This section provides summary descriptions of the individual projects included in the Airport's long-term Capital Improvement Program from FY 2028-2037. The following descriptions are for planning purposes only and may require refinement and review prior to starting work on a particular project.

9.6.1 APRON EXPANSION

This project is for the phased expansion of "Echo" Ramp, "Foxtrot" Ramp, "Golf" Ramp, and "Hotel" Ramp to allow for the construction of additional tie-down spaces. The expansion will include:

- Full-depth construction, subgrade preparation, placement of a gravel subbase and aggregate base layers, and placement of bituminous concrete pavement.
- Application of apron markings.
- Installation of drainage improvements.
- Erosion control.
- Restoration of disturbed areas.

Apron construction is eligible for AIP funding provided that it will be used for aircraft parking. The project cannot include pavement for auto parking or other non-aeronautical uses, or for exclusive use areas (must be open to the public to park their aircraft). It is recommended that AIP-eligible aircraft deicing equipment be incorporated at the same time that "Golf" Ramp is rehabilitated/expanded.

Estimated project cost: $5,275,000

9.6.2 ADMINISTRATION BUILDING AND CUSTOMS BUILDING CONSTRUCTION

This project is for the construction of an administrative building with welcome center and apron in the vacant area adjacent to the former Daniel Webster College building, and the construction of a separate Customs and Border Patrol (CBP) facility with apron in the vacant area adjacent to "Alpha" ramp. It is very likely that construction of these two buildings will occur independently and be funded by two separate projects. This project will include:

- Construction of a 4,000 SF administration building with apron.
- Construction of a 4,000 SF CBP building with apron.

Administration buildings are eligible for federal funding assistance, whereas CBP facilities are not. The Airport will be responsible for all associated CBP expenses, including CBP Inspector salaries, CBP facility and maintenance, etc.

Estimated project cost: $3,562,000

9.6.3 HANGAR CONSTRUCTION

This project is for the construction of the following hangar buildings:

- Three (3) corporate hangar buildings south of "Alpha" Ramp.
- Four (4) corporate hangar buildings with aprons west of "Alpha" Ramp.

- Corporate hangar complex with aprons, access road, and vehicle parking in the "Delta" Ramp area.
- One (1) corporate hangar building south of "Echo" Ramp.

It is anticipated that the hangar buildings described above and associated aprons, utilities, etc., will be funded by private developers, and that the Airport will incur no costs associated with their construction.

Estimated project cost: $12,500,000

CHAPTER 10 – AIRPORT COMPLIANCE

This chapter provides an overview of the requirements associated with the operation and management of ASH, as a federally-obligated airport. The FAA and NHDOT/BA encourage airport sponsors to establish and implement programs that promote sound operating practices and ongoing compliance with FAA and NHDOT/BA requirements. The FAA and NHDOT/BA recommend that compliance be an ongoing process that is addressed through the review of airport documents, plans, and other records, such as the Airport Layout Plan (ALP), Exhibit 'A' Property Map, Airport Ordinance, Zoning Ordinance, Rules and Regulations, Minimum Standards, airport budgets, leases, easements, permits, and other instruments. Please note that all FAA Orders, Advisory Circulars, Grant Assurances, etc., referenced within this Chapter represents the latest version as of the publication of this Master Plan. To ensure on-going compliance with FAA and NHDOT requirements, the Airport is encouraged to monitor and review changes to the referenced documents as they are subject to change.

By accepting federal grant funds, airport sponsors must comply with various federal obligations through agreements and property conveyances. These are outlined in FAA Order 5190.6B, Airport Compliance Manual. The contractual federal obligations that a sponsor accepts when receiving federal grant funds or the transfer of federal property can be found in a variety of documents including:

- Grant agreements issued under the Federal Airport Act of 1946, the Airport and Airway Development Act of 1970, and the Airport Improvement Act of 1982. Included in these agreements is the requirement for airport sponsors to comply with:
    - Grant Assurances
    - Advisory Circulars
    - Application commitments
    - FAR procedures and submittals
    - Special Grant Conditions
    - Land Use Inspection Reports/Previous Compliance findings
    - Surplus airport property instruments of transfer
    - Deeds of conveyance
    - Commitments in environmental documents prepared in accordance with FAA requirements
    - Separate written requirements between a sponsor and the FAA

The State of New Hampshire, through its Department of Transportation Bureau of Aeronautics, was selected by the FAA to participate in the FAA's Airport Block Grant Program[1] in FY 2008. The state's inclusion in the Program enables the Bureau to act as an extension of FAA's New England Region. Because of the Bureau's working relationships with the aviation community in NH, the program recognizes that the Bureau is positioned to have a better understanding of local issues and needs that are used to help

[1] https://www.faa.gov/airports/aip/state_block/

determine project and funding priorities. The NHDOT/BA is available to assist member airports in complying with their federal obligations.

10.1 NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS

As previously discussed in Chapter 1, ASH is included in the NPIAS. The Airport is one of nearly 3,400 existing and proposed airports that the FAA considers significant to the national air transportation system and is eligible to receive Federal grants under the Airport Improvement Program (AIP).

The guiding principles of the NPIAS have been in place since 1946 and, for the most part, have remained unchanged. According to the FAA, cooperation between the FAA, State, and local agencies should result in an airport system with the following attributes:

- Airports should be safe and efficient, located where people will use them, and developed and maintained to appropriate standards;
- Airports should be affordable to both users and the Government, relying primarily on producing self-sustaining revenue and placing minimal burden on the general revenues of the local, state, and federal governments;
- Airports should be flexible and expandable and able to meet increased demand and accommodate new aircraft types;
- Airports should be permanent with assurance that they will remain open for aeronautical use over the long term;
- Airports should be compatible with surrounding communities, maintaining a balance between the needs of aviation, the environment, and the requirements of residents;
- Airports should be developed in concert with improvements to the air traffic control systems and technological advancements;
- The airport system should support a variety of critical national objectives, such as defense, emergency readiness, law enforcement, and postal delivery; and
- The airport system should be extensive, providing as many people as possible with convenient access to air transportation, typically by having most of the population within 20 miles, or 30-minute drive time of a NPIAS airport.

10.2 SUCCESSFUL COMPLIANCE

When Airport owners and operators accept Federal grants, they agree to preserve and operate their facilities in a safe and efficient manner and comply with certain conditions and assurances. The documents outlined in this section are provided by the FAA and help set the stage for successful compliance.

10.2.1 AIRPORT MASTER PLAN

An airport master plan is a comprehensive study of an airport and typically describes plans for short-, medium-, and long-term airport development. Typically, an airport master plan evaluates a 20-year planning horizon, but as local, state, or federal circumstances or requirements change, the master plan should be updated accordingly. Airport master plans are prepared to support the modernization or

expansion of existing airports or the creation of a new airport. The goal of a master plan is to provide the framework needed to guide future airport development that will cost-effectively satisfy aviation demand, while considering potential environmental and socioeconomic impacts. The master planning process will vary with the size, complexity, and role of the study airport and may include a variety of supporting studies. In most cases, the master plan will include the following elements:

- ***Pre-planning***- The pre-planning process includes an Initial Needs Determination, Request for Proposals and Consultant Selection, Development of Study Design, Negotiations of Consultant Contract, and Application for Study Funding.
- ***Public Involvement***- Once the consultant team is under contract and has been issued a notice-to-proceed, establish a public involvement program and identify and document the key issues of various stakeholders.
- ***Environmental Considerations***- A clear understanding of the environmental requirements needed to move forward with each project in the recommended development program.
- ***Existing Conditions***- An inventory of pertinent data for use in subsequent plan elements.
- ***Aviation Forecasts***- Forecasts of aeronautical demand for short-, medium-, and long-term horizons.
- ***Facility Requirements***- Assess the ability of the existing airport, both airside and landside, to support the forecast demand. Identify the demand levels that will trigger the need for facility additions or improvements and estimate the extent of new facilities that may be required to meet that demand.
- ***Alternative Development and Evaluation***- Identify options to meet projected facility requirements and alternative configurations for each major component. Assess the expected performance of each alternative against a wide range of evaluation criteria, including airport operations, environmental, and financial considerations. A recommended development alternative will emerge from this process and will be further refined in subsequent tasks. This element should aid in developing the purpose and need for subsequent environmental documents.
- ***Airport Layout Plans***- One of the key products of a master plan is a set of drawings that provides a graphic representation of the long-term development plan for an airport. The primary drawing in this set is the Airport Layout Plan. Other drawings may also be included, depending on the size and complexity of the individual airport.
- ***Facilities Implementation Plan***- Provides a summary description of the recommended improvements and associated costs. The schedule of improvements depends, in large part, on the level of demand that triggers the need for expansion of existing facilities.
- ***Financial Feasibility Analysis***- Identify the financial plan for the airport, describe how the sponsor will finance the projects recommended in the master plan, and demonstrate the financial feasibility of the program.

Regardless of the size and complexity of the master plan, each master plan should meet the following objectives:

1. Document the issues that the proposed development will address.

2. Justify the proposed development through the technical, economic, and environmental investigation of concepts and alternatives.
3. Provide an effective graphic presentation of the development of the airport and anticipated land uses in the vicinity of the airport.
4. Establish a realistic schedule for the implementation of the development proposed in the plan, particularly the short-term capital improvement program.
5. Propose an achievable financial plan to support the implementation schedule.
6. Provide sufficient project definition and detail for subsequent environmental evaluations that may be required before the project is approved.
7. Present a plan that adequately addresses the issues and satisfies local, state, and Federal regulations.
8. Document policies and future aeronautical demand to support municipal or local deliberations on spending, debt, land use controls, and other policies necessary to preserve the integrity of the airport and its surroundings.
9. Set the stage and establish the framework for continuing planning process. Such a process should monitor key conditions and permit changes in planning recommendations as required.

10.2.2 AIRPORT LAYOUT PLAN

The Airport Layout Plan (ALP) serves as a critical planning tool that depicts both existing facilities and planned development for an airport. An ALP is required by statute to be up-to-date. This derives directly from Title 49 U.S.C. 47107(a)(16). Grant Assurance No. 29 obligates an airport sponsor to "keep up to date at all times a layout plan of the airport", and also to obtain FAA approval for any ALP update, revision, or modification. Further, any proposed AIP or Passenger Facility Charge (PFC) funded projects must be an on an approved ALP.

An update of the ALP is typically an element of a master plan. The Airport is to, at all times, keep an up-to-date ALP showing current and future property boundaries, facilities/structures, and the location of existing and proposed non-aviation areas and improvements.

By definition, the ALP is a plan for a specific airport that shows:

- Boundaries and proposed additions to all areas owned or controlled by the sponsor for airport purposes and/or other encumbrances (i.e. utility easements, access rights-of-way, etc.);
- The location and nature of existing and proposed airport facilities and structures; and
- The location on the airport of existing and proposed non-aviation areas and improvements thereon.

A current FAA-approved ALP is a prerequisite for issuance of a grant for airport development. Changes to the ALP for the benefit of the airport and its safety, utility, efficiency, and operations must be completed in conformity with the ALP Standard Operating Procedures and approved through appropriate FAA authorization. As part of this Master Plan Update, the ALP is being revised and will be reviewed by appropriate FAA divisions in advance of securing project funding.

10.2.3 EXHIBIT 'A' PROPERTY MAP

The Exhibit 'A' property map provides an overview of the inventory of parcels that make up obligated airport property. The Exhibit 'A' highlights how parcels of land were acquired, the funding source for the land and if the land was conveyed as federal surplus land or government property. The Exhibit 'A' must show all obligated airport property regardless of the type of funds (AIP, state, local, etc.) used to acquire the property. All land described in a project application and shown on an Exhibit 'A' (per Grant Assurance #5) constitutes the airport property federally obligated for compliance under the terms and covenants of a grant agreement. An Airport Sponsor has a federal obligation to submit accurate Exhibit 'A' Airport Property Inventory Maps when applying for and prior to execution of certain federal grants. A copy of the Airport's Exhibit 'A' is located in Appendix I.

10.2.4 ZONING ORDIANCE

Land uses around an airport are to be planned and implemented in a way that ensures compatibility with the airport and its operations. Ensuring compatible land use near federally obligated airports is an important responsibility and an issue of federal interest. In effect since 1964, Grant Assurance 21, *Compatible Land Use,* implementing Title 49 United States Code (U.S.C.) § 47107 (a) (10), requires, in part, that the sponsor:

"…take appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft. In addition, if the project is for noise compatibility program implementation, it will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility, with respect to the airport, of the noise compatibility program measures upon which federal funds have been expended."

10.2.4.1 §190-21 Airport Approach Zone

The City of Nashua has adopted an Airport Approach Zone overlay district to avoid land use conflicts with users which may be incompatible with noise levels generated at Boire Field. The following is an outline of the Airport Approach Zone:

A. Applicability.

(1) In addition to the limitations and requirements set forth in the other articles of this Part **2** for various zoning districts within the City, any use, structure or object of natural growth situated within the limits of Airport Approach Zones and other restricted areas shall be further governed by the limitations of this section.

(2) All other articles of this Part **2**, including those relating to permits, nonconforming uses and variances, shall, where applicable, apply to the persons and subject matter governed by this Part **2**.

(3) Prior to filing an application for development approval within the Airport Approach Zone, the applicant shall submit a Federal Aviation Administration (FAA) Form 7460-1 to the FAA and shall submit the comments of the FAA as part of the application for approval.

B. Establishment of airport approach plans. Any publicly owned airport or privately-owned airport licensed for commercial operations, existing or which may be developed, shall have an airport approach plan prepared by the New Hampshire Aeronautics Commission in accordance with RSA 424 as last amended. The airport approach plan for the Boire Field, adopted by the New Hampshire Aeronautics Commission February 12, 1968, is hereby declared to be part of this section.

C. Boire Field airport approach plan.

(1) This airport approach plan, prepared under the authority of RSA 424:3, is based upon the ultimate development of a general aviation type airport with a runway 14/32 5,550 feet and a primary surface 5,900 feet by 1,000 feet[2].

(2) Federal Aviation Regulations, Part 77, effective May 1, 1965, establishes the standards used to determine the limit of height of objects in the vicinity of the airport.

(3) The limit of height of objects shall be:

(a) In the approach zone to Runway 32 (SE end), which is 500 feet wide at a point 200 feet from the end of the runway and 2,500 feet wide at a point 10,200 feet from the end of the runway, an inclined plane of 40:1 slope.

(b) In the approach zone to Runway 14 (NW end), which is 1,000 feet wide at a point 200 feet from the end of the runway and 7,000 feet wide at a point 10,200 feet from the end of the runway, an inclined plane of 50:1 slope, widening thereafter to 16,000 feet at a point 50,200 feet from the end of the runway, an inclined plane of 40:1 slope.

(c) On the sides of the primary and approach surfaces, an inclined plane of 7:1 slope from the edges of those surfaces. This subsection does not limit the height of a structure or tree to less than 30 feet above the ground upon which it is located.

(d) Within 7,000 feet of the airport reference point 150 feet above the airport, 349 feet above sea level.

(e) Between 7,000 feet and 12,000 feet from the airport reference point, a conical surface with a slope of 20:1 measured in a vertical plane passing through the center of the airport.

[2] https://www.ecfr.gov/cgi-bin/text-idx?SID=c957224f6e2b4fb1f2fc236f5da09558&node=pt14.2.77&rgn=div5

(4) The airport reference point is located on the center line of the runway, 2,750 feet from the southeast end of the runway, and the airport elevation is 199 feet above mean sea level (USGS Datum).

(5) Noise compatibility zones for the affected areas in the vicinity of the Boire Field Airport are hereby established based on the Ldn contours for aircraft noise as defined by the most recently approved Federal Aviation Regulation Part 150 Noise Compatibility Program for the Boire Field Airport. A generalized map of the approximate location of these zones is illustrated in the Noise Exposure Map. The boundaries of the Noise Overlay Zones are shown in the Part 150 Boire Field Airport Noise Compatibility Program.

D. Height limits. No structure or tree shall be erected, altered or allowed to grow within an airport approach zone and adjacent area above a height of 30 feet above the ground on which it is located unless the inclined plane is more than 30 feet above the ground, in which case a structure or tree may be erected, altered or allowed to grow up to the level of the plane or the height limitation of § **190-16**, whichever is less.

E. Permitted uses.

(1) Notwithstanding any other provisions of this Part 2, no use may be made of land within the airport hazard area in such manner as to:

(a) Create electrical or visual interference with any electronic facility or instrumentation, wherever located within the airport hazard area, including but not limited to, radio transmitters and receivers, radar installations, landing and navigational aids and weather instruments where such facilities are used in connection with the landing, taking off and maneuvering of aircraft;

(b) Make it difficult for flyers to distinguish between airport lights and others;

(c) Result in glare in the eyes of flyers using the airport;

(d) Impair visibility in the vicinity of the airport;

(e) Cause physical objects of any nature to penetrate, however briefly, the air space above the imaginary surfaces established in this article, such objects including but not limited to kites, balloons, projectiles, rockets, model aircraft, derricks and cranes, unless a special temporary permit be obtained from the authorities in charge of the affected airport;

(f) Establish or alter privately owned flying fields, strips or heliports, unless found not to be objectionable after a special aeronautical study by federal aviation authorities;

(g) Create bird strike hazards;

(h) Otherwise endanger the landing, taking off, or maneuvering of aircraft.

(2) Uses prohibited in the noise overlay zones shall be as specified in the Table of Land Use Compatibility Standards. Soundproofing shall be required for certain land uses in each of the noise overlay zones as shown in the Table of Land Use Compatibility Standards (Table 21-1 below). Where soundproofing is required, no building permits shall be issued until the applicant has demonstrated that the building design is capable of achieving the noise level reduction required in the Table of Land Use Compatibility Standards.

Table 21-1						
Table of Land Use Compatibility Standards						
	Yearly Day/Night Average Sound Level (Ldn) in Decibels					
Land Use	**Below 65**	**65-70**	**70-75**	**75-80**	**80-85**	**Over 85**
Schools (any category)	Y	N(1)	N(1)	N	N	N
Hospitals (any category)	Y	25	30	N	N	N
Churches; exhibition, convention or conference structures; performance theaters; or theaters	Y	25	30	N	N	N
Governmental offices	Y	Y	25	30	N	N
Transportation, communication, information and utilities (generally)	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking lots	Y	Y	Y(2)	Y(3)	Y(4)	N
Office buildings	Y	Y	25	30	N	N
Warehousing and storage uses	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail (general sales or service) uses	Y	Y	25	30	N	N
Utility uses and structures	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication antennas, radio/television stations, telecommunication towers, telephone repeater stations	Y	Y	25	30	N	N
Industrial and manufacturing uses, general	Y	Y	Y(2)	Y(3)	Y(4)	N
Agriculture (except livestock)	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Excavation of sand, gravel and clay	Y	Y	Y	Y	Y	Y
Sports stadiums, arenas, coliseums, or assembly halls	Y	Y(5)	Y(5)	N	N	N
Amphitheaters, outdoor stages, band stands	Y	N	N	N	N	N
Golf courses	Y	Y	25	30	N	N
Source: 14 CFR Part 150, Article X, Division 1						

Keys to Table 21-1

Numbers in parentheses refer to notes
"Y (Yes)" means land use and related structures compatible without restrictions
"N (No)" means land use and related structures are not compatible and should be prohibited.
'NLR" means noise level reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
"25, 30, or 35" means that the land use and related structures are generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated into design and construction of structures.

Notes to Table 21-1:

1) Where school uses are permitted by a variance, measures to achieve outdoor to indoor noise level reduction (NLR) of at least 25 dB and 30 dB should be incorporated into buildings. Normal residential construction can be expected to provide NLR of 20 dB, thus, the reduction requirements are often stated, 5, 10, or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year-round. However, the use of NLR criteria will not eliminate outdoor noise problems.
2) Measures to achieve NLR 25 dB must be incorporated into the design and construction portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
3) Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.
4) Measures to achieve NLR 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal level is low.
5) Land use compatible provided special sound reinforcement systems are installed.
6) Residential buildings require an NLR of 25.
7) Residential buildings require an NLR of 30.
8) Residential buildings not permitted.

F. Signs. Within the fenced perimeter of Boire Filed, a sign permit (see §**190-94)** for any proposed sign advertising a business or service located thereon may be issued by the airport manager or his designee, subject to review by the Nashua Airport Authority and in compliance with the requirements set forth below:

1. No sign may be directed at or oriented to any street that serves the airport with the intent that the sign not be visible to or readable from said street, except as provided in the Boire Field Sign Standards booklet.
2. The Administrative Officer shall assist the airport manager in the preparation and updating of the Boire Field Sign Standards booklet.
3. The airport manager shall consult with the Administrative Officer as necessary concerning compliance with these requirements.

4. The Administrative Officer may cause any sign to be removed that does not comply with these requirements, or as otherwise specified in the PI Zoning District. (See Article **IX** of this chapter.) Appeals concerning the removal of any sign shall be set forth in §**190-136.**

G. Variances. In granting a variance from this article, the Zoning Board of Adjustments may, if such action is deemed advisable to effectuate the purpose of this article and is reasonable in the circumstances, conditions the variance to require the owner of the structure or object of natural growth in question to permit the City, at its own expense, to install, operate and maintain thereon such markers and lights as may be necessary to indicate to flyers the presence of an airport hazard.

10.2.5 MINIMUM STANDARDS FOR COMMERCIAL AERONAUTICAL ACTIVITIES

Minimum standards set forth the minimum requirements an individual or other entity wishing to provide aeronautical services to the public on a public-use airport must meet in order to provide those services, such as required equipment, minimum leasehold size, hours of operations, fees, etc. Minimum standards should be imposed to facilitate an adequate level of safe and efficient services available to the public. While the FAA does not require minimum standards, the FAA strongly recommends that sponsors adopt minimum standards (see FAA Grant Assurance #19 Operation and Maintenance).

Although ASH does not have minimum standards in place, in 2016, ASH updated its *Standards and Procedures for Nashua Municipal Airport*[3]. The *Standards and Procedures for Nashua Municipal Airport* serves as the presiding document establishing airport rules and minimum standards for businesses. As described, the purpose of ASH's *Standards and Procedures* plan is to "…allow for the establishment and orderly development of a sound economic base upon which the airport will thrive and experience a stable growth pattern, ensuring financial stability and viable credit rating; to ensure that the public receives reliable, safe, adequate and non-discriminatory services from operators conducting commercial activities at or from the airport; and to ensure that operators conducting aeronautical activities at the airport receive fair, equitable and non-discriminatory treatment as compared to others conducting the same or similar activities at the airport."

The sections below highlight some of the key requirements contained in the *Standards and Procedures* plan for ASH.

Statement of Management Policy

- When an existing lease of any present tenant expires, such tenant shall at the time of expiration of such existing lease be required to comply with the provisions of these Standards and Procedures prior to renewal. The airport will consider renewal of a lease based on the following factors:
    - Physical condition of the facility;
    - History of lease payments; and
    - History of compliance with lease terms and conditions.

[3] http://www.nashuaairport.com/links---documents.html

- Nothing in these Standards and Procedures shall be construed as the conferring of a positive privilege and/or exclusive rights to do business on the airport irrespective of any existing agreement between the NAA and an FBO/Independent Operator/Tenant. Any subsequent grant of federal funds, administered by the FAA, requires the NAA to agree not to permit the establishment of an exclusive right to engage in any aeronautical activities in the future and to terminate any existing agreement that permits such an exclusive right as soon as possible.

Business

- The tenant, his/her agent and employees will not discriminate against any person or class of persons by reason of race, color, creed, political affiliation, sex, disability, age, national origin, religion or sexual orientation in providing any services or in the use of any of its facilities provided for the public. The tenant further agrees to comply with such enforcement procedures as the United States might demand that the NAA take in order to comply with the NAA's covenant with appropriate governmental agencies.

Building & Development

- No construction of any kind shall be done at the airport without the prior written approval of the Federal Aviation Administration, or its successor governmental agency, and the NAA and no such approval shall be granted unless such construction design is consistent with the latest approved Master Plan or Airport Layout Plan for the development of said airport. Construction shall be completed within one year of the date of such written approval.

Hangars

- The airport manager may, at his option, require the outside of a hangar be cleaned up if the manager feels conditions warrant such action. If the inside housekeeping of a hangar appears to pose a safety hazard to the airport, the airport manager may notify the Fire Department, or require it to be cleaned and restored to a safe condition.

Independent Operator

- An independent operator is a based-business that provides aviation services other than fuel. Such services may include but not be limited to, aircraft maintenance, avionics sales and service, flight instruction and other services as set forth in New Hampshire Code Tra-A 904.02. All such operators must be registered with the airport manager, and the State of New Hampshire Department of Transportation, Bureau of Aeronautics if required in accordance with Tra- A904.02.

10.2.6 LEASE AGREEMENTS

Regarding rental rates, the FAA is opposed to excessively low (or no) rent for public owned/federally obligated land, regardless of whether it is considered aviation or non-aviation use land (see FAA Grant Assurance #22 Economic Nondiscrimination). ASH's fees and rental structures are expected to be implemented in a manner that makes the Airport as self-sustaining as possible (see FAA Grant Assurance

#24). Airport properties cannot be made available for private use without obtaining fair market value (i.e. private use of the airport for non-aeronautical activity requires fair-market value as if the use was off-airport and must be approved by the NHDOT/BA and/or FAA in advance). Revenue generated from airport-related fees and rents are necessary to support day-to-day operational needs. Having invested public funds in the airport, the public owner, NHDOT/BA, and the FAA have developed an asset and created an opportunity for privately owned aviation services and non-aviation uses which otherwise would not exist. Therefore, the sponsor has the right and obligation to require a reasonable return on the investment of public funds. Periodic review of the fee and rental structure should be conducted to ensure that reasonable charges are established to support this goal.

In accordance with *Standards and Procedures for Nashua Airport*, it is the policy of the NAA to grant lease and/or operating rights on the airport to applicants who have duly made application for said lease rights in the manner and form prescribed, and with due consideration to the Airport Master Plan.

While the FAA does not review all leases, and there is no requirement for a sponsor to obtain FAA approval before entering into a lease, it is the sponsor's responsibility to develop lease agreements that maintain compliance at a minimum with the following federal obligations:

Nondiscrimination

"The tenant for himself, his personal representatives, successors in interest, and assigns, as a part of the consideration thereof, does hereby covenant and agree that (1) no persons on the grounds of race, color, or national origin shall be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said facilities, (2) that in the construction of any improvements on, over or under such land and the furnishing of services thereon, no persons on the grounds of race, color, or national origin shall be excluded from participation in, denied the benefits of, or be otherwise subject to discrimination, (3) that the tenant shall use the premises in compliance with all other requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally assisted programs of the Department of Transportation-Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended.

That in the event of breach of any of the above nondiscrimination covenants, Airport Owner shall have the right to terminate the lease and to re-enter and as if said lease had never been made or issued. The provision shall not be effective until the procedures of Title 49, Code of Federal Regulations, Part 21 are followed and completed, including exercise or expiration of appeal rights."

Property Rights Preserved

"This lease and all provisions hereof are subject and subordinate to the terms and conditions of the instruments and documents under which the Airport Owner acquired the subject property from the United States of America and shall be given only such effect as will not conflict or be inconsistent with the terms and conditions contained in the lease of said lands from the Airport Owner, and any existing or

subsequent amendments thereto, and are subject to any ordinances, rules or regulations which have been, or may hereafter be adopted by the Airport Owner pertaining to the _____ Airport."

Exclusive Rights (required in aviation leases only)

"Notwithstanding anything herein contained that may be, or appear to be, to the contrary, it is expressly understood and agreed that the rights granted under this agreement are non-exclusive and the Lessor herein reserves the right to grant similar privileges to another Lessee or other Lessees on other parts of the airport."

Escalation Clauses

Since the annual cost of satisfactorily operating and maintaining an airport will most likely increase throughout the term of the lease, provisions should be made to ensure that fair market rental value rates remain current throughout the life of the lease. Accordingly, rental rates should be adjusted at a minimum of 5-year increments. An escalating clause or other means of automatically adjusting must be incorporated into long term leases to provide for this adjustment. A local, state or federal cost of living index is just one possible example that can be utilized as the basis for determining the increase. The following is a sample clause:

"Lessor and lessee recognize and agree that the purchasing power of the United States dollar is evidenced by the (name of appropriate index). In (year or lease), and every five years thereafter, the parties hereto will compare the price index for said year with the price index for (state year the lease is executed) and the annual rental payments shall be increased (or decreased) in the same portion as said price index has increased (or decreased) with the price index for (state the year the lease is executed)."

Effectively, sponsors must ensure they do not enter into agreements that would surrender their capability to control the airport or subordinate its federal obligation to the lease agreement. FAA Order 5190.6B Chapter 12 *Review of Aeronautical Lease Agreements* discusses expectations for lease agreements between the sponsors and aeronautical users[4].

10.3 FAA GRANT ASSURANCES

Currently there are 39 FAA grant assurances included in FAA Order 5190.6B. As described in Section A of the Grant Assurances, when an airport sponsor accepts funds from FAA-administered airport financial assistance programs, they must agree to certain obligations (or assurances), and the assurances become part of the grant agreement. These obligations require recipients to maintain and operate their facilities safely and efficiently and in accordance with specified conditions. As described in Section B of the Grant Assurances, they remain in full force and effect throughout the useful life of the facilities developed or equipment acquired. For airport development or noise compatibility program projects, the useful life is not to exceed twenty (20) years. In the case of equipment acquired under an airport development or noise computability program project, the useful life shall be no less than ten (10) years from the date of

[4] https://www.faa.gov/airports/resources/publications/orders/compliance_5190_6/

acceptance of Federal aid for the project. Table 3-8 of the AIP Handbook contains a full-listing of project type and their minimum useful life.

As the Airport sponsor, the City of Nashua and Nashua Airport Authority are responsible for the direct control and operation of ASH. Familiarity and proper implementation of sponsor obligations, FAA grant assurances in particular, are the keys to successful compliance. The terms, conditions, and assurance of a grant agreement with the FAA remain in effect for the useful life of a development project, which is typically 20 years from the receipt of the last grant. However, terms, conditions, and assurances associated with a land purchase with Federal funds do not expire. The sections below is an overview of some of the grant assurances from Section C[5].

10.3.1 SPONSOR FUND AVAILABILITY (ASSURANCE #3)

Once a grant is issued to the airport sponsor, the receiving sponsor commits to providing their portion of the total project cost. Currently, airport sponsors are responsible for five percent of the total eligible project costs. In addition, the receiving airport also commits to having adequate funds to maintain and operate the airport in the appropriate manner that protects the investment in accordance with the terms of the assurances attached to and made part of the grant agreement.

10.3.2 PRESERVING RIGHTS AND POWERS (ASSURANCE #5)

Actions that might take away any rights or powers necessary for the sponsor to perform or fulfill any condition set forth by the assurances included as part of the grant agreement are not allowed. If there is an action taken or activity permitted that might hinder any of those rights or powers, it must be discontinued. An example of an action that can adversely affect the rights and powers of an airport is a Through-the-Fence (TTF) activity. TTF activities allow access to airport facilities from off-airport users. In many instances, the airport sponsor cannot control the activity of those operating off the airport resulting in less sponsor control. This loss of control can potentially have an adverse impact to airport users. For example, TTF activities often do no pay the same rates and charges as on-airport users, resulting in an unfair competitive advantage for businesses/users located off-airport versus those on-airport.

10.3.3 CONSISTENCY WITH LOCAL PLANS (ASSURANCE #6)

All projects must be consistent with city and county comprehensive plans, transportation plans, zoning ordinances, and hazard mitigation plans. The airport sponsor and planners should all familiarize themselves with local planning documents before a project is considered and ensure that all projects follow local plans and ordinances.

Further, airport sponsors should be proactive in order to prevent noncompliance with this assurance. The airport sponsor should assist in the development of local plans that incorporate the airport and consider

[5] https://www.faa.gov/airports/aip/grant_assurances/

its unique aviation related needs. Sponsor efforts should include the development of goals, policies, and implementation strategies to project the airport as part of local pans or ordinances.

10.3.4 OPERATIONS AND MAINTENANCE (ASSURANCE #19)

All federally obligated airport facilities must operate at all times in a safe and serviceable manner. The airport sponsor should not allow for any activities that inhibit or prevent this. The airport sponsor must always promptly mark and light any hazards on the airport, and promptly issue Notices to Airmen (NOTAMs) to advise of any conditions that could affect safe aeronautical uses. Exceptions to this assurance include when temporary weather conditions make it unreasonable to maintain the airport, acts of God, and/or other conditions or circumstances beyond the control of the airport sponsor. Further, this assurance does not require the airport sponsor to repair conditions that have happened because of a situation beyond the control of the sponsor.

10.3.5 HAZARD REMOVAL AND MITIGATION (ASSURANCE #20)

Airport sponsors, in an effort to maintain clear airspace are required to take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport are adequately cleared. This includes removing, lowering, relocating, marking, lighting or otherwise mitigating existing airport hazards and by preventing the establishment or creating of future airport hazards.

10.3.6 COMPATIBLE LAND USE (ASSURANCE #21)

Land uses around an airport should be planned and implemented in a manner that ensures surrounding development and activities are compatible with the airport. To ensure compatibility, the sponsor is expected to take appropriate action, to the extent practicable, including the adoption of zoning laws to guide land use in the vicinity of airports under their jurisdiction. Incompatible land use around airports represents one of the greatest threats to the future viability of airports.

10.3.7 ECONOMIC NON-DISCRIMINATION (ASSURANCE #22)

Any reasonable aeronautical activity offering service to the public should be permitted to operate at the airport as long as the activity complies with airport-established standards for that activity and the Grant Assurances. Any agreement made with the airport must have provisions making sure certain persons, firms, or corporations will not be discriminatory when it comes to services rendered as well as rates or prices charged to customers. Provisions include:

- All similarly situated Fixed Based Operators (FBOs) on the airport should be subject to the same rate fees, rentals, and other charges;
- All persons, firms, or corporations operating aircraft can work on their own aircraft with their own employees;
- If the airport sponsor at any time exercises the rights and privileges of this assurance, they will be under all of the same conditions as any other airport user would be; and

- The sponsor is encouraged to establish fair conditions which need to be met by all airport users to make the airport safer and more efficient.

The sponsor can prohibit any type, kind, or class of aeronautical activity if it is for the safety of the airport. An example of an activity that may be considered for prohibition is sky diving. It is important to point out that the FAA will review such prohibitions and will make the final determination as to whether or not a particular activity type is deemed unsafe at the airport based on current operational dynamics.

10.3.8 EXCLUSIVE RIGHTS (ASSURANCE #23)

Exclusive Rights at an airport is often a complicated subject usually specific to individual airport situations. The assurances state the sponsor "will permit no exclusive right for the use of the airport by any persons providing, or intending to provide, aeronautical services to the public…". There are exceptions to this rule. If the airport sponsor can prove that permitting a similar business would be unreasonably costly, impractical, or result in a safety concern, the sponsor may consider granting an exclusive right. To deny a business opportunity because of safety, the sponsor must demonstrate how that particular business will compromise safety at the airport. Exclusive rights are very often found in airport relationships with FBOs, but exclusive rights can also be established with any other business at the airport that could assist in the operation of an aircraft at the airport. Currently, if exclusive rights agreement exists, they must be dissolved before a future federal grant is awarded to the airport.

10.3.9 FEE AND RENTAL STRUCTURE (ASSURANCE #24)

Fee and rental structure at an airport must be implemented with the goal of generating enough revenue from airport-related fees and rents to become self-sufficient in funding day to day operational needs. The airport sponsor should routinely monitor its fee and rental structure to ensure reasonable fees are being charged to meet this goal. Common fees charged by airports include fuel flowage, tie-down, landing fees, hangar rent, and non-aeronautical uses/event fees.

10.3.10 AIRPORT REVENUE (ASSURANCE #25)

All revenues generated by the airport and any local taxes on aviation fuel established after December 30, 1987, must be expended for the capital or operating costs of the airport; the local airport system, or other facilities which are owned by the same owner of the airport and which will directly impact air transportation passengers or property or for noise mitigation on or off airport property. Use of airport revenue to support or subsidize other non-avigation activities or functions of the sponsor is not allowed and is considered revenue diversion. Revenue diversion is a serious compliance issue subject to scrutiny by the FAA.

10.3.11 AIRPORT LAYOUT PLANS (ALP) (ASSURANCE #29)

An airport sponsor's ALP should be kept up to date at all times and should include on it both current and future boundaries, facilities/structures, and the location of any non-aviation areas and existing improvements, among other items. No changes should be made to the airport that is not in conformity with the ALP. Any changes of this nature could adversely affect the safety, utility, or efficiency of the

airport. If any changes are made to the airport without authorization, the alteration must be changed back to their original condition, or the airport will have to bear all costs associated with moving or changing the alteration to an acceptable design or location. Additionally, no federal participation will occur for improvement projects not shown on an approved ALP.

10.4 GRANT AGREEMENT CONDITIONS AND SPECIAL CONDITIONS

In addition to the standard FAA grant assurances, the state and/or the FAA may require "Special Grant Conditions" to individual grants which supplement or expand the standard grant assurances. The NHDOT/BA, for example, has a list of "Special Grant Conditions", and they make a determination with each unique project if any special grant conditions are appropriate for that grant offer.

For example, **Runway Protection Zone (RPZ) Acquisition:** The Sponsor agrees to take any and all steps necessary to ensure that the owner of the land within the designated RPZ will not build any structure in the RPZ that is an airport hazard or that might create glare or misleading lights or lead to the construction of residences, fuel handling and storage facilities, smoke generating activity, or places of public assembly, such as churches, schools, office buildings, shopping centers, and stadiums.

Another example is **ALP & AIP Funded Construction:** The Sponsor understands and agrees to update the ALP to reflect the construction to standards satisfactory to the State and submit it in final form to the State. It is further mutually agreed that the reasonable cost of developing said ALP is an allowable cost within the scope of a project.

10.5 NON-AERONAUTICAL USE REQUEST CHECKLIST

Public-use airports that receive federal grant assistance are obligated to keep their airports open for aeronautical purposes. Given the amount of land that airports typically occupy, sponsors are frequently approached by the public to use a portion of the airport for some non-aeronautical purposes. In the case of ASH, to ensure compliance with the obligations under the federal grants, they are required to receive approval from the NHDOT/BA. In order to protect the continued safe use of airports for aeronautical purposes, ASH must submit sufficient information for NHDOT/BA to be able to complete the review and issue a finding. Sample requests for non-aeronautical use of obligated airports is available on the NHDOT/BA website[6].

10.6 FAA ADVISORY CIRCULARS, ORDERS, REGULATIONS, LAWS, AND POLICIES

The following information from the FAA provides guidance material to the aviation industry with respect to standards, procedures, and practices acceptable to the FAA.

10.6.1 FAA ADVISORY CIRCULARS

Advisory circular (AC) refers to a type of publication offered by the FAA to provide guidance for compliance with airworthiness, pilot certification, operational standards, training standards, and any other rules

[6] https://www.nh.gov/dot/org/aerorailtransit/aeronautics/programs/blockgrants.htm

within the 14 CFR Aeronautics and Space Title. In accordance with FAA Grant Assurance No.34, the use of ACs is mandatory for all projects funded with federal monies through the Airport Improvement Program (AIP) and/or with revenue from the Passenger Facility Charges (PFC) program. Some examples of ACs are listed below.

- 150/5300-13A- Airport Design Standards
- 150/5220-20A- Airport Snow and Ice Control Equipment
- 150/5340-1L- Standards for Airport Markings

10.6.2 FAA ORDERS

FAA Orders are documents that establish policies and procedures for FAA personnel to follow in carrying out the FAA's responsibilities. They provide basic guidance for FAA personnel in interpreting and administering the various continuing commitments airport owners make to the United States as a condition for the grant of federal funds. Some examples of FAA Orders include:

- 1050.1F- Environmental Impacts: Policies and Procedures
- 5050.4B- National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions
- 5190.6B- FAA Airport Compliance Manual
- 5100.38D- Airport Improvement Program Handbook
- 5090.3C- Field Formulation of the National Plan of Integrated Airport Systems (NPIAS)

10.6.3 REGULATIONS, LAWS, AND POLICIES

The Code of Federal Regulations (CFR) is a codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government. The Code is divided into 50 titles which represent broad areas subject to Federal Regulation. Federal Aviation Regulations or "FARs" are part of Title 14 of the CFR.

Title 14 of the Code of Federal Regulations (14 CFR) are the regulations that govern today's aircraft. There are 68 regulations organized into three volumes under Title 14, Aeronautics and Space. These 68 regulations are separated into the following three categories:

1) Administrative
2) Airworthiness Certification
3) Airworthiness Operation

FAA's Office of Policy, Internal Affairs, and Environment (APL) leads FAA's efforts to increase the safety and capacity of the global aerospace system in an environmentally sound manner. APL leads strategic policy and planning efforts, coordinates FAA's reauthorization before Congress, and is responsible for national aviation policies and strategies in the environment and energy arenas, including aviation activity forecasts, economic analyses, aircraft noise and emissions research and policy, environmental policy, and employee safety and health.

10.7 DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

The Disadvantaged Business Enterprise (DBE) program is designed to help ensure that there is a level playing field for socially and economically disadvantaged firms to compete for federally funded airport contracting and concession opportunities. Airport sponsors in the United States that receive FAA grants for airport planning or development and award prime contracts exceeding $250,000 (federal share) in cumulative value in a fiscal year must have an FAA Office of Civil Rights approved DBE program and meet related requirements as a condition of receiving these funds. Airports are required to report annually on their DBE goal accomplishments (currently due on or before December 1st of each year) and their DBE goals must be updated every 3 years (or more often if needed).

DBE goals are not quotas, but simply estimates, based on relative availability of what participation would be expected in the absence of discrimination. Airports must make good faith efforts to meet their overall goals, and account for cases in which they fall short of their goals. The DBE program provides a vehicle for increasing participation by bona fide small firms, owned and controlled by a socially and economically disadvantaged individual(s), certified to participate as DBEs in USDOT federally assisted programs. To be certified as a DBE, a firm must be a small business owned and controlled by socially and economically disadvantaged individuals. Certifiers (NHDOT/BA is the official certifier) make the determinations based upon on-site visits, personal interviews, reviews of licenses, stock ownership, equipment, bonding capacity, work complete, resume of principal owners and financial capacity.

A copy of ASH's most recent DBE goal methodology (FY 2018- FY 2020) is located in Appendix J.

10.8 PREVIOUS FAA LAND USE COMPLIANCE AUDIT REPORTS

The purpose of the land use inspections is to determine whether a sponsor is in substantial compliance with its federal obligations regarding the use of its obligated property. These federal obligations accrue to the sponsor when the sponsor accepts grants or transfers of property. Land use is an important aspect of successful and lawful airport management and operation.

In Senate Report No. 106-55, issued in May 1999, Congress directed the FAA to conduct land use inspections at all airports with lands acquired with federal assistance. It required the FAA to report on the survey results, including the scope of improper and noncompliant land use changes, the proposed enforcement and corrective actions, changes made to FAA's guidelines for use by Airport District Offices (ADOs) and regional airport divisions to assure more consistent and complete monitoring and enforcement, and the extent of FAA approved land releases. Accordingly, the FAA developed the Regional Land Use Inspections Program, which requires the FAA to conduct a minimum of 18 inspections (two per region) per year, and to conduct additional inspections as needed and where resources allow.

The FAA last conducted a land use inspection at the Airport on June 29, 2005. During the inspection, the FAA noted the following findings:

1. The deed transferring Parcel 28 of the referenced Exhibit "A" was never recorded.
2. There were several administrative errors on the Exhibit "A" Property Map.

As of the drafting of the Post Inspection Land Use Report on August 18, 2005, the Airport has made all necessary corrections. See Appendix K.

Further, in October 2017, the NHDOT/BA identified a potential violation at the Airport to the FAA's current hangar-use policy and grant assurances for obligated airports. A meeting occurred with affected parties in December 2017, and the Airport subsequently submitted documentation addressing all three conditions (no further automobile maintenance activities in the hangar; removal of automobile parts from the hangar; and on-airport building access by the Nashua Airport Authority). NHDOT/BA confirmed that the Airport returned to substantial compliance with FAA's hangar-use policy for obligated airports in its letter dated January 8, 2018 (see Appendix L).

Lastly, on April 3, 2018, the NHDOT/BA and FAA received an anonymous, undated letter alleging several violations relative to existing use of hangars at Boire Field. As a result, the NHDOT/BA and FAA conducted a Part 13 investigation relative to the allegations made in the anonymous, undated letter. The Notice of Potential Non-Compliance and Request for Corrective Actions Relative to Hangar Use at Boire Field is located in Appendix M. In response to the Notice, the Airport submitted to the NHDOT/BA a Corrective Action Plan. As of the date of this AMPU, the Airport is waiting for approval of the Corrective Action Plan.

10.9 FAA CIVIL RIGHTS FILING A COMPLAINT

No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving Federal financial assistance.

Governing Regulation

49 CFR Part 21 Appendix C (b)(3) "Each airport owner subject to this part shall, within 15 days after he receives it, forward to the [FAA Regional Office] in which the airport is located a copy of each written complaint charging discrimination because of race, color, or national origin together with a statement describing all actions taken to resolve the matter and the results thereof. Each airport operator shall submit to the [FAA Regional Office] in which the airport is located a report for the preceding year on the date and in a form prescribed by the Federal Aviation Administrator".

Complaint Received by Airport

Airports are required under 49 CFR Part 21 to forward a copy of any written complaint based on race, color or national origin to the FAA along with a statement describing all actions taken to resolve the matter, and the results thereof. The FAA may advise the airport during their attempts at resolution.

The airport must notify the complainant of the right to file a complaint directly with the FAA.

Complaint Made Directly to FAA

Any person who believes that he or she, individually or as a member of any specific class of persons was discriminated against based on race, color, national origin, sex, creed, or disability in public services or

employment opportunities may file a written complaint to the FAA, Office of Civil Rights, 800 Independent Ave. SW, Washington, D.C., 20591.

The complaint must be filed no later than 180 days after the date of the alleged discriminatory act or if the discrimination is ongoing, the date the conduct was disclosed.

FAA Title VI Complaint Process

The FAA, Office of Civil Rights and regional Civil Rights Staff, in conjunction with the Department of Transportation Office of Civil Rights, will conduct the following activities:

1. Determine jurisdiction and investigate merit of the complaint. This is based on the status of AIP funding, timeliness of the complaint, and assessment whether allegations are covered by 49 CFR 21.
2. Notify the complainant and the recipient.
3. Review the recipient's AIP funding, past compliance reviews, and the status of assurances.
4. Investigate the complaint. This may include information requests, interviews and/or site visits.
5. Write investigative report and notify parties of the result.
6. Take appropriate action to remedy any determination of discrimination and/or non-compliance.

This section discusses both the informal and formal resolution of complaints involving federally assisted airports. Under 14 CFR Part 13, any person who knows of a violation of federal aviation laws, regulations, rules, policies, or orders may report the violation to the FAA informally as a "report violation". 14 CFR Part 16 contains the agency procedures for filing, investigating, and adjudicating formal complaints against airport operators. The Part 16 process is the formal administrative process by which the FAA may make a formal agency finding regarding an airport sponsor's status of compliance with its federal obligations.

10.9.1 FAA GENERAL COMPLAINTS

The following information provides FAA guidance for filing information or formal complaints with the FAA.

10.9.1.1 14 CFR Part 13

As outlined in Chapter 5 of the FAA Order 5190.6B- FAA Airport Compliance Manual[7], the informal filing of a complaint permits the reporting party to submit its report of complaint verbally or in writing (letter or email). However, the receiving office may request the complaining parties to submit the allegations and supporting information in writing. When evaluating a complaint, the investigating FAA office must distinguish between the facts and separate facts from unsubstantiated allegations. Only complaints supported by facts may be considered in finding an airport in noncompliance. The complaining party has the responsibility to provide sufficient factual information to support the allegation(s).

[7] https://www.faa.gov/airports/resources/publications/orders/compliance_5190_6/

The Airport District Office (ADO) or regional airports divisions will attempt to resolve these complaints. In the case of Block Grant States, if the ADO receives the complaint about an airport sponsor, that FAA office should contact that state department of transportation or aeronautics division to decide on a protocol for resolving the allegations. Accordingly, those offices will:

1. Evaluate the facts surrounding the filing and identify possible sponsor violations.
2. Clarify the rights and responsibilities of the airport sponsor and the complaining party.
3. Offer assistance to resolve the dispute in a manner consistent with the sponsor's federal obligations.
4. Provide the sponsor the opportunity to comply with its federal obligations voluntarily when a violation is identified.

The ADO will review the filing and assist both parties in reaching a mutually agreeable resolution. If mutually agreed-upon resolution is not possible, the FAA office reviewing the complaint will make a preliminary determination based on facts presented. Although there are no legislative or regulatory deadlines for completing information complaints, regional offices and ADOs are encouraged to attempt to reach resolution within 120 days.

10.9.1.2 14 CFR Part 16

FAA Order 5190.6B- FAA Compliance Manual states that Part 16 covers matters within the jurisdiction of the Associate Administrator for Airports involving federal obligations incurred by an airport sponsor in accepting federal property or FAA grants. This primarily involves financial compliance and reasonable and nondiscriminatory access but includes all obligations in the grant assurances and property deeds. As outlined in 5190.6B, the Part 13 process can facilitate a complainant meeting the pre-complaint resolution requirements of 14 CFR § 16.21. Under that section, potential complainants are required to engage in good faith efforts to resolve the disputed matter informally with potentially responsible respondents before filing a formal Part 16 complaint. Informal resolution may include mediation, arbitration, use of a dispute resolution board, or other form of third party assistance, including assistance from the responsible FAA ADO or regional airports division. When filing a Part 16 complaint, the complainant must certify that good faith efforts have been made to achieve informal resolution. The Part 16 process is the formal administrative process by which the FAA may make a formal agency finding regarding an airport sponsor's status of compliance with its federal obligations.

However, there are exceptions:

a) The USDOT handles complaints by air carriers regarding the reasonableness of airport fees filed under 49 U.S.C § 47129. (Refer to 14 CFR Part 302, US*DOT Rules of Practice in Proceedings.)* Carriers may choose whether to file a complaint over the reasonableness of airport fees with USDOT under Part 302 or with FAA under Part 16.
b) The FAA regional offices of Civil Rights handle airport matters involving civil rights, disadvantaged business enterprises, and persons with disabilities.
c) The Federal Bureau of Investigations (FBI) handles criminal investigations. Matters that appear to involve a criminal violation should be brought to the attention of the FAA Office of Airports

(ARP) management, who will forward the information to the USDOT Office of the Inspector General for investigation and referral to the FBI.

d) The National Transportation Safety Board (NTSB), as an independent federal agency charged by Congress, investigates civil aviation accidents in the United States and issues safety recommendations aimed at preventing future accidents. The NTSB determines the probable cause of all U.S. civil aviation accidents and certain public use aircraft accidents.

e) Other matters that fall outside of the FAA Associate Administrator for Airports jurisdiction are issues involving flight standards and airspace.

For additional FAA guidance regarding the investigation and addressing compliance matters brought to the attention of Regional/Airport District Office personnel, see:

https://www.faa.gov/airports/airport_compliance/complaints/media/CGL-2014-01-investigating-part13-complaints.pdf

10.10 MATCHING REVENUE WITH EXPENDITURES

Through discussions with Airport Management, presently revenue is matching and/or exceeding expenditures and has been for quite some time at the airport. In an effort to remain as self-sustaining as possible under the circumstances, the Airport is continuously seeking ways to increase revenue and work toward self-sustainability. As such, the Airport has identified a number of ways to increase revenue production, which is further discussed in the next section.

10.11 IDENTIFYING/REMOVING BARRIERS TO AERONAUTICAL REVENUE PRODUCTION

Throughout various Chapters of this AMPU, the Airport has identified areas where it can eliminate barriers to aeronautical revenue production and improve its position to support an increase in based aircraft and operations. The following is a summary of recommendations from previous chapters that has the potential to remove barriers and increase revenue production at the Airport:

- AWOS Relocation- Presently, the AWOS is located adjacent to "Delta" Ramp. In its current location, the AWOS critical area contains obstructions, including the air traffic control tower. It is recommended that the AWOS be relocated in the infield adjacent to "Hotel" Ramp in accordance with applicable FAA regulations. Relocating the AWOS opens up the possibility for the Airport to redevelop the "Delta" Ramp area to include corporate hangars and a self-serve fuel facility.

- Self-Serve Fuel- Presently, there are two aboveground aviation fuel tanks located at the Airport providing 100-LL fuel and Jet-A fuel. Both fuel types are delivered to aircraft by fuel trucks. The Airport owns the fuel tanks and charges a fuel flowage fee; however, the equipment and operations are privately owned by the FBO. The Airport has identified an area adjacent to "Delta" Ramp that would be suitable for the construction of a self-serve fuel facility. Self-serve fuel enables the Airport to offer fuel to airport users 24 hours per day.

- Deicing- Through discussions with Airport personnel, FBOs, and airport users about promoting growth, it was determined that the Airport is often overlooked as a suitable facility due to its lack of deicing capabilities during winter months. It has been reported that aircraft operators fear

being stuck at the Airport following a winter storm event. As a result, the Airport has identified a suitable location in which to conduct deicing operations in an effort to attract airport users.

- Corporate Hangar Development- Presently, there are 12 corporate hangars on Airport property with capacity for 26 aircraft. In an effort to accommodate user needs throughout the planning period and provide the Airport with additional sources of revenue (through rental agreements, leases, etc.) the Airport has identified areas on "Alpha" Ramp, "Delta" Ramp, and land adjacent to "Alpha" Ramp for future corporate hangar development.
- T-Hangar Development- Presently, there are 106 T-hangar units with capacity for 106 aircraft on Airport property. In an effort to accommodate users needs throughout the planning period and provide the Airport with additional sources of revenue (through rental agreements, leases, etc.) the Airport has identified areas on "India" Ramp and land south of "India" Ramp suitable for future T-hangar development.
- Tie-Down Spaces- Presently, there are seven aircraft parking aprons at the Airport, which cumulatively accommodate up to 310 aircraft. While there is not a need for additional tie-downs at this time, the Airport has identified areas for future tie-down development with the shifting of Taxiway 'A'. The future development of tie-downs provides the Airport with the ability to increase its capacity as demand warrants.
- Cost-effective Marketing Strategies- As highlighted in Chapter 7, it is recommended that the Airport consider cost-effective marketing strategies aimed at promoting the presence of the Airport. Such strategies include: branding, developing public and private partnerships, cross-marketing, coordinating efforts with economic development authorities, etc.
- Marketing Land Development- As highlighted in Chapter 7, the Airport has the availability for both aviation and non-aviation uses. It is recommended that the Airport market its availability through economic development authorities, creation of a "developers tool kit" to assist those interested in developing uses compatible with airport operations, and identifying the type of development desired, etc.

10.12 IMPLEMENTATION TIMING

- Airport Master Plan- The Airport maintains an active Master Plan describing plans for short-, medium-, and long-term airport development. Prior to this AMPU, the last Master Plan update occurred in 1989 with an *Airport Master Plan Technical Supplement* conducted in 2000. Typically, airport master plans are updated approximately every 10 years. However, as local, state, or federal circumstances or requirements change, the Airport should plan to update its master plan accordingly.
- Airport Layout Plan- The Airport maintains an up-to-date ALP showing current and future property boundaries, facility/structures, and the location of existing and proposed aviation and non-aviation areas and improvements. A current FAA approved ALP showing the proposed airport development is a prerequisite for awarding a grant. Any sponsor who has received a grant for airport development is obligated by grant assurance to "keep the ALP up-to-date at all times".

Costs associated with the preparation of an ALP and general updates are eligible under a planning grant. The Airport should continuously coordinate with the FAA and NHDOT/BA to ensure that the ALP is adequately reflecting the airport development needs and update the ALP accordingly.

- Exhibit 'A' Property Map- The Airport maintains an up-to-date Exhibit 'A' Property Map showing all obligated airport property. The Airport Sponsor is responsible for submitting an Exhibit 'A' as part of the grant application when requesting AIP funds for land acquisition or development projects. For development projects for which land acquisition is not necessary, the Airport may reference the previous Exhibit 'A' if it is still current.

- City Zoning- As identified in Section 10.2.4 of this Chapter, there are several sections with the City of Nashua's *Airport Approach Zone Overlay District* that have become obsolete with the reconstruction and lengthening of Runway 14-32. As of the drafting of this report, the City was in the process of re-zoning portions of Amherst Street to better reflect the actual uses, including the number of variances that have been granted over the past several years. The Airport provided feedback on the proposed changes and recommended that the following sections of the *Airport Approach Zone Overlay District* be revised to reflect the current conditions at the Airport. These changes were voted on and approved during the Nashua Planning Board's October 4, 2018 meeting:

    - Section 10.2.4.1.C(1): The Airport approach plan dimensions should be revised to state "…runway 14/32 6,000 feet and a primary surface 6,400 feet by 1,000 feet."
    - Section 10.2.4.1.C: Language should be added to include the definition and dimensions of the primary surface.
    - Section 10.2.4.1.C(3)(a): The Airport approach zone dimensions should be revised to state "…which is 1,000 feet wide at a point 200 feet from the end of the runway and 3,500 feet wide at a point 10,200 feet from the end of the runway, an inclined plane of 34:1 slope."
    - Section 10.2.4.1.C(3)(b): The Airport approach zone dimensions should be revised to state "…which is 1,000 feet wide at a point 200 feet from the end of the and 4,000 feet wide at a point 10,200 feet from the end of the runway, an inclined plane of 50:1 slope, widening thereafter to 16,000 feet at a point 50,200 feet from the end of the runway, and inclined plane of 40:1 slope".
    - Section 10.2.4.1C(4): The Airport reference point should be revised to state "…on the centerline of the runway, 3,000 feet from the southeast end of the runway, and the airport elevation is 200 feet above mean sea level…."
    - Section 10.2.4.1.C(5): The Noise Exposure Map is outdated and no longer applicable.
    - Section 10.2.4.1.E(1): The 'Airport Hazard Area' should be defined.
    - Section 10.2.4.1.E(1)(e): The language needs to change as the definition of model aircraft have been defined as aircraft since 2012.
    - Parcel No. 53 (former Kliss property) on the Airport's Exhibit 'A' was acquired by the Airport under NHDOT No. SBG- 12-15-2014. Where the parcel is contiguous with existing Airport property, the Airport should seek to change the zoning of Parcel No. 53 from "Suburban Residential" to "Airport Industrial".

- Parcel No. 54 (former Alcorn property) on the Airport's Exhibit 'A' was acquired by the Airport under NHDOT No. SBG- 12-15-2015. Where the parcel is contiguous with existing Airport property, the Airport should seek to change the zoning of Parcel No. 53 from "Suburban Residential" to "Airport Industrial".

- Minimum Standards- As discussed in section 10.2.5 of this Chapter, the Airport does not currently have Minimum Standards in place at the Airport. It is recommended that the Airport develop Minimum Standards to promote safety in all airport activities, protect airport users from unlicensed and unauthorized products and services, maintain and enhance the availability of adequate services for airport users, promote the orderly development of airport land, and ensure efficiency of operations. It is further recommended that the Airport include Minimum Standards in their lease agreements with aeronautical service providers, or at a minimum, add language to the 'Business' section of its *Standard and Procedures for Nashua Airport*, stating, "Any lease or agreement granting the right to serve the public on the airport should be subordinated to the sponsor's federal obligations".

- Disadvantaged Business Enterprise Program- The Airport updates and maintains a current DBE plan every three years, as required, and provides annual reports on or before December 1st of each year. ASH's most recent DBE plan covers FY 2018- FY 2020.

- Land Use Compliance Audit Reports- In response to the NHDOT/BA *Notice of Potential Non-Compliance and Request for Corrective Actions Relative to Hangar Uses at Boire Field*, the Airport submitted a Corrective Action Plan on October 22, 2018. As of the drafting of this AMPU, it is not known whether the Corrective Action Plan has been approved by the NHDOT/BA.

10.13 LESSONS LEARNED/TAKE-AWAYS

This Chapter provided a brief overview of many requirements associated with the operation and management of ASH, as a federally-obligated airport. Specifically, this Chapter was developed to highlight many of the documents, plans, records, etc., that help guide the Airport in complying with its federal obligations as a NPIAS airport.

As identified in the previous sections, the Airport has taken appropriate action, as necessary to update and maintain many of its major documents, i.e., Master Plan, ALP, Exhibit 'A', DBE Plan, etc. Many of these documents require periodic updates and/or action, and the Airport has routinely met its obligation in this regard. In addition, the Airport is proactive in working with the City of Nashua to take appropriate action, to the extent reasonable, to adopt zoning ordinances that protect the Airport's protected surfaces. Most recently, the Airport has been working with the City as it is in the process of updating its zoning ordinances along Amherst Street in Nashua. This coordination will strive to ensure the use of land in the vicinity of the Airport is restricted to activities compatible with normal airport operations.

As previously discussed, although the Airport has in place *Standard and Procedures for Nashua Airport,* it lacks FAA recommended *Minimum Standards for Commercial Aeronautical Activities.* Therefore, it is recommended that the Airport work to develop *Minimum Standards.* *Minimum Standards* as recommended by the FAA will assist in the promotion of safety across all airport activities, including

protection of airport users from unlicensed and unauthorized products and services, promotion of availability and adequate services for all airport users, and encourage the orderly development of airport land for efficiency of operations. FAA offers tools and resources to assist the Airport in the development of *Minimum Standards*[8].

The Airport has been proactive in working with the FAA and NHDOT/BA to address any and all deficiencies brought to its attention with respect to non-compliance at the Airport (see section 10.8). As highlighted in Section 10.8, the Airport was subject to an FAA land use inspection. During the inspection, it was discovered that the Airport's Exhibit 'A' lacked complete detail regarding all federally-obligated property. As a result, the Airport promptly addressed the inaccuracies of the Exhibit 'A'. In 2017, a potential violation of the FAA's current hangar-use policy was brought to the attention of the Airport. Again, the Airport took appropriate action to address all concerns related to this matter, and subsequently received confirmation that the Airport was back in substantial compliance with FAA's hangar-use policy. Lastly, the Airport has been working with the FAA and NHDOT/BA to address alleged violations outlined in an anonymous, undated letter received by the NHDOT/BA on April 3, 2018. The Airport submitted to the FAA and NHDOT/BA a *Corrective Action Plan* and is awaiting further approval/guidance.

In summary, the Airport has worked to ensure to the best of its ability that it is complying with FAA requirements as a federally-obligated airport. The Airport recognizes that compliance is an ongoing process that is addressed through the review of airport documents, plans, and other records that may require periodic updates and revisions. As the airport sponsor, ASH is responsible for the direct control and operation of the Airport. Familiarity and proper implementation of the sponsor obligations, including all applicable FAA and NHDOT/BA requirements in addition to FAA grant assurances, is paramount to the future compliance status at the Airport.

[8] https://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.current/documentNumber/150_5190-7

Appendix A

Pavement Maintenance Plan

Pavement Maintenance Plan

Boire Field - Nashua Airport
Nashua, New Hampshire

August, 2017

GALE ASSOCIATES, INC.
15 Constitution Drive
Bedford, NH 03110-6042
P: 603-471-1887 F: 603-471-1809
www.galeassociates.com

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Appendices

Appendix A – Pavement Area Plan

Appendix B – Blank Inspection Forms

Appendix C – Completed Inspection Forms

1.0 Introduction:

The purpose of this Pavement Maintenance Plan is to establish a set of policies and procedures for the Nashua Airport, herein called the Airport, to be in compliance with the Airport Improvement Program (AIP) assurances for pavements that have been constructed, reconstructed, or repaired with federal financial assistance.

2.0 Pavement Inventory:

The Airport, also known as Boire Field has one runway (14-32), a full parallel taxiway ("A"), several stub taxiways ("B", "C", "D", "E", "F", and "G"), and aprons. There are three newly constructed porous pavement sections which are subject to special maintenance measures, see Section 5.0 for maintenance information. Table 1 below outlines the location of pavements (runways, taxiways, and aprons), dimensions, types of pavement, and year of construction or most recent major rehabilitation:

Table 1 – List of Airport Pavements

Paved Area	Location	Dimensions	Type of Pavement	Year of Construction or most recent Major Rehab.
Runway 14-32	*See Figure No. 1 in Appendix A for locations of all paved areas*	6,000'x100'	Flexible	2012
Taxiway "A"		5,206'x40' Parallel to RW 14-32	Flexible	Overlay Pavement East of T/W "C" - 2012 West of T/W "C" - 2013
Taxiway "A" West		690'x40'	Flexible	2012
Taxiway "A" East		895'x40'	Flexible	2012
Taxiway "B"		480'x40'	Flexible	2012
Taxiway "C"		480'x40' 80'x50'	Flexible	2012 1991
Taxiway "D"		480'x40' 295'x35'	Flexible	2012 Overlay Pavement 2013
Taxiway "E"		306'x40'	Flexible	1985/1991/1996
Taxiway "F"		80'x50'	Flexible	1991
Taxiway "G"		1,075' x Varying widths	Flexible	Overlay Pavement 2017
Taxiway "G" West		215' x Varying widths	Flexible	1991
Taxiway "G" East		100'x80'	Flexible	2012
Inner Taxiway (Taxiway 5)		1470'x30'-35' (varies)	Flexible	1991
Echo Ramp		290,500 SF	Flexible	2009

Foxtrot Ramp		97,300 SF	Flexible	1983
Golf Ramp		245,850 SF	Flexible	1986
Hotel Ramp		289,490 SF	Flexible	1985/1996
India Ramp		187,600 SF	Flexible	2003
Perimeter Rd		2,500' Long	Flexible	1992
Alpha Ramp		205,315 SF	Flexible	2017
Alpha Ramp (East)		270'x100'	Flexible	2012
Hangar Taxilanes		90,500 SF	Flexible	2017
Porous Pavement		8'x225' 8'x260' 8'x240'	Flexible	2017

3.0 Inspection Schedule

In order to maintain traversable and safe conditions for aircrafts and users, the Airport must inspect the paved areas (runway, taxiways, taxilanes, and aprons). Inspections fall into two (2) types: (1) Detailed Inspection and (2) Drive-By Inspection.

3.1 Detailed Inspections

A detailed inspection is an inspection in which the Airport thoroughly surveys the paved areas of the Airport for signs of distress (i.e. cracks, sealant failure, heaving, loose fragments, etc…) that could potentially cause a hazard to aircrafts and users of the facilities. Each detailed inspection should be performed by authorized Airport personnel at least once per year or as warranted. It may be necessary to perform additional detailed inspections in the course of one (1) calendar year, should adverse weather conditions (i.e. flooding, high wind storm, thunderstorms, etc…) deem them. If, during a detailed inspection, an area(s) is found to be potentially hazardous, then the Airport shall take the necessary corrective measures to remedy the condition.

A record of each detailed inspection shall be kept on file. See Section 6.0, *Record Keeping,* for further information. A blank *Detailed Inspection Form* can be found in Appendix B of this plan. Once the form has been filled out and completed, it shall be filed in Appendix C of this plan.

3.2 Drive-By Inspections

A drive-by inspection is an inspection in which the Airport visually inspects the paved areas for unexpected changes in pavement conditions. Drive-by inspections shall be performed once a month at a minimum.

A record of each drive-by inspection shall be kept on file. See Section 6.0, *Record Keeping,* for further information. A blank *Drive-By Inspection Form* can be found in Appendix B of this plan. Once the form has been filled out and completed it shall be filed in Appendix C of this plan.

4.0 Maintenance Priority List

Due to the large area of pavement present at the Airport and the cost associated with maintaining these pavements, it is critical that a Maintenance Priority List be established. The purpose of The Maintenance Priority List is to establish a pecking order in which Airport pavements will be maintained. The Maintenance Priority List shall be utilized to budget and schedule pavement maintenance and/or to identify possible projects for funding coverage under the Airport Improvement Program (AIP).

The most important section of pavement is the runway, followed by Taxiway 'A' and Stub Taxiways, Taxilanes and Aprons, and finally, Access Roads. With this simple principal, the Maintenance Priority List is as follows:

Maintenance Priority List

1. Runway 14-32
2. Taxiways ("A", "B", "C", "D", "E", "F", "G", and the inner taxiway)
3. Aprons and Taxilanes
4. Access Roads

The Airport may deviate from this Maintenance Priority List should an emergency arise or more critical pavement maintenance be warranted.

5.0 Maintenance Tips

Due to the large area of pavement present at the Airport and the cost associated with maintaining these pavements, the Airport may consider the following:

1. Carefully inspect your pavement on a regular basis for cracks, fading pavement markings, and other signs of failure or liability issues.
2. Seal coating helps to slow pavement deterioration; for maximum benefit, asphalt should be sealed every 24-36 months. Seal coating should only be performed under the proper weather conditions (50°F during sealer application and for 8 hours afterward).
3. Proper attention to cracks will prevent problems from spreading and greatly extend the life of pavement.

- Singular cracks that are between ¼-inch wide and 1-inch are good candidates for crack sealing.
- Crack widening or "routing" has become the new standard and greatly improves the effectiveness of the repair, however cracks that have been previously sealed cannot be routed but can be resealed with hot rubber.

4. Fixing "birdbaths" as soon as they appear will lessen the chance of water seeping through to the base and becoming a pothole.
5. Catch basin installation can be a possible solution for improper drainage.
6. All pre-existing problems such as cracking, low spots, poor drainage, and base or sub-base damage should be resolved before resurfacing pavement.
7. For porous pavement sections, broom or sweeper type snow removal equipment is required. Plows may cause damage to porous pavement.
8. Periodic vacuum sweeping is recommended on porous pavement sections. Frequency should be as needed to maintain porosity.

6.0 Record Keeping

A record of each detailed inspection shall be kept on file and contain the following information at a minimum:

- Date
- Person(s) conducting inspection
- Paved areas inspected
- Notes and photos of paved areas found to be unsafe or hazardous
- Recommendation of corrective actions to take to remedy hazardous paved areas
- Corrective action performed and date of its completion
- Signature of person(s) conducting inspection

A copy of each detailed inspection shall be kept on file at the Airport for a minimum of five (5) years.

A record of each drive-by inspection shall be kept on file and contain the following information at a minimum:

- Date
- Person(s) conducting inspection
- Paved Areas Inspected
- Notes and photos of paved areas found to be unsafe or hazardous
- Corrective action performed and date of its completion

A copy of each drive-by inspection shall be kept on file at the Airport for a minimum of three (3) years.

7.0 Information Retrieval

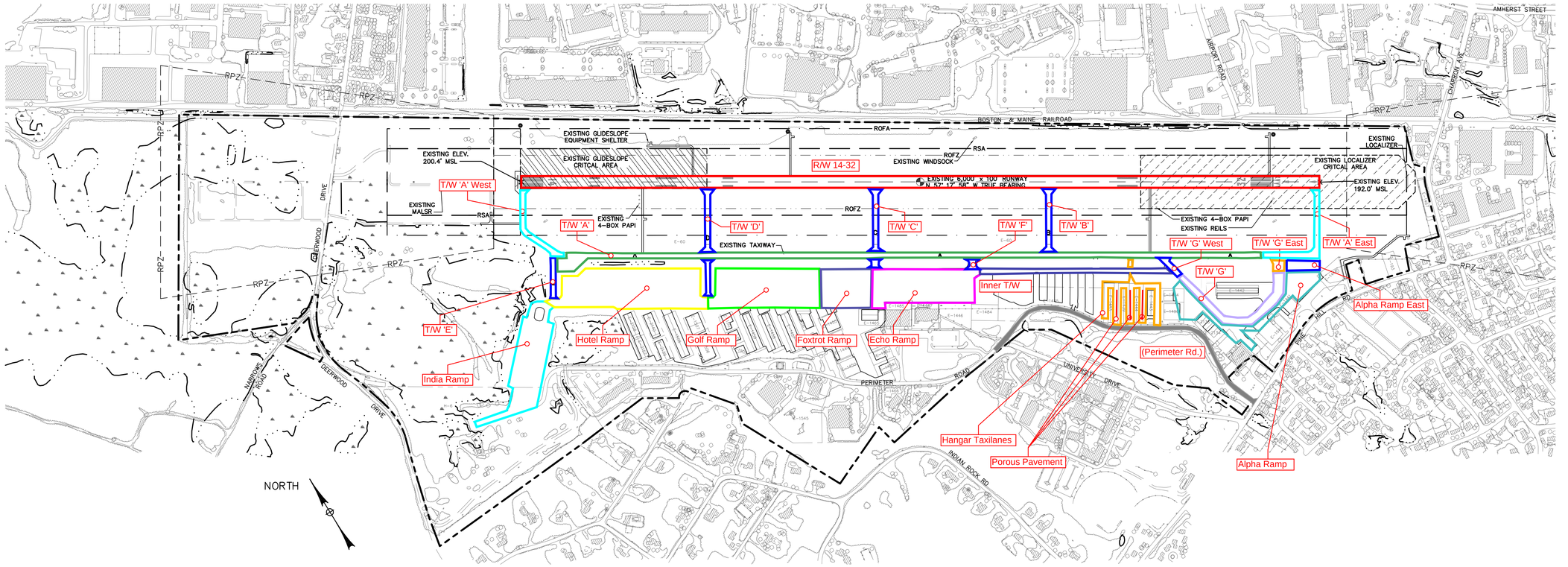
The Airport shall keep copies of all inspections, maintenance performed, and other relevant information with this Pavement Maintenance Plan. The Airport shall provide the Federal Aviation Administration (FAA) and/or the New Hampshire Department of Transportation Bureau of Aeronautics (NHDOT/BA) with any information that is requested.

8.0 Reference

For further information pertaining to pavement maintenance, refer to FAA Advisory Circular (AC) 150/5380-6C Guidelines and Procedures for Maintenance of Airport Pavements, dated October 10, 2014, or the latest edition as posted on the FAA website (http://www.faa.gov/airports/resources/advisory_circulars).

Appendix A

Pavement Area Plan



EXISTING FACILITIES PLAN

SCALE: 1" = 400'

LEGEND

- EXISTING AIRPORT PROPERTY LINE
- EXISTING INTERIOR LOT LINE
- RSA — RSA — RUNWAY SAFETY AREA (RSA)
- CHAINLINK FENCE
- EXISTING AIRPORT REFERENCE POINT (ARP)
- EXISTING AIRPORT PAVED AREAS
- EXISTING BUILDING
- EXISTING AVIGATION EASEMENT
- 530 — MAJOR GROUND CONTOUR
- VEGETATION LINE
- WETLANDS

NOTES: EXISTING TOPOGRAPHIC SURVEY COMPILED BY AERIAL MAPPING BY COL-EAST, INC., NORTH ADAMS, MA. COMPILATION DATE: DECEMBER 16, 2004

AIRPORT DATA

	EXISTING RUNWAY 14-32
AIRPORT ELEVATION	200.4' MSL
AIRPORT REFERENCE POINT (ARP)	LAT: 42° 46' 57" N LON: 71° 30' 51" W
MEAN MAX. TEMP OF HOTTEST MONTH	83.6° F
RUNWAY TRUE BEARING	N 57° 17' 58" W
TAXIWAY WIDTH	40' PARALLEL
TAXIWAY LIGHTING	MITLS

RUNWAY DATA TABLE

RUNWAY DATA	RUNWAY 14-32
AIRPORT REFERENCE CODE	D-II
DESIGN AIRCRAFT	GULFSTREAM IV
% WIND COVERAGE	92.3% (ALL WEATHER) 93.8% (IFR)
PAVEMENT TYPE & CONDITION	BIT. CONC. GOOD
PAVEMENT STRENGTH	65,000 LBS (DW)
RUNWAY LENGTH	6,000'
RUNWAY WIDTH	100'
EFFECTIVE RUNWAY GRADIENT	0.20%
RUNWAY MARKINGS	PRECISION
RUNWAY LIGHTING	HIRLS
RUNWAY / APPROACH TYPE	PRECISION (14) NON-PRECISION (32)
APPROACH SLOPE	50:1 (14) / 34:1 (32)
APPROACH AIDS	WINDCONE SUPPLEMENTAL WINDCONE (14&32) PAPI, MALSR (14) VASI, REILs (32)
NAVIGATIONAL AIDS	NDB, GPS, VOR, ILS (14) VOR, GPS (32)
ROFA WIDTH	800 FEET
ROFA LENGTH BEYOND END OF RUNWAY	1,000 FEET
ROFZ WIDTH	400 FEET
ROFZ LENGTH BEYOND END OF RUNWAY	200 FEET
RSA WIDTH	500 FEET
RSA LENGTH BEYOND END OF RUNWAY	1,000 FEET
RUNWAY 14 END COORDINATES, ELEVATION	LAT: 42° 47' 13" N LON: 71° 31' 25" W 200.4' MSL
RUNWAY 32 END COORDINATES, ELEVATION	LAT: 42° 46' 41" N LON: 71° 30' 17" W 192.0' MSL
RUNWAY 32 DISPLACED THRESHOLD COORDINATES, ELEVATION	LAT: 42° 46' 43" N LON: 71° 30' 21" W 191.1' MSL

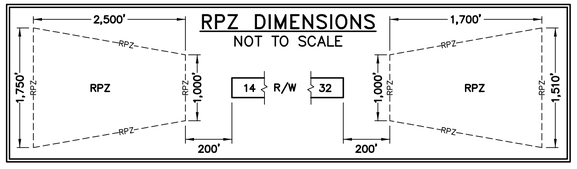
AIRPORT FACILITIES

LOT / BUILDING ID	OWNER	DESCRIPTION
E-60	CITY OF NASHUA	MAIN AIRPORT
E-193	NASHUA AIRPORT AUTHORITY	LOCALIZER POWER SUPPLY
E-1439	KAY POTFORA, TRUSTEE	HANGAR
E-1440	NASHUA AIRPORT AUTHORITY	VACANT
E-1441	NASHUA AIRPORT AUTHORITY	HANGAR
E-1442	TAMPOSI, JAMES N REV TRUST	HANGAR
E-1443	RESERVE ENTERPRISES INC	HANGAR
E-1444	CARL R HIGGINSON, TRUSTEE	HANGAR
E-1445	NASHUA AIRPORT AUTHORITY	TIEDOWNS
E-1446	NASHUA AIRPORT AUTHORITY	VACANT
E-1447	DANIEL WEBSTER COLLEGE	ATCT/ TERMINAL BUILDING
E-1448	1450 ASSOCIATES, LLC	HANGAR
E-1449	NASHUA AIRPORT AUTHORITY	HANGAR
E-1450	1450 ASSOCIATES, LLC	HANGAR
E-1451	DANIEL WEBSTER COLLEGE	BUILDING
E-1452	MAC AIR BLDG 87	BUILDING
E-1453	MAC AIR BLDG 89	BUILDING
E-1454	H E A REALTY	COMM. BUILDING
E-1455	1450 ASSOCIATES, LLC	HANGAR
E-1456	STEIN REALTY, LLC	HANGAR
E-1457	PAUL E HOUDE	HANGAR
E-1458	THOMAS A PRATT	HANGAR
E-1459	WESTAR AEROSPACE	HANGAR
E-1463	STEIN REALTY, LLC	HANGAR
E-1464	DIAMOND-M INVESTMENTS	HANGAR
E-1465	GFW AEROSERVICES	HANGAR

LOT / BUILDING ID	OWNER	DESCRIPTION
E-1466	AVIATION REALTY LLC	COMM. BUILDING
E-1467	CITY OF NASHUA	PARKING AREA TO BENEFIT BUD WAY
E-1469	CITY OF NASHUA	VACANT
E-1483	1483 ASSOCIATES LLC	HANGAR
E-1484	CITY OF NASHUA	VACANT
E-1490	9 PERIMETER, LLC	HANGAR
E-1491	RAYMOND W ENNIS, SR REV TRUST	COMM. BUILDING
E-1499	110 PERIMETER RD INC	COMM. BUILDING
E-1500	SAT SR LTD PARTNERSHIP	COMM. BUILDING
E-1503	KEYSON ENTERPRISES, INC	HANGAR
E-1504	MAC AIR BLDG 113	HANGAR
E-1505	MAC AIR	HANGAR
E-1506	KEYSON AIRWAYS	HANGAR
E-1507	CITY OF NASHUA	HANGAR
E-1508	STEVEN W SEUFERT	HANGAR
E-1509	PERIMETER PLACE TRUST	COMM. BUILDING
E-1510	PERIMETER-DAY, LLC	COMM. BUILDING
E-1544	BERKSHIRE AVIATION, LLC	HANGAR
E-1545	CITY OF NASHUA	COMM. BUILDING
E-2133	GEORER GEORGES, TRUSTEE	HANGAR
E-2134	CITY OF NASHUA	HANGAR
E-2138	OIA REAL ESTATE LLC	HANGAR
E-2139	CITY OF NASHUA	HANGAR
E-2140	CITY OF NASHUA	HANGAR
E-2157	CITY OF NASHUA	HANGAR
E-2158	CITY OF NASHUA	HANGAR

RPZ DIMENSIONS

NOT TO SCALE



GALE

Gale Associates, Inc
Engineers Architects Planners

15 Constitution Drive
Bedford, NH 03110
P 603.471.1887 F 603.471.1809
www.gainc.com

Boston Baltimore Orlando San Francisco

PROJECT

AIRPORT LAYOUT PLAN
AIP NO. 3-33-0012-25-2004

OWNER

BOIRE FIELD
NASHUA MUNICIPAL AIRPORT
NASHUA, NEW HAMPSHIRE

NO.	DATE	DESCRIPTION	BY
2	2/13/13	REV. EXIST. R/W	DCQ
1	9/9/09	REV. PROP R/W	JAT

PROJECT NO.	776370
CADD FILE	776370-SHEETS
DESIGNED BY	AJD/JAT
DRAWN BY	JAT
CHECKED BY	AJD
DATE	JULY 2009
DRAWING SCALE	AS SHOWN

GRAPHIC SCALE
0 200 400 800
SCALE: 1" = 400'

SHEET TITLE

PAVEMENT AREA PLAN

DRAWING NO.

SHEET 2

Appendix B

Blank Inspection Forms

DETAILED INSPECTION FORM

Date of Inspection:	
Person(s) Performing Inspection:	
Paved Areas Inspected:	
Inspection Notes: (***Include photos as needed***)	
Corrective Actions/Recommendations:	
Corrective Actions/Recommendations Performed (*include date*):	
Signature(s):	_____. _____. _____. _____.

DRIVE-BY INSPECTION FORM

Date of Inspection:	
Person(s) Performing Inspection:	
Paved Areas Inspected:	
Inspection Notes: (***Include photos as needed***)	
Corrective Actions/Recommendations Performed (*include date*):	

Appendix C

Completed Inspection Forms

Appendix B

Snow and Ice Control Plan

NASHUA AIRPORT AUTHORITY

SNOW AND ICE CONTROL PLAN

2016

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Section 2 – Administrative	Page 2
Section 3 – Snow Removal Operations	Page 3
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Scope and Purpose

The safety of the airport employees and users is the highest priority of the Nashua Airport Authority (NAA). This Snow and Ice Control Plan (SICP) has been created to document how Boire Field will work toward mitigating the hazards associated with the regular annual occurrence of snow and ice accumulation. Winter snow conditions reduce traffic volumes and can impair the safety of airport operations. Severe storm conditions can force airport closures. This plan is an effort to minimize these undesirable effects on the airport and ensure as safe an operating environment as possible. The goal of the NAA is to maintain the airport surfaces in a, “no worse than wet” condition. Secondarily, this plan attempts to inform the operating public at Boire Field so they might better understand how snow removal functions are carried out. The Nashua Airport Authority recognizes and understands the need and desire of our stakeholders to be part of the processes that affect them, and this Plan is an attempt to promote communication. Questions or comments on this plan or snow removal operations can be directed to the airport management office at (603) 882-0661 or info@nashuaairport.com.

Section 1 – Definitions

a) Contaminant. Any substance on a runway or taxiway, for the purpose of this Snow and Ice Control Plan (SICP) would be snow, slush, ice or standing water.

b) Dry Snow. Snow that insufficient free water to cause cohesion between individual particles. If when making a snowball, it falls apart, the snow is considered dry.

c) Wet Snow. Snow that has grains coated with liquid water, which bonds the mass together, but that has no excess water in the pore spaces. A well-compacted, solid snowball can be made, but water will not squeeze out.

d) Compacted Snow. Snow that has been compressed into a solid mass that resists further compression and will hold together or break up into lumps if picked up.

e) Slush. Snow that has water content exceeding its freely drained condition, such that it takes on a fluid property (e.g. flowing and splashing). Water will drain from slush when a handful is picked up.

f) Patchy Conditions. Contaminate conditions that cover 25% or less of the cleared/treated/usable surface shall be classified as "Patchy." Conditions covering more than 25% should be considered as covering the total surface area for surface condition reporting purposes.

g) Approved Chemicals. A chemical, either solid or liquid, that meets a generic SAE or MIL specification. (Note, Boire Field does not use any airside approved chemicals at the time of this publication)

h) Fluid Deicer/Anti-Icers. The approved specification is SAE AMS 1435, Fluid, Generic Deicing/Anti-icing, Runways and Taxiways. (Note, Boire Field does not use any airside fluid deicer/anti-icers at the time of this publication)

i) Generic Solids. The approved specification is SAE AMS 1431, Compound, Solid Runway and Taxiway Deicing/Anti-Icing. (Note, Boire Field does not use any airside generic solids at the time of this publication)

Section 2 - Administrative

a) Airport Management Pre-Season Meeting. The meeting should determine if the post season objectives were met, and effective. The maintenance supervisor will typically initiate a meeting in October to discuss equipment and material inventory, repair needs, staffing, budget, training, previous years' issues, and any other topics associated with snow and ice control and this plan. Additionally, the following topics may be discussed in the Pre-Season Meeting:

- Areas Designated as Priority 1 and any new airfield infrastructure
- Clearing operations and follow-up airfield assessments
- Potentials for pilot or vehicular runway incursions or incidents
- Staff requirements and qualifications (training)
- Response time to keep runways, taxiways and apron areas operational
- Radio Communications
- Communication, terminology, frequencies, and procedures
- Monitoring and updating of runway surface conditions
- Issuance of NOTAMS and dissemination to ensure timely notification
- Equipment inventory
- Snow hauling/disposing, snow dumps

b) Pre-event Meetings. Before each snow event, airport management and all available snow removal personnel will conduct a meeting to discuss any issues that have arisen from the last snow event, and any outstanding issues or items that have been resolved. In addition, NAA will ensure that sufficient and qualified staffing, materials, and equipment are available for a snow or ice event.

c) Post Event Meetings. After each snow event airport management will host a meeting within three days to discuss any issues that have arisen from the event.

d) Equipment Preparation. Airfield snow removal equipment shall be inspected prior to utilization for safety and proper operation. At a minimum, the oil level and other pertinent fluids of equipment to be utilized during that snow event will be checked. Also, equipment will be inspected for obvious deficiencies or safety issues.

Typically, in mid-October or earlier, the maintenance supervisor shall inspect and prepare each piece of snow removal equipment. Required fluids, replacement parts, and snow removal equipment components will be inventoried and stockpiled. Worn items will be replaced as needed.

Section 3 – Snow Removal Operations

a) The maintenance supervisor is responsible for making the decision to commence snow removal operations upon contamination of airport surfaces. In some situations, it may be prudent to wait to begin snow removal operations. In some cases, it may be necessary to close the Airport, or portions thereof to aircraft use if they are deemed to be unsafe for aircraft use. If any airport surfaces are closed, the maintenance supervisor will immediately notify the airport manager. The maintenance supervisor should physically inspect the airport to make the determination as to when to begin snow removal operations.

b) Weather Forecasting.

- The maintenance supervisor is responsible for monitoring the current and/or forecast weather conditions.

- The maintenance supervisor is the person delegated the authority to call-in personnel/snow-team members.
- Conditions are monitored before the storm and periodically throughout the weather event by the maintenance supervisor.
- Sources for weather forecasts and current conditions include TV news, newspapers, online weather resources such as NWS, the air traffic control tower and the on field AWOS (Automated Weather Observation System)

c) Typical shift coverage will provide for each piece of snow removal equipment to be deployed at the beginning of the snow event. The goal in shift coverage is to ensure the Priority 1 areas are cleared of contaminants in the shortest amount of time, thereby restoring the Airport to safe, usable condition. The maintenance supervisor will make determinations throughout the storm event to release snow crew members as the airfield returns to normal conditions and areas are cleared.

d) According to the FAA, the recommended clearance time for Priority 1 areas is two hours. The snow removal team will work toward this goal as safely as possible.

Table 1-2. Clearance Times for Non-Commercial Service Airports

Annual Airplane Operations (includes cargo operations)	*Clearance Time[1] (hour)*
40,000 or more	*2*
10,000 – but less than 40,000	*3*
6,000 – but less than 10,000	*4*
Less than 6,000	*6*

General: Although not specifically defined, Non-Commercial Service Airports are airports that are not classified as Commercial Service Airports [see Table 1-1,general note].

Footnote 1: These airports may wish to have sufficient equipment to clear 1 inch (2.54 cm) of falling snow weighing up to 25 lb/ft^3 (400 kg/m^3) from Priority 1 areas within the recommended clearance times.

e) Airfield Clearing Priorities. Boire Field is segmented for snow clearing purposes into four areas. These areas are listed as Priority 1 through Priority 4. Priority 1 areas are those vital to the takeoff, landing and moving of aircraft to and from the runway. Priority 2 areas are those areas that support Priority 1 areas as well as areas used by on airport businesses. Priority 3 areas are those areas that are not used every day, nor are critical to the takeoff and landing of aircraft or on airport businesses. Priority 4 areas are those that can wait until all other areas are cleared and in some circumstances might be taken care of on subsequent days after the storm. The NAA makes every effort to keep the entire airfield and supporting parking areas cleared of snow and ready for use, but some factors may delay the clearing of an area. These factors include, but are not limited to staffing, particular weather events such impending freezing rain or blowing snow, equipment failures, etc. The priority areas are as follows and can be seen on the attached map in Appendix A:

Priority 1

Priority 1 areas are primary areas that must be cleared as soon as practicable. These areas include the most critical portions of the aircraft movement area and supporting facilities. This will normally include the runway and associated turnoffs, access taxiways leading to the FBO(s) and other airport businesses and designated emergency response roads, NAVAIDs and Mutual Aid access/gates/locks**.** The entire airport would not be a Priority 1 (Figure A-1).

Priority 2

Priority 2 areas are secondary in importance and include the Inner Taxilane and the ramps associated with the on-airport businesses as well as the Airport Maintenance Facility. Typically, Priority 2 areas are cleared simultaneously with the Priority 1 areas. Taxiway B can be considered a Priority 2 area, so long as the remainder of the stub taxiways are cleared (Figure A-1).

Priority 3

Priority 3 areas are tertiary areas that should be cleared after the Priority 1 and Priority 2 areas are cleared and open for use. These areas include the tie-down ramps and in between T-hangars that do not house businesses. Typically, Priority 3 areas are cleared simultaneously or immediately following the clearing of Priority 1 and Priority 2 areas (Figure A-1).

Priority 4

Priority 4 areas include service roads and access roads to airfield equipment. In some cases, Priority 4 areas might be left for the following days after the storm, however the maintenance supervisor should coordinate closely with FAA Tech-Ops to ensure they have adequate access to FAA owned equipment.

f) Snow Removal Operations Triggers. Typically, snow removal operations will commence when contaminants hamper operation or decrease braking action. In circumstances where snow will be followed by freezing rain or freezing conditions, it may be prudent to delay the start of snow removal operations to create an insulating layer between the freezing condition and the paved surface, thereby preventing bonding.

g) Closing of Airport Surfaces. Airport surfaces will be initially closed as snow removal begins. On the runway, snow removal involves plowing windrows and gradually forcing all of the snow to the edge of a surface where it can be blown or thrown over the edge lights. While the windrow is being pulled to the side, it presents a significant hazard to aircraft operations. Surfaces will also be closed when any of the parameters are met in the following table.

Precipitation	Depth in Inches
Slush	*1 inch*
Wet Snow	*2 inches*
Dry Snow	*3 inches*
Ice or Freezing Rain	*100% coverage*

Boire Field serves such a diverse array of aircraft types and operator experience that it would be difficult or impossible to try and accommodate everyone's operational limitations. The maintenance supervisor will err on the side of caution if he or she thinks a surface might not be safe for use and should be closed to aircraft use.

As soon as conditions allow. The maintenance supervisor will change the closed condition of a surface to a PPR (Prior Permission Required) with sufficient time to allow for men and equipment to vacate the surface for arriving or departing aircraft. A PPR will only be used in cases where the surface is rendered as safe as possible by the removal of contaminants. A typical PPR will be issued for 15 or 30 minutes on both ground and tower frequencies.
In all circumstances where surfaces are impacted by contamination, snow removal operations or closures, an appropriate NOTAM will be issued notifying the public about the circumstance.

Additionally, the NAA has a Letter of Agreement with the Nashua FAA Contract Tower that states:

> Nashua Tower shall cease landing and takeoff operations and immediately notify Nashua Airport Authority upon receipt of a PIREP [Pilot Report] of NIL braking action on the runway. Resume landings and takeoffs operations only after notification by Nashua Airport Authority that the runway is safe for use.

h) Snow Equipment List. The maintenance supervisor will work toward having every piece of available snow removal equipment in operation with an operator to clear snow. The current inventory includes (vehicle callsigns are in parenthesis):

a. 2007 624J John Deere Loader, 30,000 lbs. (SNOW 50)
b. 1985 FG-85 Fiat Grader, 35,000 lbs. (SNOW 30)
c. 1985 FR-15 Fiat Loader, 30,000 lbs.
d. 1996 SL-150 Samsung Loader, 30,000 lbs. (SNOW 11)
e. 1979 SMI Rotary Plow, 28,000 lbs. (SNOW 40)
f. 1985 MP-3D Sno-Go Rotary Plow, Loader Mount, 7,500 lbs.
g. 1988 75-C Michigan Loader, 32,000 lbs. (SNOW 12)
h. 2011 MP-3D Sno-Go Rotary Plow, Loader Mount, 8,400 lbs.
i. 2014 764HSD John Deere High Speed Dozer, 34,000 lbs. (SNOW 60)

j. 1988 1954 International Dump Truck, 48,000 lbs. (SNOW 23)
k. 2007 MB Pavement Broom, Loader Mount.
l. 2009 F350 Ford with Plow and Caster Spreader, 10,600 lbs.
m. 2002 K-2500 Chevrolet Pickup with plow, 8,600 lbs.

i) Storage of Snow and Ice Control Equipment. Snow removal equipment is stored and maintained inside the Snow Removal Equipment building at 93 Perimeter Rd. This building includes several heated bays.

j) FAA-Approved Chemicals. At the time of this publication, the NAA does not utilize any FAA-Approved chemicals for anti-ice or de-ice. The Ford Pickup does have a material spreader which is typically filled with road salt and sand and is reserved for the landside parking lots. This vehicle is rarely taken out onto the airport when filled as these are not FAA approved materials and they are never deployed airside.

Section 4 – Snow Clearing Principles

a) Runway and Taxiways. Runways and taxiways are typically plowed into windrows by the grader and or a loader capable of receiving the articulating hydraulic plow. The direction of the plowing is dependent on the current and forecast winds. Ideally, all the snow is pushed toward the infield where it is blown over the lights with a rotary plow. In some circumstances, the winds will favor pushing snow to the east side of the runway. In either case, the section of the runway between Taxiway D and Taxiway A-North, the snow is ALWAYS plowed toward the infield. This section of the runway is adjacent to the Watts Endfire Glide Slope array which cannot support snow being blown toward it. If snow is pushed to the edge of the runway in this area, we have no way of removing it. In cases where winds are out of the west, it is sometimes prudent to have a smaller loader with an adjustable plow that is much more agile than the grader to care for that loop of the runway/taxiway circuit. This invariably takes a loader away from their task of clearing snow from hangars and ramps but the tradeoff is worth it.

Once all the snow is windrowed, a blower or rotary plow casts the snow over and beyond the lights.

Simultaneously or after the plowing/blowing operation is complete, the MB Pavement Broom is usually deployed to attempt to get the pavement down to, “no worse than wet” conditions. At this point, solar radiation is extremely helpful in remediating any remaining contaminants.

In some circumstances, it is acceptable to clear the runway at less than the 100’ full width to accommodate operations of smaller piston and helicopter operations. In these cases, the pilots and Tower will be made fully aware of the existing conditions.

b) Snow Bank Height Profiles – See Figure 4-1

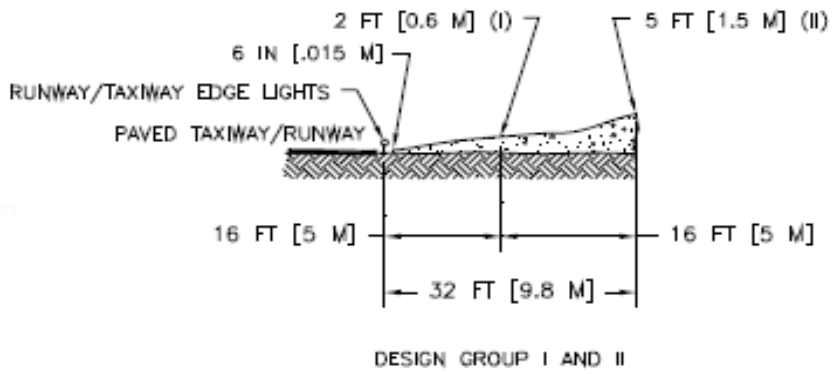


Figure 4-1. Snow Bank Profile Limits Along Edges of Runways and Taxiways with the Airplane Wheels On Full Strength Pavement

c) Tenants are responsible for snow clearing in their lease area, however the NAA performs snow removal for a nominal fee. Tenants may contract their own snow removal, however contractors must provide proof of insurance naming the City of Nashua and the Nashua Airport Authority as additional insureds and must undergo driver training to operate on the airport.

d) After all priority areas are cleared, care should be taken to ensure all lights and signs are dug out and are visible to pilots.

e) Care should always be taken to ensure snow is not stockpiled in taxiway or taxilane safety areas or object free areas unless it meets the criteria in Figure 4-1 above. Snow should never be stockpiled in the Runway Safety Areas or Object Free Areas.

f) If snow needs to be hauled away, there are at least two areas where it can be dumped. Typically, snow is stored at the old grass tie-downs or out of the way on India Ramp.

g) NAVAIDs/Weather Observation Equipment:

a. Snow should never be stored or dumped in the critical areas of the localizer or glide slope. Also, when blowing snow from the runway, ejected snow should never be directed at PAPI's or any other NAVAIDs.
b. No snow may be piled within 50 feet of the AWOS system and there should be no piles of snow over 7 feet high within 200 feet of the AWOS.

h) Controlling/Mitigating Snow Drifts is accomplished by utilizing snow trenches or snow fences where applicable. Each year, a snow fence is deployed in the field adjacent to the air traffic control tower to mitigate the hazards of snow drifting across Perimeter Rd.

Wind ditches are typically cut along all east-west taxiways such as TWY B, TWY C, TWY D etc. A minimum of two wind ditches has been found to be useful in mitigating snow drifting across the stub taxiways. Deeper the ditches and steep the sidewalls make this technique most effective.

i) In years of heavy snowfall, it is advantageous to run a snow blower along both sides of the lights on the runway and along the taxiways to make room for additional snowfall. This technique prevents lights from becoming buried in snow.

j) At the time of the writing of this document, the NAA does not use any FAA approved anti or deice chemicals or applications. There are no approved locations on the airport for the chemical deicing of aircraft.

Section 5 - Runway Incursion/Surface Incident Mitigation Procedures

Each year at the pre-season snow meeting, any incidents in the past will be discussed to ensure they do not occur again. Also, any ideas for preventing accidents or incidents during snow removal are encouraged to be shared.

Vehicles will be marked and lighted in accordance with AC 150/2510-5, *Painting, Marking and Lighting of Vehicles Used on an Airport.*

a) Radio Communications. NAA vehicle operators identify themselves to the air traffic control tower by the number of the vehicle they are operating. Requests for access to the Airport Movement Area (AMA) should be made on Ground frequency at 121.8 Mhz. Operators should continually monitor this frequency while they are operating on the taxiways.

Requests for access to the runway should be made on Tower frequency at 133.2 MHz and operators should continually monitor the frequency while operating on the runway surface.

b) In the event of failed radio communication with ATC, operators should exit the Airport Movement Area and contact the air traffic control tower by phone. If an operator finds themselves in a situation where they cannot communicate with the air traffic control tower via radio and they need to access the Airport Movement Area or the runway to get back to the shop (i.e. on the northeast side of the runway) to have radio equipment inspected, they should call the air traffic control tower via phone at (603) 595-2104 in order to get clearance to cross the runway or to access the AMA. If a piece of equipment is unable to communicate with the air traffic control tower via radio, either it should be parked until the radio can be serviced, or a handheld radio should be taken to ensure two way communications is maintained.

d) In the event of low visibility and/or whiteout conditions the maintenance supervisor may suspend snow removal operations until they can be conducted safely.

Section 6 – Surface Condition Reporting

a) Condition reporting will be provided whenever the pavement condition is worse than bare and wet and when conditions change. NOTAMs will be issued to inform pilots and the public about surface conditions.

In general, conditions will be reported as:

- Surface conditions by contaminants types and depths.
- Friction reporting if applicable (i.e. braking action good, medium, poor or nil)
- When the cleared runway width is less than full width, and if there are uncleared runway edges with a different condition from cleared width on runway.

Generally, during winter conditions, the airfield will be inspected more regularly to assess any changing conditions. Days with higher winds should trigger more frequent inspections and care should be taken during freeze/thaw cycles as snow typically blows onto paved surfaces, melts and then refreezes causing ice. NOTAMS should be continually adjusted to reflect the actual conditions on the airport. Conditions to be aware of that may prompt changes to surface conditions might include:

- Active snow event
- Plowing/brooming/deicing
- Rapidly rising or falling temperatures
- Rapidly changing conditions

Typically, conditions are assessed in an operations vehicle, however any vehicle could serve to assess airfield conditions. At the time of the writing of this document, no mechanical devices are being utilized to measure friction conditions on paved surfaces. As of October 1, 2016, vehicle braking action reports will no longer be an acceptable means of conveying runway information to pilots.

It is the maintenance supervisor's responsibility to ensure the NOTAMS issued accurately reflect the current conditions on the airport.

b) In December, 2005 a Boeing 737 overran a snow-covered runway at BWI, killing a 5-year-old boy in a vehicle the aircraft collided with. The FAA responded by developing the TALPA ARC (Takeoff and Landing Performance Assessment Aviation Rulemaking Committee) which was a consortium of aircraft operators, airports and alphabet groups tasked with addressing requirements for aircraft and airport operators. The committee developed the Runway Condition Assessment Matrix (RCAM) which was designed to convey standardized information to pilots about contamination on runways in an objective format. The RCAM chart is shown

below. The RCAM divides the runway into thirds with a 6 being dry pavement and a 0 being braking action NIL.

Assessment Criteria		Downgrade Assessment Criteria		
Runway Condition Description	**Code**	**Mu (μ) [1]**	**Vehicle Deceleration or Directional Control Observation**	**Pilot Reported Braking Action**
• Dry	6	40 or Higher	---	---
• Frost • Wet (Includes Damp and 1/8 inch depth or less of water) ***1/8 inch (3mm) depth or less of:*** • Slush • Dry Snow • Wet Snow	5	40 or Higher	Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	Good
5° F (-15°C) and Colder outside air temperature: • Compacted Snow	4	39 to 30	Braking deceleration OR directional control is between Good and Medium.	Good to Medium
• Slippery When Wet (wet runway) • Dry Snow or Wet Snow (Any depth) over Compacted Snow ***Greater than 1/8 inch (3mm) depth of:*** • Dry Snow • Wet Snow ***Warmer than 5° F (-15°C) outside air temperature:*** • Compacted Snow	3	39 to 30	Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	Medium
Greater than 1/8 (3mm) inch depth of: • Water • Slush	2	29 to 21	Braking deceleration OR directional control is between Medium and Poor.	Medium to Poor
• Ice [2]	1	29 to 21	Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	Poor
• Wet Ice [2] • Slush over Ice • Water over Compacted Snow [2] • Dry Snow or Wet Snow over Ice [2]	0	20 or Lower	Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.	Nil

[1] The correlation of the Mu (μ) values with runway conditions and condition codes in the Matrix are only approximate ranges for a generic friction measuring device **and are intended to be used only to downgrade a runway condition code; with the exception of circumstances identified in Note 2.** Airport operators should use their best judgment when using friction measuring devices for downgrade assessments, including their experience with the specific measuring devices used.

[2] In some circumstances, these runway surface conditions may not be as slippery as the runway condition code assigned by the Matrix. The airport operator may issue a higher runway condition code (but no higher than code 3) for each third of the runway if the Mu value for that third of the runway is 40 or greater obtained by a properly operated and calibrated friction measuring device, **and all other observations, judgment, and vehicle braking action support the higher runway condition code. The decision to issue a higher runway condition code than would be called for by the Matrix cannot be based on Mu values alone; all available means of assessing runway slipperiness must be used and must support the higher runway condition code.** This ability to raise the reported runway condition code to a code 1, 2, or 3 can only be applied to those runway conditions listed under codes 0 and 1 in the Matrix.

The airport operator must also continually monitor the runway surface as long as the higher code is in effect to ensure that the runway surface condition does not deteriorate below the assigned code. The extent of monitoring must consider all variables that may affect the runway surface condition, including any precipitation conditions, changing temperatures, effects of wind, frequency of runway use, and type of aircraft using the runway. If sand or other approved runway treatments are used to satisfy the requirements for issuing this higher runway condition code, the continued monitoring program must confirm continued effectiveness of the treatment.

Caution: Temperatures near and above freezing (e.g., at 26.6° F (-3°C) and warmer) may cause contaminants to behave more slippery than indicated by the runway condition code given in the Matrix. At these temperatures, airport operators should exercise a heightened level of runway assessment, and should downgrade the runway condition code if appropriate.

c) NOTAMS will be issued conveying the Runway Condition Code (RCC) as well as a description of the surface contaminants through the NOTAM system by calling 1-

877-487-6867. The caller will convey the surface contaminants of the runway in thirds and the briefer will calculate the RCC to be placed in the NOTAM.

Section 7 – Post Season Activities

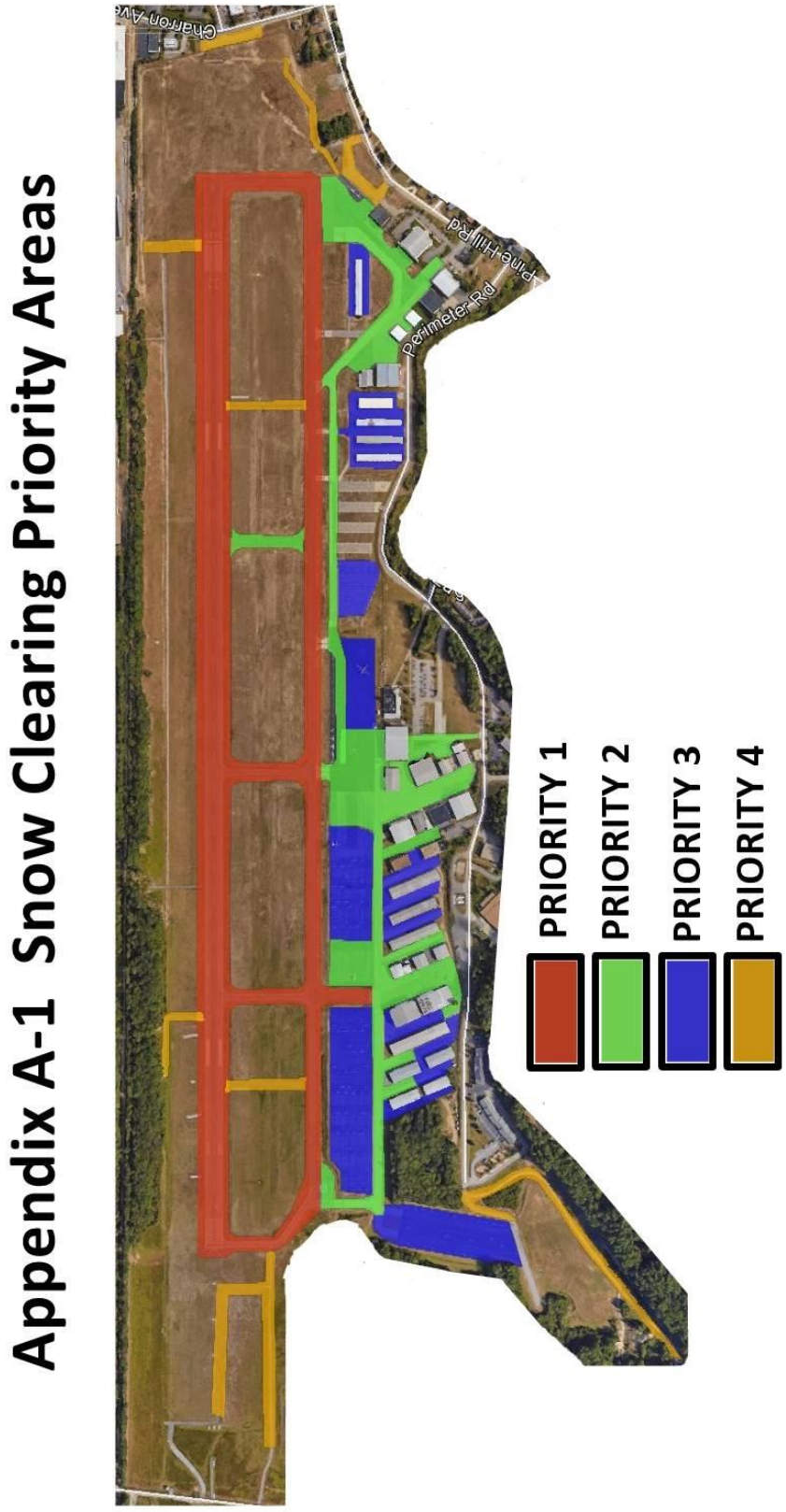
a) Post Season Snow Meeting. After each snow season, a Post Season Snow Meeting will be held, typically in April to review the snow season issues and recommend any changes to this plan for subsequent years. The same topics as the Pre-Season Snow Meeting will be reviewed.

b) The Airport Maintenance Department will assess all snow removal equipment and initiate any repairs or changes of wear parts, etc.

c) The Airport Manager will update this SICP if necessary based on the Post Season Snow Meeting recommendations

Section 8 – Appendix A-1 Snow Clearing Priority Areas

Figure A-1 – Snow Clearing Priority Areas



Appendix C

U.S. Department of the Interior, Fish and Wildlife Service Correspondence

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Field Office
70 Commercial Street, Suite 300
Concord, New Hampshire 03301-5087

January 7, 2008

Reference:	Project	Location
	Airport runway extension	Nashua, NH

William DeLuca
Baystate Environmental Consultants, Inc.
296 North Main St.
East Longmeadow, MA 01028

Dear Mr. DeLuca:

This responds to your recent correspondence requesting information on the presence of federally-listed and/or proposed endangered or threatened species in relation to the proposed activity(ies) referenced above.

Based on information currently available to us, no federally-listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under Section 7 of the Endangered Species Act is not required.

This concludes our review of listed species and critical habitat in the project location(s) and environs referenced above. No further Endangered Species Act coordination of this type is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

In order to curtail the need to contact this office in the future for updated lists of federally-listed or proposed threatened or endangered species and critical habitats, please visit the Endangered Species Consultation page on the New England Field Office's website:

www.fws.gov/northeast/newenglandfieldoffice/EndangeredSpec-Consultation.htm

In addition, there is a link to procedures that may allow you to conclude if habitat for a listed species is present in the project area. If no habitat exists, then no federally-listed species are present in the project area and there is no need to contact us for further consultation. If the above conclusion cannot be reached, further consultation with this office is advised. Information describing the nature and location of the proposed activity that should be provided to us for further informal consultation can be found at the above-referenced site.

Thank you for your coordination. Please contact us at 603-223-2541 if we can be of further assistance.

Sincerely yours,

Anthony P. Tur
Endangered Species Specialist
New England Field Office

Memo

NH Natural Heritage Bureau

To: William DeLuca, Baystate Environmental Consultants, Inc.
296 North Main St.
East Longmeadow, MA 01028

From: Melissa Coppola, NH Natural Heritage Bureau
Date: 11/19/2007 (valid for one year from this date)
Re: Review by NH Natural Heritage Bureau
NHB File ID: NHB07-1861
Project type: Other: Airport improvements
Town: Nashua, Merrimack
Location: Tax Maps: sheet E and lot 60
cc: Kim Tuttle

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments: NHB has concerns about the impact this project may have on plants and/or natural communities and would like more iformation about the project details.

Plant species	**State**[1]	**Federal**	**Notes**
Northern Blazing Star (*Liatris scariosa var. novae-angliae*)	E	--	Threats to this highly imperiled species are development activities that eliminate its habitat and invasion of its open, grassy habitat by trees and shrubs.
Wild Lupine (*Lupinus perennis*)	T	--	This wildflower grows in extremely dry, sandy openings and is easily identified in the field (see any wildflower guide) between early May and August. It is tolerant of surrounding disturbance and depends upon periodic mowing (or, historically, wildfire) to eliminate trees that would otherwise shade it out. It does not transplant well due to a tap root that can be more than three feet long.

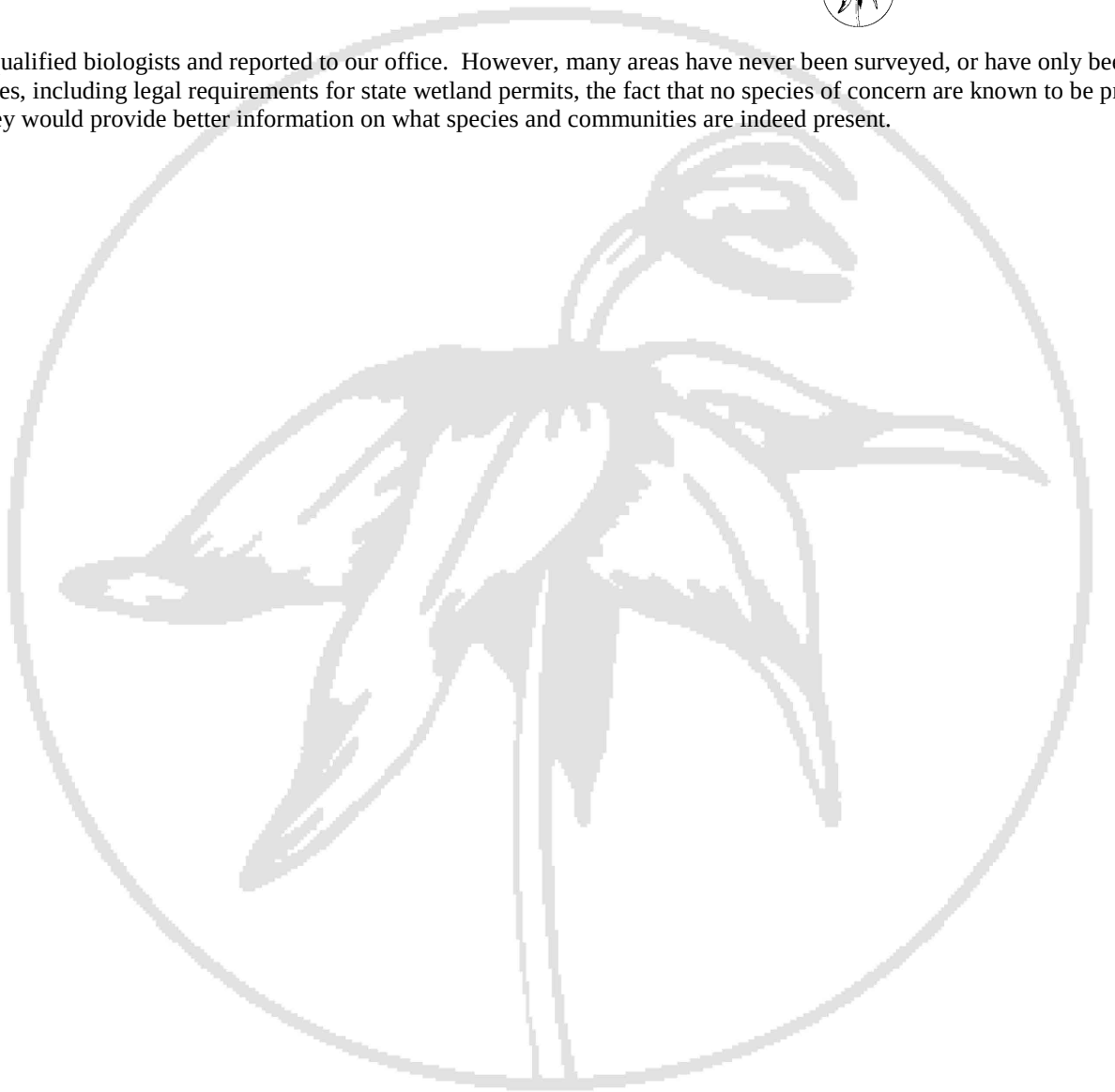
Vertebrate species	**State**[1]	**Federal**	**Notes**
Banded Sunfish (*Enneacanthus obesus*)	--	--	Contact the NH Fish & Game Dept (see below).
Blanding's Turtle (*Emydoidea blandingii*)	--	--	Contact the NH Fish & Game Dept (see below).
Eastern Hognose Snake (*Heterodon platirhinos*)	T	--	Contact the NH Fish & Game Dept (see below).
Spotted Turtle (*Clemmys guttata*)	--	--	Contact the NH Fish & Game Dept (see below).

[1]Codes: "E" = Endangered, "T" = Threatened, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (*) indicates that the most recent report for that occurrence was more than 20 years ago.

Contact for all animal reviews: Kim Tuttle, NH F&G, (603) 271-6544.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on

information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. For some purposes, including legal requirements for state wetland permits, the fact that no species of concern are known to be present is sufficient. However, an on-site survey would provide better information on what species and communities are indeed present.



Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

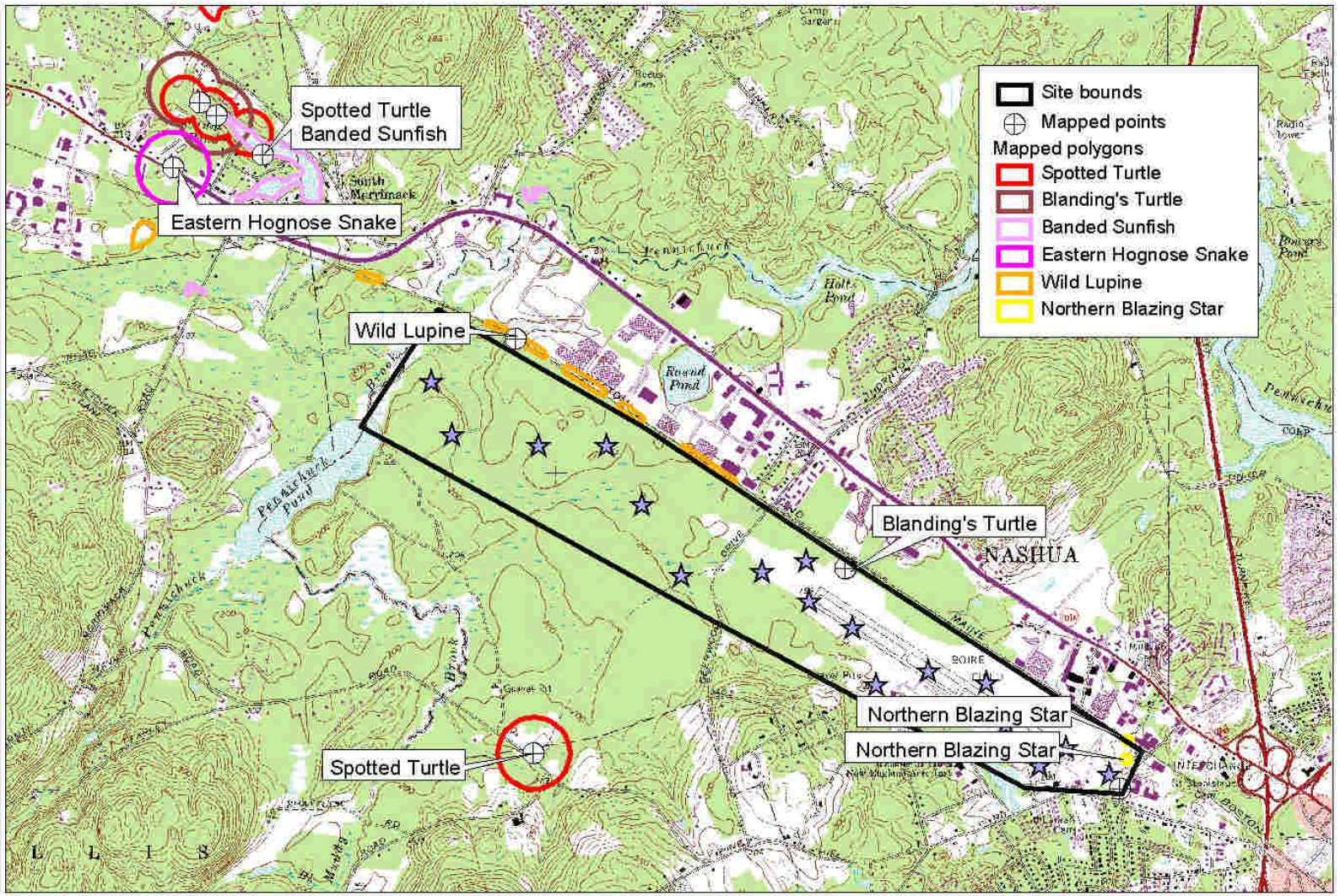
DRED/NHB
PO Box 1856
Concord NH 03302-1856

NHB07-1861

NH Natural Heritage Bureau

Known locations of rare species and exemplary natural communities

Note: Mapped locations are not always exact. Occurrences that are not in the vicinity of the project are not shown.



*Historical record

0.25 0 0.25 0.5 0.75 1 Miles

1:31000

Valid for one year from this date: 19 Nov 2007

New Hampshire Natural Heritage Bureau - Plant Record

Northern Blazing Star (*Liatris scariosa var. novae-angliae*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Rare or uncommon
State:	Listed Endangered	State:	Critically imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2006: 401 stems counted, 35% in flower.2005: 12 plants, 8 in bud.

General Area: 2006: Dominant species were *Danthonia spicata* (poverty oatgrass), *Schizachyrium scoparium* (little bluestem), and *Festuca rubra* (red fescue). Associated species: *Rumex acetosella* (red sorrel), *Asclepias amplexicaulis* (blunt-leaved milkweed), *Lespedeza capitata* (round headed bush-clover), *Hypericum gentianoides* (orange grass), *Lechea maritima* (seabeach pinweed), *Lechea intermedia* var. *intermedia* (intermediate pinweed), *Carex tonsa* var. *rugosperma* (shaved sedge), *Juncus tenuis* (pointed auricle path rush), *Ionactis linariifolius* (stiff-leaved aster), *Dichanthelium linearifolium* (linear-leaved panic grass), *Oenothera biennis* (biennial evening primrose), *Carex pensylvanica* (Pennsylvanian sedge), *Hieracium* spp. (hawkweed), *Polygonella articulata* (jointweed), *Viola pedata* (bird's-foot violet), *Trifolium arvense* (rabbit-foot clover), and *Trichostema dichotomum* (bluecurls).2005: Grassy/sandy area within airport property, some near railroad and road. Dominant/characteristic species are *Danthonia spicata* (poverty oatgrass), *Schizachyrium scoparium* (little bluestem), and *Festuca rubra* (red fescue). An additional 19 herbaceous plant species are listed as occurring in the immediate vicinity of the *Liatris* plants.

General Comments: 2006: Much larger population than previously thought, and more plants are likely to occur elsewhere on the airport property or in nearby open areas and railroad corridor. Abundant suitable habitat nearby.

Management Comments: 2006: Mowing had cut off most flowering stems before maturity. Delay mowing in fence margin area until late fall to allow for seed production and dispersal.2005: Landowner is aware of plant and has been asked to delay mowing until late fall to allow for seed dispersal.

Location

Survey Site Name: Boire Field Airport
Managed By:

County: Hillsborough
Town(s): Nashua
Size: 1.4 acres
USGS quad(s): South Merrimack (4207175)
Lat, Long: 424633N, 0713010W
Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: Take NH Rte. 101A to Charron Ave. Take Charron Ave. SW about 150 m to gravel parking/pull-off on right next to airport fence. Plants are in grassy/sandy area mostly inside fenced airport property, but a few plants are located at the SW edge of the grass SW of the pull-off, and SW of nearby railroad that crosses Charron Ave.

Dates documented

First reported: 2005-06-23 Last reported: 2006-07-20

Kane, Chris. 2006. Field survey to Boire Field Airport on July 20.

New Hampshire Natural Heritage Bureau - Plant Record

Wild Lupine (*Lupinus perennis*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Demonstrably widespread, abundant, and secure
State:	Listed Threatened	State:	Imperiled due to rarity or vulnerability

Description at this Location

Conservation Rank: Fair quality, condition and/or lanscape context ('C' on a scale of A-D).
Comments on Rank:

Detailed Description: 2002: Five or more patches of varying size up to 50 x 100 feet in area, were found flowering and with immature seed pods, along ca. 0.5 mile of RR tracks. Several individual plants were scattered in vicinity. 1990: Nashua, ca. 150 plants. Amherst, 2 plants. Merrimack, 5 plants.
General Area: 1990: Alongside railroad tracks.
General Comments: 2002: RR track runs behind industrial/commercial businesses. To the south and west is the City of Nashua's Northwest Conservation Area (former Pennichuck-Westwood property). 1990: See quad sheet for specific locations along railroad tracks.
Management Comments:

Location

Survey Site Name: Nashua, B&M Railroad, Rte. 101A
Managed By:

County:	Hillsborough	USGS quad(s):	South Merrimack (4207175)
Town(s):	Nashua	Lat, Long:	424754N, 0713238W
Size:	14.3 acres	Elevation:	200 feet

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2002: From Everett Turnpike, Exit 7W (Rte. 101A). Proceed 2 miles west. Turn left (SW) on to Deerwood Dr. Guilford Industries (B& M Railroad) track is at terminus. Gate marks rear entry to Boire Airport. Plants are distributed along RR tracks in northwest direction for ca. 0.5 mile. Patches are relatively large and interspersed within ca. 75 feet of track on northeast side. 1990: B & M Railroad, Rte. 101A. Along sides of railroad tracks. Populations mapped along tracks in Nashua, Amherst, and Merrimack.

Dates documented

First reported: 1990 Last reported: 2002-06-12

Poole, Eann, and D. H. Geiger. 2002. Field visit to Nashua, B& m Railroad, Rte 101a on June 12.

New Hampshire Natural Heritage Bureau - Animal Record

Banded Sunfish (*Enneacanthus obesus*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Demonstrably widespread, abundant, and secure
State:	Not listed	State:	Rare or uncommon

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2005: Area 4562M: 1 observed. Area 9018: 7 observed. 1998: Area 4562M: 100 observed, age and sex unknown (Obs_id 1896). 1938: Pennichuck Brook:Specimen.

General Area: 2005: Area 9018: Freshwater pond. 1998, 2005: Area 4562M: Freshwater pond (Obs_id 1896).1938: Pennichunk Brook: Brook, vegetation abundant. Water lily, Potamogeton, Ceratophyllum. Shore with rush marsh. Deep swamp stream.

General Comments: 1998: Area 4562M: Swampy pond with lots of pickerel weed, white and yellow water lily, watershield, coontail, Closely bordered by houses, lawns, trees where most of them are found. Seem to be somewhat abundant. ID verified by Larry Stolte USFWS National Fish Hatchery, Nashua.

Management Comments:

Location

Survey Site Name: Stump Pond
Managed By:

County:	Hillsborough	USGS quad(s):	South Merrimack (4207175)
Town(s):	Amherst	Lat, Long:	424827N, 0713340W
Size:	20.2 acres	Elevation:	

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2005: Area 9018: Witches Brook at South Merrimack Rd. 1998: Area 4562: Stump Pond in Amherst/Merrimack, NH. From nearby dock at 15 Willow Lane (Obs_id 1896).1938: Pennichuck Brook: 0.25 miles above T9, 0.6 miles E of South Merrimack.

Dates documented

First reported:	1938	Last reported:	2005-09-19

Bailey, R. M. 1938. New Hampshire Fish and Game. Field Notes, Coll. Blanks Corr. to STA. M-107, M1 to STA. M11-10, M160. Field data files.

New Hampshire Natural Heritage Bureau - Animal Record

Blanding's Turtle (*Emydoidea blandingii*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Apparently secure but with cause for concern
State:	Not listed	State:	Rare or uncommon

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 1996: Area 6451: 1 adult.1992: Area 6604: 4 adults. Area 6606: 2 young. Area 2067: 2 adults.1990: Area 8845: 2 turtles.

General Area: 1996: Area 6451: Sedges/alder at pondside.1992: Area 2067: Basking on logs near Great Blue Heron nests in cattails/ open water.

General Comments: 1996: Area 6451: Observed by Trudy Loy. Also reported 2 fifty-cent sized Blanding's turtles at Tiffany Square, a vernal pool of unknown location in the same area.1990: Area 8845: Observed by Trudy Loy with David Carroll.

Management Comments:

Location

Survey Site Name: Stump Pond
Managed By:

County:	Hillsborough	USGS quad(s):	South Merrimack (4207175)
Town(s):	Amherst	Lat, Long:	
Size:	83.3 acres	Elevation:	195 feet

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 1996: Area 6451: [From South Merrimack, take the Boston Post Rd north ca. 1.0 mile to the inlet stream for Stump Pond. Site is downtream, near junction of inlet with the pond.] 2nd inlet above Stump Pond.1992: Area 2067: Terrault's marsh upstream from Stump Pond, across Boston Post Road [near trailer park]. Area 6604: Just upstream from McPhee's Landing, across from Jasper's Landing. Area 6606: Just below Jasper's Landing.

Dates documented

First reported:	1990-06-07	Last reported:	1996-03-27

Loy, Trudy. 1990. Rare turtle records at Stump Pond on June 7.

New Hampshire Natural Heritage Bureau - Animal Record

Blanding's Turtle (*Emydoidea blandingii*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Apparently secure but with cause for concern
State:	Not listed	State:	Rare or uncommon

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2005: Area 9291: 1 adult male turtle.
General Area: 2005: Area 9291: Red maple forest/swamp, low wet depressions and even a bit of peatland according to airport employee.
General Comments:
Management Comments:

Location

Survey Site Name: Nashua Airport
Managed By:

County: Hillsborough
Town(s): Nashua
Size: 1.9 acres
USGS quad(s): South Merrimack (4207175)
Lat, Long:
Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: Area 9291: North side of Boire Field airstrip at Nashua Airport. Turtle was in wet grass between airstrip and forest to north of airport.

Dates documented

First reported: 2005-06-01 Last reported: 2005-06-01

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

Eastern Hognose Snake (*Heterodon platirhinos*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Demonstrably widespread, abundant, and secure
State:	Listed Threatened	State:	Rare or uncommon

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 1998: 2 seen. Adults. (Obs_id 1998.0389).
General Area: 1998: Overgrown grass on sand bordering woods with many wood frogs in it. (Obs_id 1998.0389).
General Comments:
Management Comments:

Location

Survey Site Name: Pennichuck Pond
Managed By:

County:	Hillsborough	USGS quad(s):	South Merrimack (4207175)
Town(s):	Amherst	Lat, Long:	424825N, 0713402W
Size:	30.8 acres	Elevation:	

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 1998: 124 Route 101A. Face rear of lot. Behind building on right (Obs_id 1998.0389).

Dates documented

First reported:	1998-07-15	Last reported:	1998-07-15

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

New Hampshire Natural Heritage Bureau - Animal Record

Spotted Turtle (*Clemmys guttata*)

Legal Status		Conservation Status	
Federal:	Not listed	Global:	Demonstrably widespread, abundant, and secure
State:	Not listed	State:	Rare or uncommon

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 1998: 1 male seen, notch code L3R9 (Obs_id 1992.1127). 1 female seen, notch code L2R2. Adult. (Obs_id 1998.038).1996: 2 adult females observed on 5/30 and 5/1. "30" (3?) adults reported seen on 3/27. 1992: 4 seen. Adults. (4/21 Obs_id 1992.0082, 5/7 1992.0318). 1 female seen. Adult. (Obs_id 1992.002). 1 adult seen, notch code L2 R3. 1993: 2 females seen, one with notch code L3R2 (Obs_id 1992.1127, 1993.0046). 1990: 12 individuals observed.

General Area: 1996: At or near inlet of pond, with sedge/alder vegetation (Obs_id 1996.0156). Also sighted were 2 Blanding's and 1 painted turtle. 1993: Sedge/alder/red maple, with painted turtles. 1992: Basking on logs near great blue heron nests in cattails/open water (Obs_id 1992.0318). Sedge/alder channels (Obs_id 1992.0082). Sedges, alders and red maples (Obs_id 1992.002).

General Comments: 1996: Observed by Trudy Loy. Basking on sedge (Obs_id 1996.0156) 1990: Observed by Trudy Loy and David Carroll.

Management Comments:

Location

Survey Site Name: Stump Pond
Managed By:

County:	Hillsborough	USGS quad(s):	South Merrimack (4207175)
Town(s):	Amherst	Lat, Long:	
Size:	43.0 acres	Elevation:	195 feet

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 1996: 2nd inlet bend above Stump Pond (Obs_id 1996.0156). 1993: Sedges at head of pond, just above Jasper's Landing (Obs_id 1993.0046, 1992.0082). 1992: 2nd inlet bend above Stump Pond (Obs_id 1996.0156), 2' upstream of "gold mine" at head of pond (Obs_id 1992.002). Stump Pond; first cove up from Jasper's Landing (Obs_id 1992.1127). [From South Merrimack, take the Boston Post Rd north ca. 1.0 mile to the inlet stream for Stump Pond. Site is downtream, near junction of inlet with the pond.] Sightings at "First bend inlet head of pond in sedges", "From 'Gold Mine' at head and McPhee's Landing", and "Within fifteen feet, either side McPhee's landing". Also Terrault's Marsh, upstream from Stump Pond, across Boston Post Rd. (Obs_id 1992_0318).

Dates documented

First reported:	1990-06-07	Last reported:	1996-05-30

Loy, Trudy. 1990. Rare turtle records at Stump Pond on June 7.

New Hampshire Natural Heritage Bureau - Animal Record

Spotted Turtle (*Clemmys guttata*)

Legal Status		**Conservation Status**	
Federal:	Not listed	Global:	Demonstrably widespread, abundant, and secure
State:	Not listed	State:	Rare or uncommon

Description at this Location

Conservation Rank: Not ranked
Comments on Rank:

Detailed Description: 2004: 1 female seen. Adult. (Obs_id 2004.0097).
General Area: 2004: Lower part of the yard is swampy (Obs_id 2004.0097).
General Comments: 2004: Spotted turtle came up from the swamp and laid eggs in the sand (Obs_id 2004.0097).
Management Comments:

Location

Survey Site Name: Muddy Brook
Managed By:

County: Hillsborough
Town(s): Hollis
Size: 30.8 acres
USGS quad(s): South Merrimack (4207175)
Lat, Long:
Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2004: Residence on Hollis/Nashua line. Muddy brook skirts edge of lawn, then crosses road (Obs_id 2004.0097).

Dates documented

First reported: 2004-06-09 Last reported: 2004-06-09

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

Appendix D

New Hampshire Natural Heritage Bureau's *Rare Plans, Rare Animals, and Exemplary Natural Communities in New Hampshire Towns 2007*

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN NEW HAMPSHIRE

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Belknap	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Meredith, Alton and Laconia
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Carroll	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Albany, Brookfield, Eaton, Effingham, Madison, Ossipee, Wakefield and Wolfeboro
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Coos	Canada Lynx	Threatened	Regenerating softwood forest, usually with a high density of snowshoe hare.	All Towns
	Dwarf wedgemussel	Endangered	Connecticut River main channel and Johns River	Northumberland, Lancaster and Dalton
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Cheshire	Dwarf wedgemussel	Endangered	S. Branch Ashuelot River and Ashuelot River	Swanzey, Keene and Surry
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Grafton	Dwarf wedgemussel	Endangered	Connecticut River main channel	Haverhill, Piermont, Orford and Lyme
	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Holderness
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Hillsborough	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Manchester, Weare
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Merrimack	Karner Blue Butterfly	Endangered	Pine Barrens with wild blue lupine	Concord and Pembroke
	Small whorled Pogonia	Threatened	Forests	Bow, Danbury, Epsom, Loudon, Warner and Allenstown
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

Updated 02/05/2016

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN NEW HAMPSHIRE

COUNTY	SPECIES	FEDERAL STATUS	GENERAL LOCATION/HABITAT	TOWNS
Rockingham	Piping Plover	Threatened	Coastal Beaches	Hampton and Seabrook
	Roseate Tern	Endangered	Atlantic Ocean and nesting at the Isle of Shoals	
	Red knot[1]	Threatened	Coastal Beaches and Rocky Shores, sand and mud flats	Coastal towns
	Small whorled Pogonia	Threatened	Forests	Deerfield, Northwood, Nottingham, and Epping
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Strafford	Small whorled Pogonia	Threatened	Forests with somewhat poorly drained soils and/or a seasonally high water table	Middleton, New Durham, Milton, Farmington, Strafford, Barrington, and Madbury
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide
Sullivan	Northeastern bulrush	Endangered	Wetlands	Acworth, Charlestown, Langdon
	Dwarf wedgemussel	Endangered	Connecticut River main channel	Plainfield, Cornish, Claremont and Charlestown
	Jesup's milk-vetch	Endangered	Banks of the Connecticut River	Plainfield and Claremont
	Northern Long-eared Bat	Threatened Final 4(d) Rule	Winter- mines and caves, Summer – wide variety of forested habitats	Statewide

[1]Migratory only, scattered along the coast in small numbers

-Eastern cougar, gray wolf and Puritan tiger beetle are considered extirpated in New Hampshire.

-Endangered gray wolves are not known to be present in New Hampshire, but dispersing individuals from source populations in Canada may occur statewide.-There is no federally-designated Critical Habitat in New Hampshire

Updated 02/05/2016

Appendix E

UMass Archeological Services Literature Review and Walkover Survey

UNIVERSITY OF MASSACHUSETTS
AMHERST

Archaeological Services
Department of Anthropology
Blaisdell House
310 Hicks Way
Amherst, MA 01003-9280

voice: 413.545.1552
fax: 413.577.1458

Mr. Armand Dufresne
Gale Associates, Inc.
15 Constitution Drive
Bedford, NH 03110-6041

July 31, 2008

Re: Nashua Municipal Airport
Management Memorandum for Phase 1A Archaeological Assessment Survey

Dear Armand,

Enclosed please find a copy of the management memorandum that provides a summary of the findings of the archaeological Phase 1A assessment at the Nashua Municipal Airport. The airport in general exhibits low sensitivity for unrecorded Native American or historical archaeological sites. No additional survey or testing is recommended for the Runway and Taxiway Relocation and Expansion Project.

With your approval, a copy of this memorandum will be submitted to the NH SHPO. The comprehensive draft survey report is currently in preparation and will be provided for your review shortly. Thank you for your assistance on this project.

Best Regards,

Timothy Binzen

Management Memorandum

Phase 1A Archaeological Assessment Survey of Nashua Municipal Airport (Boire Field)
Nashua, New Hampshire

Submitted to Gale Associates Inc. on July 31, 2008 by Timothy Binzen, Project Archaeologist
UMass Archaeological Services (413) 577-0776. (tbinzen@tei.umass.edu)

Introduction

An archaeological Phase 1A Assessment survey was performed for the property of the Nashua Municipal Airport. The main focus of the survey was the Area of Potential Effects (APE) of the programmed Runway and Taxiway Relocation and Expansion Project at the airport. The survey was conducted in order to evaluate the level of archaeological sensitivity of the APE and the airport in general for unrecorded pre-Contact Native American and historical resources.

Section 4.8 of the 1998 EA indicates that the New Hampshire State Historic Preservation Office (SHPO) was last contacted in 1981 to determine whether there were historically significant areas or structures on the airport or in the vicinity of the project area. Apparently, the SHPO responded in 1981 that there were no such areas or structures known to exist on the airport or in the project vicinity. The current proposed improvements (except for two approach light stations) are located on airport property. However, the extent of previous historical or archaeological surveys at the airport was unclear and it was not known whether the areas slated for disturbance within the APE have been previously "cleared" by the New Hampshire SHPO. Further, standards and other information may have changed over the past 26 years that make it prudent to conduct the necessary literature reviews and field observations to confirm either that this project will not disturb any significant archaeological or historical resources.

Scope. Gale Associates, Inc. ("Gale") retained Archaeological Services at the University of Massachusetts-Amherst to perform an archaeological Phase 1A assessment survey in order to assess archaeological sensitivity at the airport. The Phase 1A archaeological assessment included background research, a field reconnaissance, and consultation with the airport manager, but no subsurface testing. This memorandum summarizes the results of the Phase 1A assessment and provides findings for archaeological sensitivity at the Nashua Municipal Airport.

Authority. Archaeological Services conducts archaeological investigations in accordance with federal and state legislation and regulations concerning the impact to archaeological properties from federally funded or permitted activities. Legislation and regulations include the National Historic Preservation Act of 1966 as amended (PL 89-665); the National Environmental Policy Act of 1969 (PL 91-190, 42 USC 4321); Executive Order 11593 of 1971 (16 USC 470); Procedures for the Protection of Historic and Cultural Properties (36 CFR 800); and the Archaeological and Historical Preservation Act of 1974 (PL 93-291). State legislation dealing with the protection of historical and archaeological resources is summarized in the New Hampshire Division of Historical Resources' *Procedures for Identifying Cultural Resources* (1992).

Survey Area Boundaries and Description

Geographic Setting. The City of Nashua is centrally located in the Merrimack River Valley, bounded to the east by the Merrimack River, situated to the north and south of the Nashua River and located south of the Pennichuck River. The Nashua Municipal Airport is located in the northwest part of Nashua, west of Route 3, south of Route 101A, and approximately 1.5 mile north of the Nashua River. The airport has an elevation of 200 feet, and contains approximately 355 acres.

Airport Layout. The runway at the airport is approximately 5,500 feet long and 100 feet wide, and is oriented from northwest to southeast. The parallel taxiway is on the southern side of the runway. Access to the airport is from Perimeter Road. The airport terminal, hangars, and other structural facilities are located on the southern side of the central section of the runway. The safety areas beyond the runway ends consist of level expanses of grass.

The APE for the proposed Runway and Taxiway Relocation and Expansion Project includes the safety areas extending 1,000 feet from both ends of the runway, relocation of the runway 300 feet to the north, construction of a taxiway where the current runway is located, and construction of light stations at the western end of the airport.

Results of the Phase 1A Assessment Survey

Background Research. Background research for the Nashua Municipal Airport and for the general Nashua area was conducted at the New Hampshire Division of Historical Resources, Department of Cultural Resources. The state archaeological site files were consulted.

Regarding Native American resources, Victoria Bunker Kenyon has written the most extensive reports concerning the pre-Contact period in the Merrimack River Valley, including areas around Nashua. Based on her work at the Mine Falls park sites (27 HB 32, 33, 34) and other sites, she has concluded that the area was widely used by Native American populations of the Valley. Terraces along the Merrimack River and numerous falls, streams and tributaries made the area rich for short-term sites for food collection, which is reflected in the preponderance of tools found that were designed for hunting and fishing (Kenyon, 1984:16).

The Price (1967) map of Major Historic Indian Trails of South Central New Hampshire indicates that the Nasamok Trail ran just north of Nashua and met with four other major trails at the Merrimack River, suggesting that this area was an important point for the region's Native population. More recent work has turned up a variety of Native American sites, supporting the likelihood that areas around Nashua may contain additional unrecorded ancient sites. However, Nashua has gone through significant growth, during which many sites may have been partially destroyed. The area around the airport was not excluded from this activity. Various Phase I surveys and impact evaluations conducted over the past 30 years in Nashua reveal limited finds, such as project C-330158-03 located under a kilometer southeast from the airport. Completed in 1979, the report determined that cultural resources "are no longer present within the project area due to massive landscaping, land-filling, and construction" (Nicholas:1979, 4). The Nashua Park and Ride project, which was located to the northeast of the airport, found no significant archaeological resources.

To date, there are 17 known Native American sites within a 5-kilometer radius of the airport, with approximately 10 sites located along the edge of this radius to the east and northeast. A cluster of 8 sites are positioned north, northwest of the airport. Southeast of the airport are the important Mine Falls Park sites. No Native American sites have ever been recorded on the Nashua Municipal Airport property, or in areas directly adjacent to the airport.

From the 17th century to present day, Nashua has been influenced by Euro-American settlement. The earliest Euro-American settlements tended to be around the areas of Salmon Brook and incorporated what was known as Dunstable Township, which included settlements south of the contemporary city center of Nashua. Expansion of the township grew along the Nashua River to its confluence with the Merrimack. The 19th century saw an explosion of development with first a system of canals and then the railroad being built to increase industrial production specifically for the Nashua Manufacturing Company and smaller firms associated with it. The period from about 1824 to about 1840 was dominated by shipping up the Merrimack with the building of a canal and lock system to connect the Nashua and Merrimack Rivers. The introduction of the railroad cut back the use of the rivers, thought they still played an important role in the development of the city. The Nashua and Wilton Railroad (now Boston to Maine line) ran along the road to the town of Merrimack. This was one of three main lines to depot in the city.

Because of the 19th century expansion and continued growth through to modern times, the remains of earlier settlements have been destroyed. Nashua does have a large amount of National Historic Register buildings and homes with the city center. Outside of the city of Nashua were family farms. Based on the 1857 map, the area around the modern-day airport was limited to agricultural holdings both to the west and east. By 1892, Hurd's map indicates a reduction in these family holdings.

Within a 5 km radius of the airport, there are only 3 recorded historical archaeological sites, none of which is located within 2 km from the airport. No historical archaeological sites are known on the airport property itself.

Historically, the area now occupied by the airport was used for farming, and consisted primarily of open grazing land during the historic period. Sandy soils made the vicinity sub-optimal for cultivation. In the early 20th century, a small turf airfield was established where the eastern end of the runway is located. In 1934, the City of Nashua acquired the property. The runway was paved, and federally-funded airport facilities were constructed between 1934 and 1939.

Results of Walkover Survey at Airport. Staff from Archaeological Services consulted with Mr. Royce N. Rankin, Jr., the Airport Manager. Mr. Rankin provided an informative jeep tour of the airport property. Afterwards, a walkover survey was conducted for the north side of the runway, the safety areas and eastern and western ends of the airport, and in outlying areas.

Visual inspection confirmed that while the central part of the airport property was naturally quite flat, all infield areas, safety areas, and the northern side of the main runway were graded when the modern runway was constructed, and large piles of topsoil were pushed to peripheral sections of the airport. A low grassy ridge on the north side of the runway, opposite the terminal area, consists of an artificial mound of topsoil. The north and northwest ends of the

airport property are marshy or contain wetland soils, and are partially wooded with greater distance from the end of the runway.

Expected Cultural Resources at the Airport

Native American Sites. The likelihood for the Nashua Municipal Airport project area to contain pre-Contact Native American archaeological resources is based upon several criteria. These include proximity to previously recorded ancient sites, the types and condition of soils, surficial geology, degree of slope, slope orientation, proximity to freshwater sources and wetlands, and proximity to useful resources or raw materials. The degree of previous disturbance also is considered.

Historical Sites. The likelihood for historical archaeological sites to be present in the airport project area was assessed through historical documents, maps, and town histories that describe the settlement systems and land use seen in Nashua during the historic period.

Assessment of Archaeological Sensitivity. The assessment of sensitivity for unrecorded archaeological resources at the Nashua Municipal Airport addresses the likelihood for pre-Contact Native American sites as well as historic-period resources.

Native American Site Sensitivity. The likelihood for the airport to contain significant, unrecorded Native American archaeological deposits or sites is LOW.

Historical Site Sensitivity. The likelihood for the airport to contain significant, unrecorded historical archaeological resources is LOW.

Recommendations

Due to the findings of low archaeological sensitivity (likelihood) for either Native American or historical sites at the Nashua Municipal Airport, the proposed Runway and Taxiway Relocation and Expansion Project is unlikely to affect significant archaeological resources. No additional survey or testing is recommended for the project.

Appendix F

City of Nashua Land Use Code

City of Nashua, NH
Wednesday, January 31, 2018

Chapter 190. Land Use

Part 2. Zoning Districts and Supplemental Use Regulations

Article IV. Overlay Districts

§ 190-21. Airport Approach Zone.

Purpose and findings: The increasing aircraft activity that is occurring at the Boire Field Municipal Airport has created the need for special zoning restrictions for uses subject to the most recently adopted Part 150 Noise Compatibility Plan prepared by the Boire Field Airport Authority. To avoid land use conflicts with uses which may be incompatible with noise levels generated at the Boire Field Airport, the regulations of the Noise Overlay District provide for the exclusion of certain land uses, and for soundproofing to be required in the construction of other uses which may be compatible if mitigating action is taken to reduce noise interference with the use.

A. Applicability.

(1) In addition to the limitations and requirements set forth in the other articles of this Part **2** for various zoning districts within the City, any use, structure or object of natural growth situated within the limits of Airport Approach Zones and other restricted areas shall be further governed by the limitations of this section.

(2) All other articles of this Part **2**, including those relating to permits, nonconforming uses and variances, shall, where applicable, apply to the persons and subject matter governed by this Part **2**.

(3) Prior to filing an application for development approval within the Airport Approach Zone, the applicant shall submit a Federal Aviation Administration (FAA) Form 7460-1 to the FAA, and shall submit the comments of the FAA as part of the application for approval.

B. Establishment of airport approach plans. Any publicly owned airport or privately owned airport licensed for commercial operations, existing or which may be developed, shall have an airport approach plan prepared by the New Hampshire Aeronautics Commission in accordance with RSA 424 as last amended. The airport approach plan for the Boire Field, adopted by the New Hampshire Aeronautics Commission February 12, 1968, is hereby declared to be part of this section.

C. Boire Field airport approach plan.

(1) This airport approach plan, prepared under the authority of RSA 424:3, is based upon the ultimate development of a general aviation type airport with a runway 14/32 5,550 feet and a primary surface 5,900 feet by 1,000 feet.

(2) Federal Aviation Regulations, Part 77, effective May 1, 1965, establishes the standards used to determine the limit of height of obstructions in the vicinity of the airport.

(3) The limit of height of obstructions shall be:

(a) In the approach zone to Runway 32 (SE end), which is 500 feet wide at a point 200 feet from the end of the runway and 2,500 feet wide at a point 10,200 feet from the end of the runway, an inclined plane of 40:1 slope.

(b) In the approach zone to Runway 14 (NW end), which is 1,000 feet wide at a point 200 feet from the end of the runway and 7,000 feet wide at a point 10,200 feet from the end of the runway, an inclined plane of 50:1 slope, widening thereafter to 16,000 feet at a point 50,200 feet from the end of the runway, an inclined plane of 40:1 slope.

(c) On the sides of the primary and approach surfaces, an inclined plane of 7:1 slope from the edges of those surfaces. This subsection does not limit the height of a structure or tree to less than 30 feet above the ground upon which it is located.

(d) Within 7,000 feet of the airport reference point 150 feet above the airport, 349 feet above sea level.

(e) Between 7,000 feet and 12,000 feet from the airport reference point, a conical surface with a slope of 20:1 measured in a vertical plane passing through the center of the airport.

(4) The airport reference point is located on the center line of the runway, 2,750 feet from the southeast end of the runway, and the airport elevation is 199 feet above mean sea level (USGS Datum).

(5) Noise compatibility zones for the affected areas in the vicinity of the Boire Field Airport are hereby established based on the Ldn contours for aircraft noise as defined by the most recently approved Federal Aviation Regulation Part 150 Noise Compatibility Program for the Boire Field Airport. A generalized map of the approximate location of these zones is illustrated in the Noise Exposure Map. The boundaries of the Noise Overlay Zones are shown in the Part 150 Boire Field Airport Noise Compatibility Program.

D. Height limits. No structure or tree shall be erected, altered or allowed to grow within an airport approach zone and adjacent area above a height of 30 feet above the ground on which it is located unless the inclined plane is more than 30 feet above the ground, in which case a structure or tree may be erected, altered or allowed to grow up to the level of the plane or the height limitation of § **190-16**, whichever is less.

E. Permitted uses.

(1) Notwithstanding any other provisions of this Part 2 no use may be made of land within the airport hazard area in such manner as to:

(a) Create electrical or visual interference with any electronic facility or instrumentation, wherever located within the airport hazard area, including but not limited to, radio transmitters and receivers, radar installations, landing and navigational aids and weather instruments where such facilities are used in connection with the landing, taking off and maneuvering of aircraft;

(b) Make it difficult for flyers to distinguish between airport lights and others;

(c) Result in glare in the eyes of flyers using the airport;

(d) Impair visibility in the vicinity of the airport;

(e) Cause physical objects of any nature to penetrate, however briefly, the air space above the imaginary surfaces established in this article, such objects including but not limited to kites, balloons, projectiles, rockets, model aircraft, derricks and cranes, unless a special temporary permit be obtained from the authorities in charge of the affected airport;

(f) Establish or alter privately owned flying fields, strips or heliports, unless found not to be objectionable after a special aeronautical study by federal aviation authorities;

(g) Create bird strike hazards;

(h) Otherwise endanger the landing, taking off, or maneuvering of aircraft.

(2) Uses prohibited in the noise overlay zones shall be as specified in the Table of Land Use Compatibility Standards. Soundproofing shall be required for certain land uses in each of the noise overlay zones as shown in the Table of Land Use Compatibility Standards (Table 21-1 below). Where soundproofing is required, no building permits shall be issued until the applicant has demonstrated that the building design is capable of achieving the noise level reduction required in the Table of Land Use Compatibility Standards.

Table 21-1
Table of Land Use Compatibility Standards

	Yearly Day/Night Average Sound Level (Ldn) in Decibels					
Land Use	**Below 65**	**65-70**	**70-75**	**75-80**	**80-85**	**Over 85**
Schools (any category)	Y	N(1)	N(1)	N	N	N
Hospitals (any category)	Y	25	30	N	N	N
Churches; exhibition, convention or conference structures; performance theaters; or theaters	Y	25	30	N	N	N
Governmental offices	Y	Y	25	30	N	N
Transportation, communication, information and utilities (generally)	Y	Y	Y(2)	Y(3)	Y(4)	Y(4)
Parking lots	Y	Y	Y(2)	Y(3)	Y(4)	N
Office buildings	Y	Y	25	30	N	N
Warehousing and storage uses	Y	Y	Y(2)	Y(3)	Y(4)	N
Retail (general sales or service) uses	Y	Y	25	30	N	N
Utility uses and structures	Y	Y	Y(2)	Y(3)	Y(4)	N
Communication antennas, radio/television stations, telecommunication towers, telephone repeater stations	Y	Y	25	30	N	N
Industrial and manufacturing uses, general	Y	Y	Y(2)	Y(3)	Y(4)	N
Agriculture (except livestock)	Y	Y(6)	Y(7)	Y(8)	Y(8)	Y(8)
Excavation of sand, gravel and clay	Y	Y	Y	Y	Y	Y
Sports stadiums, arenas, coliseums, or assembly halls	Y	Y(5)	Y(5)	N	N	N
Amphitheaters, outdoor stages, band stands	Y	N	N	N	N	N
Golf courses	Y	Y	25	30	N	N

Source: 14 CFR Part 150, Article **X**, Division 1

Key to Table 21-1:

Numbers in parentheses refer to notes.

"Y (Yes)" means land use and related structures compatible without restrictions.

"N (No)" means land use and related structures are not compatible and should be prohibited.

"NLR" means noise level reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.

"25, 30, or 35" means that the land use and related structures are generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated into design and construction of structure.

Notes to Table 21-1:

(1) Where school uses are permitted by a use variance, measures to achieve outdoor to indoor noise level reduction (NLR) of at least 25 dB and 30 dB should be incorporated into buildings. Normal residential construction can be expected to provide a NLR of 20 dB, thus, the reduction requirements are often stated as 5, 10 or 15 dB over standard construction and normally assume mechanical ventilation and closed windows year-round. However, the use of NLR criteria will not eliminate outdoor noise problems.

(2) Measures to achieve NLR 25 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

(3) Measures to achieve NLR of 30 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal noise level is low.

(4) Measures to achieve NLR 35 dB must be incorporated into the design and construction of portions of these buildings where the public is received, office areas, noise sensitive areas or where the normal level is low.

(5) Land use compatible provided special sound reinforcement systems are installed.

(6) Residential buildings require an NLR of 25.

(7) Residential buildings require an NLR of 30.

(8) Residential buildings not permitted.

F. Signs. Within the fenced perimeter of Boire Field, a sign permit (see § **190-94**) for any proposed sign advertising a business or service located thereon may be issued by the airport manager or his designee, subject to review by the Nashua Airport Authority and in compliance with the requirements set forth below:

(1) No sign may be directed at or oriented to any street that serves the airport with the intent that the sign not be visible to or readable from said street, except as provided in the Boire Field Sign Standards booklet.

(2) The Administrative Officer shall assist the airport manager in the preparation and updating of the Boire Field sign standards booklet. In no event shall sign size exceed the maximum permitted in the PI Zoning District. (See Article **X** of this chapter.)

(3) The airport manager shall consult with the Administrative Officer as necessary concerning compliance with these requirements.

(4) The Administrative Officer may cause any sign to be removed that does not comply with these requirements, or as otherwise specified in the PI Zoning District. (See Article **IX** of this chapter.) Appeals concerning the removal of any sign shall be as set forth in § **190-136**.

G. Variances. In granting a variance from this article, the Zoning Board of Adjustment may, if such action is deemed advisable to effectuate the purposes of this article and is reasonable in the circumstances, condition the variance to require the owner of the structure or object of natural growth in question to permit the City, at its own expense, to install, operate and maintain thereon such markers and lights as may be necessary to indicate to flyers the presence of an airport hazard.

Appendix G

2015 MSGP, Parts 8.S.4-8.S.6

- Tenants independently perform, document and submit required information on their activities.

*Tenants who report their deicing chemical usage to the airport authority and rely on the airport authority to perform monitoring should not check the glycol and urea use box on their NOI forms.

8.S.3.3 ***SWPPP Requirements.*** A single comprehensive SWPPP must be developed for all stormwater discharges associated with industrial activity at the airport before submittal of any NOIs. The comprehensive SWPPP should be developed collaboratively by the airport authority and tenants. If any operator develops a SWPPP for discharges from its own areas of the airport, that SWPPP must be coordinated and integrated with the comprehensive SWPPP. All operators and their separate SWPPP contributions and compliance responsibilities must be clearly identified in the comprehensive SWPPP, which all operators must sign and certify per Part 5.2.7. As applicable, the SWPPP must clearly specify the MSGP requirements to be complied with by:

- The airport authority for itself;
- The airport authority on behalf of its tenants;
- Tenants for themselves.

For each activity that an operator (e.g., the airport authority) conducts on behalf of another operator (e.g., a tenant), the SWPPP must describe a process for reporting results to the latter operator and for ensuring appropriate follow-up, if necessary, by all affected operators. This is to ensure all actions are taken to correct any potential deficiencies or permit violations. For example, where the airport authority is conducting monitoring for itself and its tenants, the SWPPP must identify how the airport authority will share the monitoring results with its tenants, and then follow-up with its tenants where there are any exceedances of benchmarks, effluent limits, or water quality standards. In turn, the SWPPP must describe how the tenants will also follow-up to ensure permit compliance.

8.S.3.4 ***Duty to Comply.*** All individual operators are responsible for implementing their assigned portion of the comprehensive SWPPP, and operators must ensure that their individual activities do not render another operator's stormwater controls ineffective. In addition, the standard permit conditions found in Appendix B apply to each individual operator, including B.1 Duty to Comply (which states, in part, "You [each individual operator] must comply with all conditions of this permit."). For multiple operators at an airport this means that each individual operator remains responsible for ensuring all requirements of its own MSGP coverage are met regardless of whether the comprehensive SWPPP allocates the actual implementation of any of those responsibilities to another entity. That is, the failure of the entity allocated responsibility in the SWPPP to implement an MSGP requirement on behalf of other operators does not negate the other operators' ultimate liability.

8.S.4 Additional Technology-Based Effluent Limits.

8.S.4.1 ***Good Housekeeping Measures.*** (See also Part 2.1.2.2)

8.S.4.1.1 ***Aircraft, Ground Vehicle and Equipment Maintenance Areas.*** Minimize the contamination of stormwater runoff from all areas used for aircraft, ground vehicle and equipment maintenance (including the maintenance conducted on the terminal apron and in dedicated hangers) through implementation of control measures such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive):

performing maintenance activities indoors; maintaining an organized inventory of material used in the maintenance areas; draining all parts of fluids prior to disposal; prohibiting the practice of hosing down the apron or hanger floor; using dry cleanup methods; and collecting the stormwater runoff from the maintenance area and providing treatment or recycling.

8.S.4.1.2 ***Aircraft, Ground Vehicle and Equipment Cleaning Areas.*** (See also Part 8.S.4.6) Clearly demarcate these areas on the ground using signage or other appropriate means. Minimize the contamination of stormwater runoff from cleaning areas.

8.S.4.1.3 ***Aircraft, Ground Vehicle and Equipment Storage Areas.*** Store all aircraft, ground vehicles and equipment awaiting maintenance in designated areas only and implement control measures to minimize the discharge of pollutants in stormwater from these storage areas such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): storing aircraft and ground vehicles indoors; using drip pans for the collection of fluid leaks; and perimeter drains, dikes or berms surrounding the storage areas.

8.S.4.1.4 ***Material Storage Areas.*** Maintain the vessels of stored materials (e.g., used oils, hydraulic fluids, spent solvents, and waste aircraft fuel) in good condition to prevent or minimize contamination of stormwater. Also plainly label the vessels (e.g., "used oil," "Contaminated Jet A"). To minimize contamination of precipitation/runoff from these areas, implement control measures such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): storing materials indoors; storing waste materials in a centralized location; and installing berms/dikes around storage areas.

8.S.4.1.5 ***Airport Fuel System and Fueling Areas.*** Minimize the discharge of pollutants in stormwater from airport fuel system and fueling areas through implementation of control measures such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): implementing spill and overflow practices (e.g., placing absorptive materials beneath aircraft during fueling operations); using only dry cleanup methods; and collecting stormwater runoff. If you have implemented a SPCC plan developed in accordance with the 2006 amendments to the SPCC rule, you may cite the relevant aspects from your SPCC plan that comply with the requirements of this section in your SWPPP.

8.S.4.1.6 ***Source Reduction.*** Consistent with safety considerations, minimize the use of urea and glycol-based deicing chemicals to reduce the aggregate amount of deicing chemicals used that could add pollutants to stormwater discharges. Chemical options to replace pavement deicers (urea or glycol) include (list not exclusive): potassium acetate; magnesium acetate; calcium acetate; and anhydrous sodium acetate.

8.S.4.1.6.1 ***Runway Deicing Operations.*** To minimize the discharge of pollutants in stormwater from runway deicing operations, implement source reduction control measures such as the following, where determined to be feasible and that

accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): metered application of chemicals; pre-wetting dry chemical constituents prior to application; installing a runway ice detection system; implementing anti-icing operations as a preventive measure against ice buildup; heating sand; and product substitution.

8.S.4.1.6.2 ***Aircraft Deicing Operations*.** Minimize the discharge of pollutants in stormwater from aircraft deicing operations. Determine whether excessive application of deicing chemicals occurs and adjust as necessary, consistent with considerations of flight safety. Determine whether alternatives to glycol and whether containment measures for applied chemicals are feasible. Implement control measures for reducing deicing fluid such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): forced-air deicing systems, computer-controlled fixed-gantry systems, infrared technology, hot water, varying glycol content to air temperature, enclosed-basket deicing trucks, mechanical methods, solar radiation, hangar storage, aircraft covers, and thermal blankets for MD-80s and DC-9s. Consider using ice-detection systems and airport traffic flow strategies and departure slot allocation systems where feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations. The evaluations and determinations required by this Part should be carried out by the personnel most familiar with the particular aircraft and flight operations and related systems in question (versus an outside entity such as the airport authority).

8.S.4.1.7 ***Management of Runoff*.** (See also Part 2.1.2.6) Minimize the discharge of pollutants in stormwater from deicing chemicals in runoff. To minimize discharges of pollutants in stormwater from aircraft deicing, implement runoff management control measures such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): installing a centralized deicing pad to recover deicing fluid following application; plug-and-pump (PnP); using vacuum/collection trucks (glycol recovery vehicles); storing contaminated stormwater/deicing fluids in tanks; recycling collected deicing fluid where feasible; releasing controlled amounts to a publicly owned treatment works; separation of contaminated snow; conveying contaminated runoff into a stormwater impoundment for biochemical decomposition (be aware of attracting wildlife that may prove hazardous to flight operations); and directing runoff into vegetative swales or other infiltration measures. To minimize discharges of pollutants in stormwater from runway deicing, implement runoff management control measures such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): mechanical systems (snow plows, brushes); conveying contaminated runoff into swales and/or a stormwater impoundment; and pollution prevention practices such as ice detection systems, and airfield prewetting.

When applying deicing fluids during non-precipitation events (also referred to as "clear ice deicing"), implement control measures to prevent unauthorized discharge of pollutants (dry-weather discharges of pollutants would need coverage under an NPDES wastewater permit), or to minimize the discharge of pollutants from deicing fluids in later stormwater discharges, implement control measures such as the following, where determined to be feasible and that accommodate considerations safety, space, operational constraints, and flight considerations (list not exclusive): recovering deicing fluids; preventing the fluids from entering storm sewers or other stormwater discharge conveyances (e.g., covering storm sewer inlets, using booms, installing absorptive interceptors in the drains); releasing controlled amounts to a publicly owned treatment works Used deicing fluid should be recycled whenever practicable.

8.S.4.2 ***Deicing Season.*** You must determine the seasonal timeframe (e.g., December-February, October - March) during which deicing activities typically occur at the facility. Implementation of control measures, including any BMPs, facility inspections and monitoring must be conducted with particular emphasis throughout the defined deicing season. If you meet the deicing chemical usage thresholds of 100,000 gallons glycol and/or 100 tons of urea, the deicing season you identified is the timeframe during which you must obtain the four required benchmark monitoring event results for deicing-related parameters, i.e., BOD, COD, ammonia and pH. See also Part 8.S.7.

8.S.5 Additional SWPPP Requirements.

8.S.5.1 ***Drainage Area Site Map***. (See also Part 5.2.2) Document in the SWPPP the following areas of the facility and indicate whether activities occurring there may be exposed to precipitation/surface runoff: aircraft and runway deicing operations; fueling stations; aircraft, ground vehicle and equipment maintenance/cleaning areas; and storage areas for aircraft, ground vehicles and equipment awaiting maintenance.

8.S.5.2 ***Potential Pollutant Sources.*** (See also Part 5.2.3) In the inventory of exposed materials, describe in the SWPPP the potential for the following activities and facility areas to contribute pollutants to stormwater discharges: aircraft, runway, ground vehicle and equipment maintenance and cleaning; and aircraft and runway deicing operations (including apron and centralized aircraft deicing stations, runways, taxiways and ramps). If deicing chemicals are used, a record of the types (including the Safety Data Sheets [SDS]) used and the monthly quantities, either as measured or, in the absence of metering, using best estimates, must be maintained. This includes all deicing chemicals, not just glycols and urea (e.g., potassium acetate), because large quantities of these other chemicals can still have an adverse impact on receiving waters. Deicing operators must provide the above information to the airport authority for inclusion with any comprehensive airport SWPPPs.

8.S.5.3 ***Vehicle and Equipment Wash Water Requirements.*** If wash water is handled in a manner that does not involve separate NPDES permitting or local pretreatment requirements (e.g., hauled offsite, retained onsite), describe the disposal method and include all pertinent information (e.g., frequency, volume, destination) in your SWPPP. Discharges of vehicle and equipment wash water are not authorized by this permit for this sector.

8.S.5.4 ***Documentation of Control Measures Used for Management of Runoff***. Document in your SWPPP the control measures used for collecting or containing contaminated melt water from collection areas used for disposal of contaminated snow.

8.S.6 Additional Inspection Requirements.

At a minimum conduct facility inspections at least monthly during the deicing season (e.g., October through April for most mid-latitude airports). If your facility needs to deice before or after this period, expand the monthly inspections to include all months during which deicing chemicals may be used. The Director may specifically require you to increase inspection frequencies.

8.S.7 Sector-Specific Benchmarks. (See also Part 6)

Table 8.S-1 identifies benchmarks that apply to Sector S. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table 8.S-1.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
For airports where a single permittee, or a combination of permitted facilities use more than 100,000 gallons of pure glycol in glycol-based deicing fluids and/or 100 tons or more of urea on an average annual basis, monitor the first four parameters in ONLY those outfalls that collect runoff from areas where deicing activities occur (SIC 4512-4581).	Biochemical Oxygen Demand (BOD_5)[1]	30 mg/L
	Chemical Oxygen Demand (COD)[1]	120 mg/L
	Ammonia[1]	2.14 mg/L
	pH[1]	6.0 - 9.0 s.u.

[1] These are deicing-related parameters. Collect the four benchmark samples, and any required follow-up benchmark samples, during the timeframe defined in Part 8.S.4.2 when deicing activities are occurring.

8.S.8 Effluent Limitations Based on Effluent Limitations Guidelines and New Source Performance Standards. (See also Part 6.2.2.1)

8.S.8.1 ***Airfield Pavement Deicing.*** For both existing and new "primary airports" (as defined at 40 CFR 449.2) with 1,000 or more annual non-propeller aircraft departures that discharge stormwater from airfield pavement deicing activities, there shall be no discharge of airfield pavement deicers containing urea. To comply with this limitation, such airports must do one of the following: (1) certify annually on the annual report that you do not use pavement deicers containing urea, or (2) meet the effluent limitation in Table 8.S-2.

8.S.8.2 ***Aircraft Deicing.*** Airports that are both "primary airports" (as defined at 40 CFR 449.2) and new sources ("new airports") with 1,000 or more annual non-propeller aircraft departures must meet the applicable requirements for aircraft deicing at 40 CFR 449.11(a). Discharges of the collected aircraft deicing fluid directly to waters of the U.S. are not eligible for coverage under this permit.

8.S.8.3 ***Monitoring, Reporting and Recordkeeping.*** For new and existing airports subject to the effluent limitations in Part 8.S.8.1 or 8.S.8.2 of this permit, you must comply with the applicable monitoring, reporting and recordkeeping requirements outlined in 40 CFR 449.20.

Appendix H

NHDOT Non-Aeronautical Use of Obligated Airports

Non-Aeronautical Use of Obligated Airports

Public-use airports that receive federal grant assistance are obligated to keep their airports open for aeronautical purposes. Once in a while there is a need in their communities to use a portion of the airport for some non-aeronautical purpose. This might come in the form of temporarily storing materials in a vacant building, one-day community outreach events, or on-going training sessions, but the request types could be endless. To ensure compliance with the airports' obligations under the federal grants, these airports are required to receive approval from either the FAA or the NHDOT/Bureau of Aeronautics. The NHDOT/Bureau of Aeronautics works with the Block Grant airport sponsors to review and approve or disapprove these non-aeronautical uses of their airports. In order to protect the continued safe use of these airports for aeronautical purposes, airport sponsors must submit sufficient information for NHDOT/Bureau of Aeronautics to be able to complete the review and issue a finding. This submission may be by electronic or hardcopy. If additional information is needed prior to a finding being issued, NHDOT/Bureau of Aeronautics will contact the airport sponsor. FAA reviews all non-aeronautical airport use requests for the non-Block Grant airports in New Hampshire.

SAMPLE REQUEST FOR NON-AERONAUTICAL USE OF OBLIGATED AIRPORTS

The _____, sponsor of _____ Airport, requests review and comment on the following proposed non-aeronautical use of _____ Airport.

- Description of activity including duration (including setup and teardown, if applicable).
- Identify the location of activity on the airport.
- Description of impact on aeronautical uses (include impacts on active aircraft movements, navigational aid critical areas, aviation fueling, airport safety/gate access).
- Description of any local permits needed, if any.
- Description of any environmental concerns and how they will be addressed (e.g., fuel leaks, smoke, fire).
- Explanation of fees to be charged by the airport; if no fees are to be charged, provide justification why no fees will be charged.
- Provide airport sponsor's plan to keep all parties safe while operating at the airport (i.e., Event Safety Plan); be sure to include FOD management, runway incursion prevention, NAVAID facility protection, UAS activity coordination, ATCT coordination, airport sponsor will be on site for the duration of the event ensuring compliance with these conditions and Event Safety Plan, UNICOM usage, issuance of NOTAMS, gate access, protection of airport design surfaces (RSA, ROFA, TSA, TOFA, etc.), and protection of airspace.

- Explain what other venues has the airport sponsor or proponent has investigated for this use and explain why none were suitable.
- Include the determination from FAA's OE/AAA evaluation, if appropriate.
- Explain how the event's location will not interfere with normal aeronautical use of the airport.
- Explain how adequate aeronautical facilities will remain open to air traffic.
- Explain the airport sponsor's efforts to coordinate this event with airport users; place coordination documentation in airport sponsor's files.
- Will obstructions, as determined by FAA to be hazards, be constructed for this event? If not, please state so.
- Explain that the airport sponsor will issue proper NOTAMs in advance of the event.
- Describe how the the portion of the airport to be closed or not available for aeronautical use will be properly marked, signed, or barricaded.
- Identify if FAA/Flight Standards District Office and/or air carriers will be notified, as appropriate.
- Explain that all markings, signage, and barricades will be removed and damage repaired, if any, within 24 hours of the end of the event.

The airport sponsor will comply with the following grant assurances even with the proposed non-aeronautical [use][activity]:

- Grant Assurance #19: State how the airport sponsor will continue to operate in a safe and serviceable manner.
- Grant Assurance #22: State if the airport sponsor is not preventing the aeronautical use of the airport. State if the airport sponsor be collecting the off-airport land lease rates ensuring economic non-discrimination for this event. State that the airport sponsor has established reasonable conditions to be met by the proponent to ensure the safe and efficient operation of the airport.
- Grant Assurance #24: State if the airport sponsor be collecting the off-airport land lease rate for the duration of this non-aeronautical use of airport property.
- Grant Assurance #25: State that the funds collected by the airport sponsor for this non-aeronautical use, if any, will be deposited in the airport sponsor's dedicated account for the operation and maintenance of the airport.

Appendix I

Exhibit A- Airport Property Plan

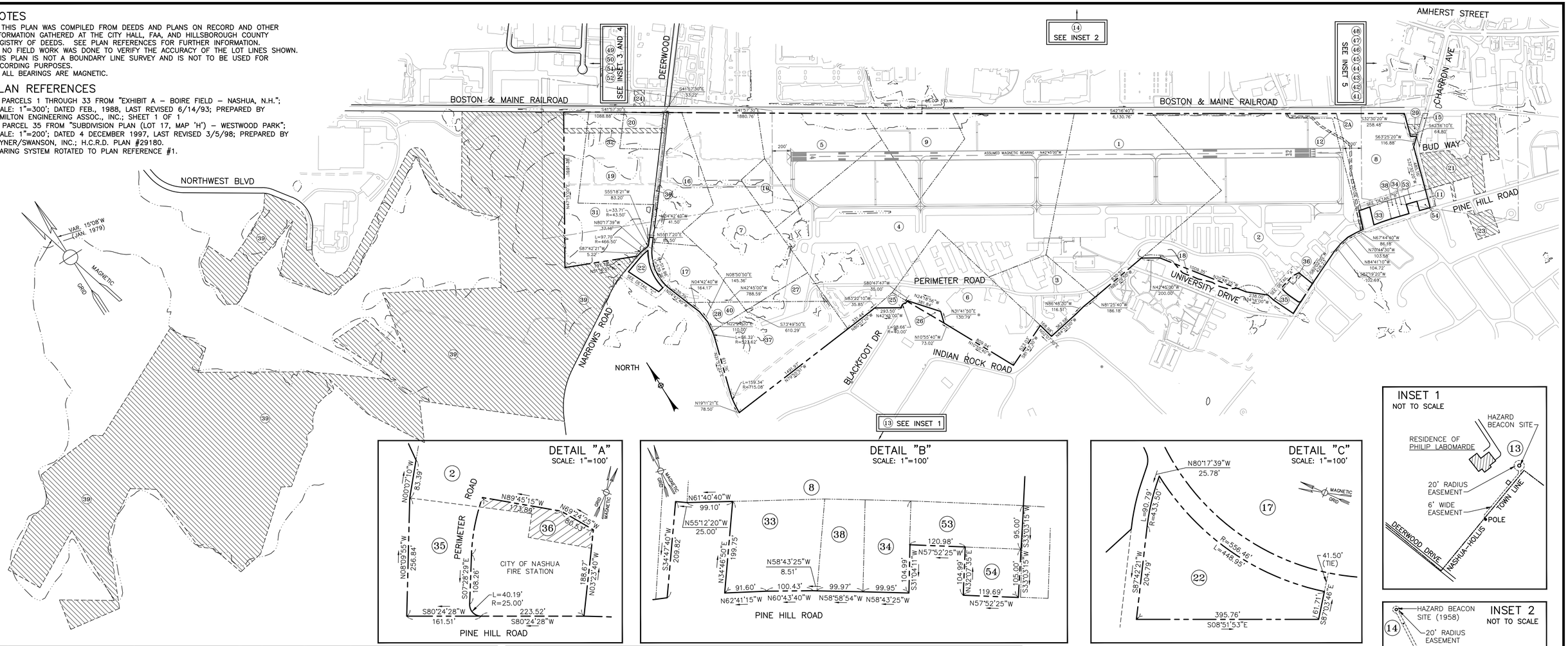
NOTES

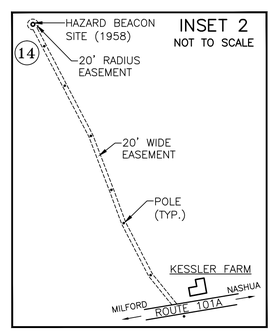
1. THIS PLAN WAS COMPILED FROM DEEDS AND PLANS ON RECORD AND OTHER INFORMATION GATHERED AT THE CITY HALL, FAA, AND HILLSBOROUGH COUNTY REGISTRY OF DEEDS. SEE PLAN REFERENCES FOR FURTHER INFORMATION.
2. NO FIELD WORK WAS DONE TO VERIFY THE ACCURACY OF THE LOT LINES SHOWN. THIS PLAN IS NOT A BOUNDARY LINE SURVEY AND IS NOT TO BE USED FOR RECORDING PURPOSES.
3. ALL BEARINGS ARE MAGNETIC.

PLAN REFERENCES

1. PARCELS 1 THROUGH 33 FROM "EXHIBIT A – BOIRE FIELD – NASHUA, N.H."; SCALE: 1"=300'; DATED FEB., 1988, LAST REVISED 6/14/93; PREPARED BY HAMILTON ENGINEERING ASSOC., INC.; SHEET 1 OF 1
2. PARCEL 35 FROM "SUBDIVISION PLAN (LOT 17, MAP 'H') – WESTWOOD PARK"; SCALE: 1"=200'; DATED 4 DECEMBER 1997, LAST REVISED 3/5/98; PREPARED BY HAYNER/SWANSON, INC.; H.C.R.D. PLAN #29180.

BEARING SYSTEM ROTATED TO PLAN REFERENCE #1.





PARCEL	GRANTOR	GRANTEE	INST.	DATE	BOOK/PAGE	REMARKS
1	ALICE T., CHARLES L. & ARTHUR H. COTTEN	CITY OF NASHUA, NH	FEE	5/19/34	932/182	
2	JOSEPH THERRIEN	CITY OF NASHUA, NH	FEE	5/19/34	932/199	
2A	JOSEPH THERRIEN	CITY OF NASHUA, NH	FEE	5/19/34	932/199	FORMER AIRPORT ROAD DISCONTINUED BY BOARD OF ALDERMAN, OCT. 13, 1964 (ORIGINALLY PART OF PARCEL 2)
3	JASON T. BICKFORD & HELEN B. HUBER	CITY OF NASHUA, NH	FEE	6/14/43	1049/334	
4	HARRY G. SPEAR	CITY OF NASHUA, NH	FEE	11/17/43	1056/222	
5	JOSEPH CERIER	CITY OF NASHUA, NH	FEE	12/7/43	1056/244	
6	JOSEPH A. LAMPRON	CITY OF NASHUA, NH	FEE	12/31/43	1056/358	
7	WILLIAM H. HALL	CITY OF NASHUA, NH	FEE	12/20/44	1075/21	
8	CLARA B. PARKER	CITY OF NASHUA, NH	FEE	11/26/49	1241/149	FAAP 9-27-017-901
9	J. BERNARD & DOROTHY DEPUNTE	CITY OF NASHUA, NH	FEE	1/24/50	1246/8	FAAP 9-27-017-901
10	DENNETT F. HOWE & NORMAN E. HOWE	CITY OF NASHUA, NH	FEE	1/19/51	1280/212 & 214	FAAP 9-27-017-901
11	AMY L. CALFEE	NASHUA AIRPORT AUTHORITY	FEE	4/5/63	1732/162	ACCESS ROAD CONSTRUCTION (NOW PART OF CHARRON AVENUE)
12	NASHUA AIRPORT AUTHORITY	PENNICHUCK WATER WORKS, INC.	ESMT	10/12/12	8482/0287	U/G UTILITY EASEMENT
13	PHILIP D. & FRANCES A. LABOMBARDE	NASHUA AIRPORT AUTHORITY	ESMT	6/19/63	1736/282	HAZARD BEACON EASEMENT FAAP 9-27-017-5903
14	KESSLER FARMS	NASHUA AIRPORT AUTHORITY	ESMT	1963		HAZARD BEACON EASEMENT FAAP 9-27-017-5903 (LIKELY ABANDONED)
15	SAMUEL A. TAMPOSI	NASHUA AIRPORT AUTHORITY	FEE	7/20/63	1742/119	ACCESS ROAD CONSTRUCTION (NOW PART OF CHARRON AVENUE)
16	JOSEPH E. A. LEVESQUE	CITY OF NASHUA, NH	FEE	12/16/66	1910/333	FAAP 9-27-017-C807
17	JOSEPH E. A. LEVESQUE	CITY OF NASHUA, NH	FEE	4/2/71	2125/388	FAA AIP 3-33-0012-01
18	AIRPORT PROPERTIES, INC.	CITY OF NASHUA, NH	AGRT	11/16/77	2580/241	BOUNDARY LINE ARGEEMENT
19	FRANK L. HARVEY	CITY OF NASHUA, NH	FEE	12/15/77	2579/670	FAA ADAP 7-33-0012-02
20	FRANK L. HARVEY	CITY OF NASHUA, NH	FEE	12/14/78	2661/24	FAA ADAP 5-33-0012-03
21	WILLIAM P. KORSAK DAVID M. HOLDEN	CITY OF NASHUA, NH	ESMT	4/24/80	2767/142	AVIGATION EASEMENT
22	JOHN P. HOWE & SALLY HOWE BIXBY	CITY OF NASHUA, NH	FEE	12/30/83	2980/176	FAA AIP 3-33-0012-01
23	NORMAN E. WRENN	CITY OF NASHUA, NH	ESMT	4/7/83	3009/484	AVIGATION EASEMENT

CONTINUED ON SHEETS 2 OF 3 AND 3 OF 3

PARCEL	GRANTOR	GRANTEE	INST.	DATE	BOOK/PAGE	REMARKS
24	RAYMOND G. & LILLIAN M. BARBOUR	CITY OF NASHUA, NH	ESMT	2/11/88	4620/23	AVIGATION EASEMENT
25	SAMUEL A. & BARBARA S. TAMPOSI	CITY OF NASHUA, NH	FEE	1/16/84	3122/397	LAND SWAP WITH PARCEL 26 FAA APPROVED NOV. 1983
26	CITY OF NASHUA, NH	S.A. & B.S. TAMPOSI	FEE	1/16/84	3135/3	LAND SWAP WITH PARCEL 25 FAA APPROVED NOV. 1983 (ORIGINALLY PART OF PARCEL 6)
27	FRANCES R. HOLDEN	CITY OF NASHUA, NH	FEE	8/30/93	5467/524	LAND SWAP WITH PARCEL 28 FAA APPROVED NOV. 1983
28	CITY OF NASHUA, NH	FRANCES R. HOLDEN	FEE	8/30/93	5467/526	LAND SWAP WITH PARCEL 27 FAA APPROVED NOV. 1983 (ORIGINALLY PART OF PARCELS 7 & 17)
29	PETER CAMPISI	CITY OF NASHUA, NH	ESMT	8/15/85	3375/757	AVIGATION EASEMENT
30	CITY OF NASHUA, NH	CITY OF NASHUA	–	12/10/85	–	STREET DISCONTINUANCE
31	PENNICHUCK CORP.	CITY OF NASHUA, NH	FEE	12/13/85	3431/62	FAA ADAP 5-33-0012-05
32	CITY OF NASHUA, NH	PENNICHUCK CORP.	ESMT	12/13/85	3432/89	U/G UTILITY EASEMENT
33	WILLIAM SHUBELKA	CITY OF NASHUA, NH	FEE	1/8/88	4580/281	FAA AIP 3-33-0012-08
34	MARGARET L. BROWN	CITY OF NASHUA, NH	FEE	9/24/91	5284/1074	FAA AIP 3-33-0012-1191
35	CITY OF NASHUA (NASHUA FIRE DEPARTMENT)	NASHUA AIRPORT AUTHORITY	–	6/18/92	–	LEASE AMENDMENT / LAND SWAP FAA APPROVED 5/28/92 (ORIGINALLY PART OF PARCEL 2)
36	NASHUA AIRPORT AUTHORITY	CITY OF NASHUA (NASHUA FIRE DEPARTMENT)	ESMT	6/18/92	–	AVIGATION EASEMENT RETAINED FAA APPROVED 5/28/92 (ORIGINALLY PART OF PARCEL 2)
37	FRANCES R. HOLDEN	CITY OF NASHUA	FEE	11/22/93	5494/1852	FAA AIP 3-33-0012-15 REFERENCE INCLUDES PREVIOUSLY DEEDED PARCEL 27 DOES NOT INCLUDE PARCEL 28 (SEE PARCEL 40)
38	HAZEL A. UPHAM	NASHUA AIRPORT AUTHORITY	FEE	11/12/99	6179/1550	FAA AIP 3-33-0012-19
39	CITY OF NASHUA	NASHUA AIRPORT AUTHORITY	ESMT	8/11/05 8/26/05	7521/1571 7533/1292	AVIGATION EASEMENT CORRECTIVE DEED TO ADD EXHIBIT 1
40	HEIRS AT LAW OF FRANCES R. HOLDEN	NASHUA AIRPORT AUTHORITY	FEE	4/16/12	8416/1911	CORRECTIVE DEED TO INCLUDE PREVIOUSLY OMITTED PARCEL 28 (SEE PARCEL 37)
41–48	SEE SHEET 3 OF 3					
49–52	SEE SHEET 2 OF 3					
53	JOLEEN T. KLISS	NASHUA AIRPORT AUTHORITY	FEE	5/20/14	8660/2858	NHDOT NO. SBG-12-13-2014
54	LORRAINE F. ALCORN, TRUSTEE OF THE LORRAINE F. ALCORN REVOC. TRUST	NASHUA AIRPORT AUTHORITY	FEE	9/18/14	8692/1462	NHDOT NO. SBG-12-15-2015

LEGEND

- OUTSALE PARCEL LINE
- AIRPORT PARCEL LINES
- AIRPORT BOUNDARY
- RUNWAY PROTECTION ZONE
- 3 — PARCEL, OUTSALE NUMBER
- 291.90' — DISTANCE IN FEET – BASED ON REFERENCED PLAN DIMENSIONS
- AVIGATION EASEMENT

Graphic Scale
0 500 1,000 1,500
SCALE: 1" = 500'

NOT FOR RECORDING PURPOSES

NO.	DATE	DESCRIPTION	BY	CHKD
2	4/3/15	AIRPORT PURCHASE LOT 53 AND 54	DCQ	EWS
1	6/6/12	ADD SHEETS 2 AND 3; AND PARCELS 41 THROUGH 52; AND ADD CORRECTIVE DEEDS FOR PARCELS 39&40	MEF	BLS

EXHIBIT A – AIRPORT PROPERTY PLAN

GALE
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Engineers Architects Planners
15 Constitution Drive
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P 603.471.1887 F 603.471.1809
www.gainc.com
Boston Baltimore Orlando San Francisco

BOIRE FIELD
NASHUA MUNICIPAL AIRPORT
NASHUA, NEW HAMPSHIRE

Scale:	Date:	Drawn:	Reviewed:	Job No.
1"=500'	8/19/05	JAT	CLN	775911
			Cadd File: 775910-ExA	1 of 3

Easement on Lot H-634

LINE	BEARING	DISTANCE
L5	N 55°1' E	244'
L4	N 33°32' E	525'
L3	N 56°28' W	217'
L2	N 33°33' E	152'
L1	S 56°37' E	2065'
L13	S 33°23' W	937'
L12	N 27°35' W	269'
L11	N 7°22' E	393'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	100'	222'	179'	S 56°4' E	126°57'

LINE	BEARING	DISTANCE
L10	S 60°25' W	688'
L9	N 14°58' W	316'
L8	N 54°53' W	445'
L7	S 79°25' W	230'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C6	360'	114'	114'	N 25°55' W	18°08'

LINE	BEARING	DISTANCE
L6	N 35°0' W	104'

Easement "A" on Lot H-523

LINE	BEARING	DISTANCE
L14	N 60°25' E	1257'
L15	S 07°22' W	424'
L16	S 27°35' E	356'
L17	S 42°22' E	414'
L18	S 30°49' W	222'
L19	N 65°56' W	1500'

Easement "B" on Lot H-523

LINE	BEARING	DISTANCE
L20	N 48°23' E	87'
L21	N 72°53' E	683'
L22	S 46°22' W	571'
L23	N 65°56' W	333'

Easement "C" on Lot H-523

LINE	BEARING	DISTANCE
L24	S 65°56' E	481'
L25	N 20°4' E	477'
L26	N 85°59' E	463'
L27	S 37°51' E	969'
L28	S 2°13' W	159'
L29	S 28°29' W	90'
L30	S 65°56' E	487'
L60	N 24°16' W	54'
L59	N 16°59' E	203'
L58	N 58°5' E	205'
L34	N 1°54' E	176'
L35	N 29°23' W	180'
L36	N 4°52' E	176'
L37	N 46°16' W	269'
L38	N 12°45' W	143'
L39	N 25°42' E	144'
L40	N 55°56' W	690'
L41	S 85°41' W	135'
L42	N 68°1' W	181'
L43	N 1°2' W	128'
L44	N 30°26' E	148'
L45	N 62°57' E	140'
L46	N 62°16' E	166'
L47	N 20°17' E	223'
L48	N 69°44' W	370'
Along CL of brook		2480'±

Easement "A" on Lot H-577

LINE	BEARING	DISTANCE
L46	S 56°37' E	1104'
L47	S 32°36' W	1258'
L48	S 65°55' E	720'
L18	N 30°49' E	222'
L17	N 42°21' W	415'
L16	N 27°35' W	356'
L15	N 7°22' E	424'
L14	S 60°25' W	1257'
L49	N 65°56' W	124'
L50	S 60°25' W	643'
L10	S 60°25' W	688'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	100'	222'	179'	S 56°4' E	126°57'

LINE	BEARING	DISTANCE
L11	N 7°22' E	393'
L12	N 27°35' W	269'
L13	S 33°23' W	937'

Easement "B" on Lot H-577

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C5	270'	75'	75'	N 43°12' W	15°58'

LINE	BEARING	DISTANCE
L53	S 34°57' E	215'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C4	300'	367'	345'	S 0°7' W	70°07'

LINE	BEARING	DISTANCE
L52	S 35°10' W	200'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C3	360'	31'	31'	S 32°44' W	4°52'

LINE	BEARING	DISTANCE
L51	N 59°42' W	60.00'

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C2	1300'	199'	196'	S 11°17' W	38°02'

LINE	BEARING	DISTANCE
L62	N 65°56' W	423'
L22	N 46°22' E	571'
L21	S 72°53' W	683'
L20	N 48°23' E	87'
L61	N 65°56' W	442'
L60	N 24°16' W	54'
L59	N 16°59' E	203'
L58	N 58°5' E	205'
L57	S 22°25' E	290'
L56	N 69°20' E	250'
L55	N 63°50' E	415'
L54	N 36°48' E	180'

Tie Lines from monuments to the centerline of the proposed relocated runway 14

LINE	BEARING	DISTANCE
L120	N 33°23' E	277'
L121	N 32°29' E	386'

S 57°23' E 5923' from the intersection of L120 and the proposed centerline of the relocated Runway 14 to the threshold of the proposed Runway 14

NEW HAMPSHIRE GRID

Avigation Easement

Centerline of proposed relocated Runway 14

NORTHWEST BLVD

BROOK

ALONG CL OF BROOK 1,245'±

PENNICHUCK

ALONG CL OF BROOK 841'±

ALONG THE POND 100'±

PENNICHUCK POND

Easement

Line

INSET 3
SCALE: 1"=400'

½" Dia. Iron Rod (found) up 0.2' with red survey cap

AVIGATION EASEMENT LINE

S 38°15' W 104'

N 48°51' W 418'

S 56°42' E 418'

S 14°37' W 102'

DUMAINE

Arc Length=141'
R=90'
D=90°00'

1" Dia. Iron Pipe (found) down 0.2'

AVENUE

1" Dia. Iron Pipe (found) down 1.0'

H-66

S 14°37' W 102'

S 48°51' E 101'

½" Dia. Iron Rod (found) flush

S 56°33' E 103'

N 34°55' E 114'

NEW HAMPSHIRE GRID

INSET 4
SCALE: 1"=50'

LEGEND

- OUTSALE PARCEL LINE
- AIRPORT PARCEL LINES
- AIRPORT BOUNDARY
- RUNWAY PROTECTION ZONE
- (3) PARCEL, OUTSALE NUMBER
- 291.90' DISTANCE IN FEET – BASED ON REFERENCED PLAN DIMENSIONS
- AVIGATION EASEMENT

NOT FOR RECORDING PURPOSES

Graphic Scale
0 500 1,000 1,500
SCALE: 1" = 500'

CONTINUED ON SHEETS 1 OF 3 AND 3 OF 3

PARCEL	GRANTOR	GRANTEE	INST.	DATE	BOOK/PAGE	REMARKS
49	FAT BOYS REALTY, LLC	NASHUA AIRPORT AUTHORITY	ESMT	10/21/11	8361/0009	AVIGATION EASEMENT
50	BARBOUR, LILLIAN	NASHUA AIRPORT AUTHORITY	ESMT	10/31/11	8363/2025	AVIGATION EASEMENT
51	PENNICHUCK WATER WORKS, INC.	NASHUA AIRPORT AUTHORITY	ESMT	9/30/11	8354/1548	AVIGATION EASEMENT
52	TWO C PACK SYSTEMS CORP.	NASHUA AIRPORT AUTHORITY	ESMT	11/7/11	8366/1576	AVIGATION EASEMENT

NO.	DATE	DESCRIPTION	BY	CHKD
2	4/3/15	AIRPORT PURCHASE LOT 53 AND 54	DCQ	EWS
1	6/6/12	ADD SHEETS 2 AND 3; AND PARCELS 41 THROUGH 52; AND ADD CORRECTIVE DEEDS FOR PARCELS 39&40	MEF	BLS

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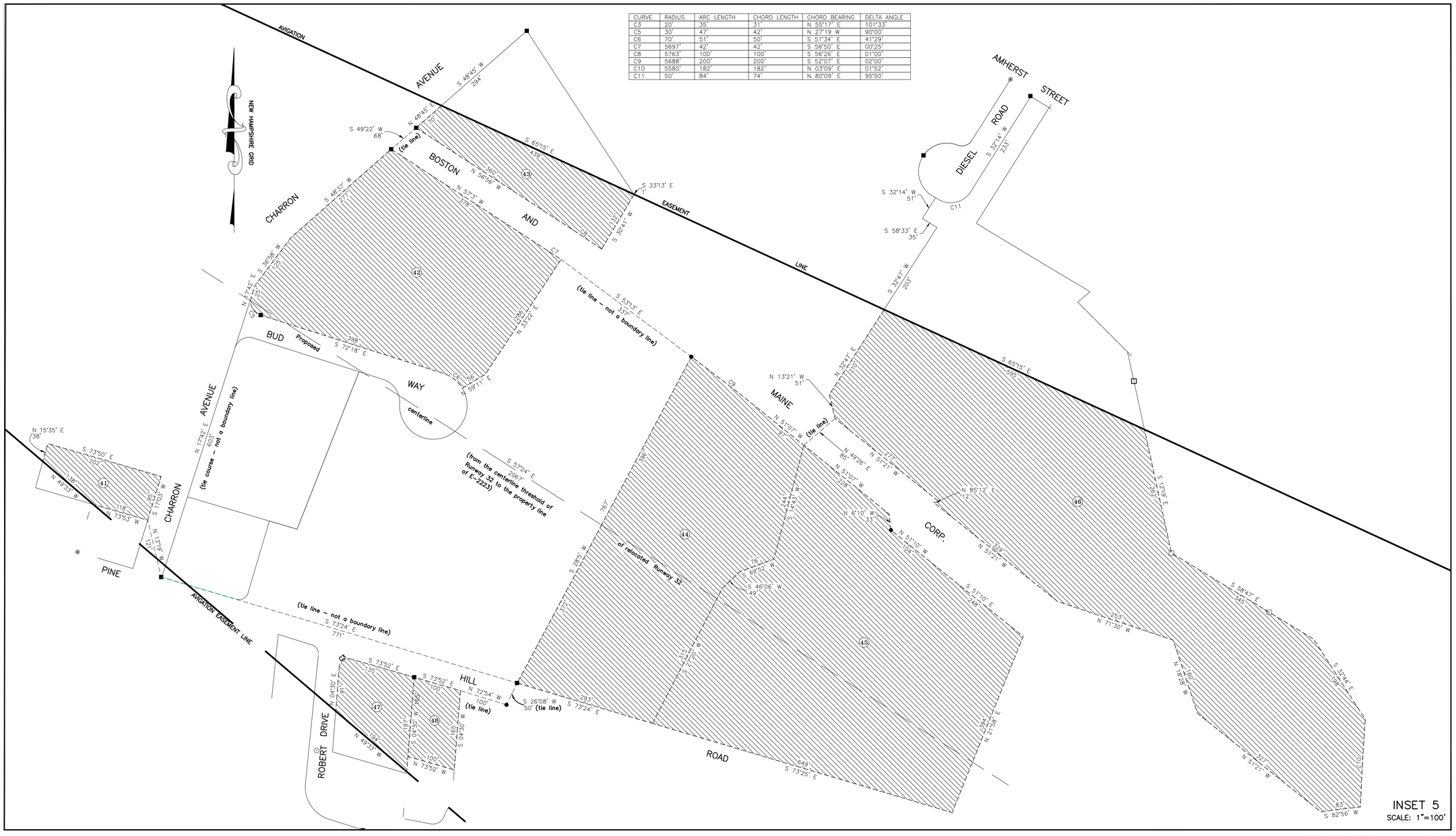
Scale:	Date:	Drawn:	Reviewed:	Job No.
AS SHOWN	8/19/05	JAT	CLN	775911

Cadd File: 775910-ExA

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C3	20'	35'	31'	N 55°17' E	101°33'
C5	30'	47'	42'	N 27°19' W	90°00'
C6	70'	51'	50'	S 51°34' E	41°29'
C7	5697'	42'	42'	S 56°50' E	00°25'
C8	5763'	100'	100'	S 56°26' E	01°00'
C9	5688'	200'	200'	S 52°07' E	02°00'
C10	5580'	182'	182'	N 03°09' E	01°52'
C11	50'	84'	74'	N 80°09' E	95°50'



NOT FOR RECORDING PURPOSES

CONTINUED ON SHEET 1 OF 3 AND 2 OF 3

PARCEL	GRANTOR	GRANTEE	INST.	DATE	BOOK/PAGE	REMARKS
41	KLISS, THOMAS S. AND RITA T.	NASHUA AIRPORT AUTHORITY	ESMT	8/16/11	8341/2162	AVIGATION EASEMENT
42	ATASANTE, LLC	NASHUA AIRPORT AUTHORITY	ESMT	8/25/11	8344/0754	AVIGATION EASEMENT
43	CITY OF NASHUA	NASHUA AIRPORT AUTHORITY	ESMT	9/30/11	8354/1555	AVIGATION EASEMENT
44	ROMAN CATHOLIC BISHOP OF MANCHESTER	NASHUA AIRPORT AUTHORITY	ESMT	8/25/11	8344/0749	AVIGATION EASEMENT
45	ROMAN CATHOLIC BISHOP OF MANCHESTER	NASHUA AIRPORT AUTHORITY	ESMT	8/25/11	8344/0744	AVIGATION EASEMENT
46	NEW NASHUA PROPERTIES LIMITED PARTNERSHIP	NASHUA AIRPORT AUTHORITY	ESMT	8/25/11	8344/0782	AVIGATION EASEMENT
47	DESRUISSEAUX, ROBERT N. AND JUDITH E.	NASHUA AIRPORT AUTHORITY	ESMT	8/16/11	8341/2166	AVIGATION EASEMENT
48	AULT, CAROLYN A.	NASHUA AIRPORT AUTHORITY	ESMT	8/16/11	8341/2172	AVIGATION EASEMENT

LEGEND

- OUTSALE PARCEL LINE
- AIRPORT PARCEL LINES
- AIRPORT BOUNDARY
- RUNWAY PROTECTION ZONE
- (3) PARCEL, OUTSALE NUMBER
- 291.90' DISTANCE IN FEET – BASED ON REFERENCED PLAN DIMENSIONS
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1	6/6/12	ADD SHEETS 2 AND 3; AND PARCELS 41 THROUGH 52; AND ADD CORRECTIVE DEEDS FOR PARCELS 39&40	MEF	BLS

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Scale:	Date:	Drawn:	Reviewed:	Job No.
1"=100'	8/19/05	JAT	CLN	775911
			Cadd File: 775910-ExA	3 of 3

Appendix J

ASH FY-2018-2020 Disadvantaged Business Enterprise Plan Methodology

ATTACHMENT 5

Section 26.45: Overall DBE Three-Year Goal Methodology

Name of Recipient: Nashua Airport Authority owner of Boire Field – Nashua Airport.

Goal Period: FY-2018-2019-2020 (October 1, 2017 through September 30, 2020)

DOT-assisted contract amount:	FY-2018	$	0.00
	FY-2019	$	1,000,000.00
	FY-2020	$	0.00
	Total	**$**	**1,000,000.00**

Overall Three-Year Goal: 1.0%, to be accomplished through 1.0% RN and 0% RC

Total dollar amount to be expended on DBEs: $9,741.87

Describe the Number and Type of Contracts that the airport anticipates awarding:

FFY-2018 Projects

Purchase SRE (Grader) – Not applicable (Equipment not counted toward participation goal)

FFY-2019 Projects

Rehabilitate Taxiway (Reclaim and Repave) – Phase II (Runway 14 End) – $1,000,000

FFY-2020 Projects

Purchase SRE (Loader & Wing Plow) – Not applicable (Equipment not counted toward participation goal)

Market Area: The NAA defines its market area as the State of New Hampshire. The contracting community that the NAA works with is relatively small and primarily New Hampshire-based. Although out-of-state firms to bid and subcontract on projects, because of high mobility costs and capacity, many out-of-state firms are less likely to mobilize to Nashua, New Hampshire to work on construction projects.

Step 1. 26.45(c) Actual relative availability of DBEs

Pursuant to 49CFR 26.45, the NAA has used the following methodology to determine the baseline figure for its 2018-2020 DBE goal. The NAA has used the most recent (2014) US Census data and the New Hampshire Department of Transportation (NHDOT) DBE Directory to determine the number of ready, willing, and able DBEs in the New Hampshire market area.

The NAA has carefully reviewed the area of work performed by DBEs in the NH market area to categorize each firm into specific areas of expertise through extensive research and outreach.

For each area of work, the total number of DBEs found in the NHDOT DBE Directory is divided by the total number of all firms found through analysis of the (2014) US Census data for New Hampshire to arrive at the percentage of DBE firms that are ready, willing, and able to perform contract work.

In order to determine the expected DBE participation in dollars, the estimated contracting dollars for each area of work is multiplied by the percentage of firms that are ready, willing, and able to perform contract work. To establish the DBE project goal, the overall projected DBE participation (in dollars) is divided by the estimated total project costs. This is the base goal for each project.

To determine the overall base figure for more than one project, the sum of all the dollars expected to be spent on DBE participation is divided by the estimated total of all project costs. This number is the overall base goal for the Airport. A breakdown of all mathematical calculations is provided in the table at the end of this section.

Step 2. 26.45(d): Adjustments to Step 1 base figure.

Insufficient historical DBE data for the NAA resulted in no adjustment to the Step 1 base figure; therefore, the Authority is adopting the Step 1 base figure as its overall goal for this three-year goal period.

26.51(b) (1-9): Breakout of Estimated "Race and Gender Neutral" (Race Neutral) and "Race and Gender Conscious" (Race Conscious) Participation.

The NAA will meet the maximum feasible portion of its overall goal by using Race Neutral means of facilitating DBE participation.

1. Arranging solicitations, times for the presentation of bids, quantities, specifications, and delivery schedules in ways that facilitates DBE, and other small businesses, participation;
2. Carrying out information and communications programs on contracting procedures and specific contract opportunities;
3. Providing services to help DBEs and other small businesses improve long-term development, increase opportunities to participate in a variety of kinds of work, handle increasingly significant projects, and achieve eventual self-sufficiency;
4. Ensuring distribution of DBE directory, through print and electronic means, to the widest feasible universe of potential prime contractors;

The NAA will meet the maximum feasible portion of its overall goal by using Race Neutral means of facilitating DBE participation.

The NAA estimates that in meeting its overall goal of 1.0%. It will obtain 1.0% from Race Neutral participation and 0% through Race Conscious measures.

PUBLIC PARTICIPATION

Consultation: Section 26.45(g)(1).

In establishing the overall goal, the NAA provided for consultation and publication. This included consultation with minority, women's and general contractor groups, community organizations, and other officials or organizations which could be expected to have information concerning the availability of disadvantaged and non-disadvantaged businesses, the effects of discrimination on opportunities for DBEs, and the NAA's efforts to establish a level playing field for the participation of DBEs. The consultation included a scheduled, direct, interactive exchange (e.g., a face-to-face meeting, video conference, teleconference) with as many interested stakeholders as possible focused on obtaining information relevant to the NAA's goal setting process, and it occurred before it was required to submit its goal methodology to the operating administration for review pursuant to paragraph (f) of this section.

Notwithstanding paragraph (f)(4) of this section, the NAA will not implement its proposed goal until it has complied with this requirement.

The NAA submits its overall DBE three-year goal to DOT on August 1 as required by the set schedule.

Before finalizing the overall goal, the NAA consulted with the Greater New England Minority Supplier Development Council, Women's Business Enterprise National Council, Center for Women & Enterprise, Associated General Contractors of NH, and the Nashua Chamber of Commerce without limiting consultation to these persons or groups, to obtain information concerning the availability of disadvantaged and non-disadvantaged businesses, the effects of discrimination on opportunities for DBEs, and the NAA efforts to establish a level playing field for the participation of DBEs.

The NAA received responses via email from the Associated General Contractors of NH, the Center for Women and Enterprise, and the Greater Nashua Chamber of Commerce requesting to review the program goals and methodology. Despite attempts to follow up for comment, the NAA received only one response from the Executive Vice President of the Associated General Contractors of NH, Mr. Gary Abbott, who stated, "I did look over the proposal and have no recommendations at this time."

The NAA also published a notice in the Nashua Telegraph of the proposed overall goal, which informed the public that the proposed goal and its rationale were available for inspection during normal business hours at the airport administration building for 30 days following the date of the notice. The NAA and DOT accepted comments on the goals for 30 days from the date of the notice. No comments were received.

CONTRACT GOALS

The NAA will use contract goals to meet any portion of the overall goal that it does not project being able to meet using Race Neutral means. Contract goals are established so that, over the period to which the overall goal applies, they will cumulatively result in meeting any portion of the NAA's overall goal that is not projected to be met through the use of Race Neutral means.

The NAA will establish contract goals only on those DOT-assisted contracts that have subcontracting possibilities. It need not establish a contract goal on every such contract, and the size of the contract goals will be adapted to the circumstances of each such contract (e.g., type and location of work and availability of DBEs to perform the particular type of work).

The NAA will express its contract goals as a percentage of the total amount of a DOT-assisted contract.

2018 Project Name: Purchase SRE (Grader)

Contract Amount
$333,333.00

DBE Participation		
in dollars	in percentage	
$0.00	0.0%	**STEP 1: Calculation of Goal**
		STEP 2: Goal Adjustment
$0.00	0.0%	PROJECT DBE PARTICIPATION GOAL

Not Applicable (Equipment not counted toward eligible participation)

2019 Project Name: Rehabilitate Taxiway (Reclaim and Repave) - Phase II (Runway 14 End)

AIP Eligible Amount
$1,000,000.00

DBE Participation		
in dollars	in percentage	
$9,741.87	1.0%	**STEP 1: Calculation of Goal**
		STEP 2: Goal Adjustment
$9,741.87	1.0%	PROJECT DBE PARTICIPATION GOAL

2018 Project Name: Purchase SRE (Loader & Wing Plow)

AIP Eligible Amount
$333,333.00

DBE Participation		
in dollars	in percentage	
$0.00	0.0%	**STEP 1: Calculation of Goal**
		STEP 2: Goal Adjustment
$0.00	0.0%	PROJECT DBE PARTICIPATION GOAL

Not Applicable (Equipment not counted toward eligible participation)

TOTAL FOR ALL BOIRE FIELD/NASHUA AIRPORT PROJECTS

Overall Project Costs
$1,000,000.00

DBE Participation		
in dollars	**in percentage**	
$9,741.87	**1.0%**	**STEP 1: Calculation of Goal**
		STEP 2: Goal Adjustment
$9,741.87	**1.0%**	

$9,741.87	***1.0%***	***FINAL OVERALL AIRPORT DBE PARTICIPATION GOAL***

2018 Project Name: Purchase SRE (Grader)

Overall Project Cost: $333,333.00
Federal Share: $300,000.00

STEP 1: Calculation of Goal Not Applicable (Equipment not counted toward eligible participation)

Description of Services	NAICS Code	Available Business	Available DBEs**	% of Avaliable DBEs	Project Costs	DBE Participation in Dollars
Professional/Consultant Contract						
Engineering and Management Services	541330	359	7	1.9%		$0.00
Engineering Construction Phase Services	541330	359	6	1.7%		$0.00
Acoustical/Noise Engineering	541330	359	1	0.3%		$0.00
Aerial Mapping and Photogrammetry (Survey)	541370	61	7	11.5%		$0.00
Architect	541310	67	6	9.0%		$0.00
Geotechnical	541330	359	2	0.6%		$0.00
Demolition and Removal of Structures	238910	367	13	3.5%		$0.00
Electrical Design Consultant	238210	484	0	0.0%		$0.00
Electrical Engineering Subconsultant	541330	359	2	0.6%		$0.00
Engineering / Environmental	541330	359	8	2.2%		$0.00
Engineering/Subconsultant Specialty (FAA Flight Check)	541330	359	0	0.0%		$0.00
Environmental Engineering, Compliance and Permitting Subconsultant	541620	55	12	21.8%		$0.00
Erosion Control Engineering	541690	77	0	0.0%		$0.00
Historical /Archaeological Investigation Subconsultant	541720	7	0	0.0%		$0.00
Legal Services	541110	683	1	0.1%		$0.00
Materials Testing (Soils Investigation) Subconsultant	541380	39	3	7.7%		$0.00
Negotiation & Relocation Services (Property Services)	531390	43	0	0.0%		$0.00
Real Estate Appraisal / Review Appraisal	531320	41	0	0.0%		$0.00
Reprographics Subconsultant	561439	18	0	0.0%		$0.00
Structural Engineer	541330	359	7	1.9%		$0.00
Survey (GIS) Subconsultant	541370	61	4	6.6%		$0.00
Survey (Land) Subconsultant	541370	61	8	13.1%		$0.00
FAA Airways Facilities	NA	0	0			$0.00
				Subtotal	$0.00	$0.00
				% DBE Participation		0.00%
Independent Fee Estimate Contract						
Engineering/Specialty Subconsultant - IFE	541330	359	0	0.0%	$0.00	$0.00
				Subtotal	$0.00	$0.00
				% DBE Participation		0.00%
Construction and Project Improvement						
(Electrical Power Distribution) Utility Backcharges	221122	48	0	0.0%		$0.00
Airport Runway Lighting Contractors/Electrical Contractors	238210	484	0	0.0%		$0.00
Asbestos Removal/Remediation	562910	28	3	10.7%		$0.00
Asphalt Paving	237310	73	1	1.4%		$0.00
Building Demolition	238910	367	1	0.3%		$0.00
Drainage Subconsultant	237310	73	1	1.4%		$0.00
Electrical Contractors (Electrical Installation)	238210	484	0	0.0%		$0.00
HazMat Inspection/Remediation	541620	55	10	18.2%		$0.00
Hydroseeding/Seeding	561730	834	2	0.2%		$0.00
Landscaping	561730	834	2	0.2%		$0.00
Lead Paint Inspection Services	541620	55	5	9.1%		$0.00
Masonry (Block Retaining Wall)	238140	98	1	1.0%		$0.00
Pavement and Pavement Markings (Painting) Subconsultant	237310	73	0	0.0%		$0.00
Remediation (UST Removal) Subconsultant	562910	28	3	10.7%		$0.00
Sedimentation and Erosion Control (Landscaping)	561730	834	1	0.1%		$0.00
Site Preparation (Land/Tree Clearing)	238910	367	3	0.8%		$0.00
Specialty Contractor (Fence and Gate)	238990	156	1	0.6%		$0.00
Specialty Contractor (Install Aboveground Fueling System)	238990	156	1	0.6%		$0.00
Specialty Contractor (Irrigation)	561730	834	0	0.0%		$0.00
Specialty Contractor (Underground Storage Tank Removal)	238990	156	1	0.6%		$0.00
Rare Species Habitat Replication	541620	55	3	5.5%		$0.00
Trucking (hauling of bulk materials, gravel, sand etc.)	484220	128	1	0.8%		$0.00
Unclassified Excavation	238910	367	3	0.8%		$0.00
Construction Material Providers:						
* Asphalt	324121	17	0	0.0%		$0.00
* Castings (die)	331511	2	0	0.0%		$0.00
* Concrete	327320	18	0	0.0%		$0.00
* Electrical supplies	423610	77	8	10.4%		$0.00
* Geotechnical Fabrics	313230	2	0	0.0%		$0.00
* Pipe & Pipe Fitting Suppliers	332996	3	0	0.0%		$0.00
* Pre-cast Concrete Pipe Manufacturer	32733	5	0	0.0%		$0.00
* Safety Equipment	444190	238	0	0.0%		$0.00
5% Contingency	NA	NA	NA	0.0%		$0.00
				Subtotal	$0.00	$0.00
				% DBE Participation		**0.00%**
Non - Contributive Expenses						
Sponsor Admin Fee	N/A	N/A	N/A	0%		$0.00
Acquisition of Parcel	N/A	N/A	N/A	0%		$0.00
				Subtotal	$0.00	$0.00
				% DBE Participation		**0.00%**
				Overall Total	$0.00	$0.00
				% Overall DBE Participation		**0.00%**

*based on the 2014 U.S. Government Economic Census for New Hampshire
**based on the NHDOT DBE Directory (January 2017) with adjustments for specific discipline

STEP 2: Goal Adjustment

% Goal Adjustment **0%**

FINAL PROJECT DBE PARTICIPATION GOAL ***0.0%***

2019 Project Name: Rehabilitate Taxiway (Reclaim and Repave) - Phase II (Runway 14 End)

Overall Project Cost: $1,000,000.00
Federal Share: $900,000.00

STEP 1: Calculation of Goal

	Description of Services	NAICS Code	Available Business	Available DBEs**	% of Avaliable DBEs	Project Costs	DBE Participation in Dollars
Professional/Consultant Contract							
X	Engineering and Management Services	541330	359	7	1.9%	$75,000.00	$1,462.40
X	Engineering Construction Phase Services	541330	359	6	1.7%	$100,000.00	$1,671.31
	Acoustical/Noise Engineering	541330	359	1	0.3%		$0.00
	Aerial Mapping and Photogrammetry (Survey)	541370	61	7	11.5%		$0.00
	Architect	541310	67	6	9.0%		$0.00
X	Geotechnical	541330	359	2	0.6%	$15,000.00	$83.57
	Demolition and Removal of Structures	238910	367	13	3.5%		$0.00
X	Electrical Design Consultant	238210	484	0	0.0%	$10,000.00	$0.00
	Electrical Engineering Subconsultant	541330	359	2	0.6%		$0.00
X	Engineering / Environmental	541330	359	8	2.2%	$5,000.00	$111.42
	Engineering/Subconsultant Specialty (FAA Flight Check)	541330	359	0	0.0%		$0.00
	Environmental Engineering, Compliance and Permitting Subconsultant	541620	55	12	21.8%		$0.00
X	Erosion Control Engineering	541690	77	0	0.0%	$5,000.00	$0.00
X	Historical /Archaeological Investigation Subconsultant	541720	7	0	0.0%	$5,000.00	$0.00
	Legal Services	541110	683	1	0.1%		$0.00
	Materials Testing (Soils Investigation) Subconsultant	541380	39	3	7.7%		$0.00
	Negotiation & Relocation Services (Property Services)	531390	43	0	0.0%		$0.00
	Real Estate Appraisal / Review Appraisal	531320	41	0	0.0%		$0.00
X	Reprographics Subconsultant	561439	18	0	0.0%	$5,000.00	$0.00
	Structural Engineer	541330	359	7	1.9%		$0.00
	Survey (GIS) Subconsultant	541370	61	4	6.6%		$0.00
X	Survey (Land) Subconsultant	541370	61	8	13.1%	$10,000.00	$1,311.48
	FAA Airways Facilities	NA	0	0			$0.00
					Subtotal	$230,000.00	$4,640.17
					% DBE Participation		2.0%

Independent Fee Estimate Contract							
X	Engineering/Specialty Subconsultant - IFE	541330	359	0	0.0%	$3,500.00	$0.00
					Subtotal	$3,500.00	$0.00
					% DBE Participation		0.00%

Construction and Project Improvement							
X	(Electrical Power Distribution) Utility Backcharges	221122	48	0	0.0%	$10,000.00	$0.00
	Airport Runway Lighting Contractors/Electrical Contractors	238210	484	0	0.0%	$0.00	$0.00
	Asbestos Removal/Remediation	562910	28	3	10.7%	$0.00	$0.00
X	Asphalt Paving	237310	73	1	1.4%	$195,000.00	$2,671.23
	Building Demolition	238910	367	1	0.3%	$0.00	$0.00
X	Drainage Subconsultant	237310	73	1	1.4%	$10,000.00	$136.99
X	Electrical Contractors (Electrical Installation)	238210	484	0	0.0%	$15,000.00	$0.00
	HazMat Inspection/Remediation	541620	55	10	18.2%	$0.00	$0.00
X	Hydroseeding/Seeding	561730	834	2	0.2%	$40,000.00	$95.92
X	Landscaping	561730	834	2	0.2%	$40,000.00	$95.92
	Lead Paint Inspection Services	541620	55	5	9.1%	$0.00	$0.00
	Masonry (Block Retaining Wall)	238140	98	1	1.0%	$0.00	$0.00
X	Pavement and Pavement Markings (Painting) Subconsultant	237310	73	0	0.0%	$30,000.00	$0.00
	Remediation (UST Removal) Subconsultant	562910	28	3	10.7%	$0.00	$0.00
X	Sedimentation and Erosion Control (Landscaping)	561730	834	1	0.1%	$30,000.00	$35.97
X	Site Preparation (Land/Tree Clearing)	238910	367	3	0.8%	$20,000.00	$163.49
X	Specialty Contractor (Fence and Gate)	238990	156	1	0.6%	$5,000.00	$32.05
	Specialty Contractor (Install Aboveground Fueling System)	238990	156	1	0.6%	$0.00	$0.00
	Specialty Contractor (Irrigation)	561730	834	0	0.0%	$0.00	$0.00
	Specialty Contractor (Underground Storage Tank Removal)	238990	156	1	0.6%	$0.00	$0.00
	Rare Species Habitat Replication	541620	55	3	5.5%	$0.00	$0.00
X	Trucking (hauling of bulk materials, gravel, sand etc.)	484220	128	1	0.8%	$75,000.00	$585.94
X	Unclassified Excavation	238910	367	3	0.8%	$30,000.00	$245.23
	Construction Material Providers:						
X	* Asphalt	324121	17	0	0.0%	$150,000.00	$0.00
X	* Castings (die)	331511	2	0	0.0%	$10,000.00	$0.00
X	* Concrete	327320	18	0	0.0%	$10,000.00	$0.00
X	* Electrical supplies	423610	77	8	10.4%	$10,000.00	$1,038.96
X	* Geotechnical Fabrics	313230	2	0	0.0%	$10,000.00	$0.00
X	* Pipe & Pipe Fitting Suppliers	332996	3	0	0.0%	$10,000.00	$0.00
X	* Pre-cast Concrete Pipe Manufacturer	32733	5	0	0.0%	$14,000.00	$0.00
	* Safety Equipment	444190	238	0	0.0%	$10,000.00	$0.00
	5% Contingency	NA	NA	NA	0.0%	$36,000.00	$0.00
					Subtotal	$760,000.00	$5,101.71
					% DBE Participation		**0.7%**

Non - Contributive Expenses							
X	Sponsor Admin Fee	N/A	N/A	N/A	0%	$6,500.00	$0.00
	Acquisition of Parcel	N/A	N/A	N/A	0%	$0.00	$0.00
					Subtotal	$6,500.00	$0.00
					% DBE Participation		**0.0%**

Overall Total	$1,000,000.00	$9,741.87
% Overall DBE Participation		**1.0%**

*based on the 2014 U.S. Government Economic Census for New Hampshire
**based on the NHDOT DBE Directory (January 2017) with adjustments for specific discipline

STEP 2: Goal Adjustment

% Goal Adjustment **0%**

FINAL PROJECT DBE PARTICIPATION GOAL ***1.0%***

2018 Project Name: Purchase SRE (Loader & Wing Plow)

Overall Project Cost: $333,333.00
Federal Share: $300,000.00

STEP 1: Calculation of Goal Not Applicable (Equipment not counted toward eligible participation)

Description of Services	NAICS Code	Available Business	Available DBEs**	% of Avaliable DBEs	Project Costs	DBE Participation in Dollars
Professional/Consultant Contract						
Engineering and Management Services	541330	359	7	1.9%		$0.00
Engineering Construction Phase Services	541330	359	6	1.7%		$0.00
Acoustical/Noise Engineering	541330	359	1	0.3%		$0.00
Aerial Mapping and Photogrammetry (Survey)	541370	61	7	11.5%		$0.00
Architect	541310	67	6	9.0%		$0.00
Geotechnical	541330	359	2	0.6%		$0.00
Demolition and Removal of Structures	238910	367	13	3.5%		$0.00
Electrical Design Consultant	238210	484	0	0.0%		$0.00
Electrical Engineering Subconsultant	541330	359	2	0.6%		$0.00
Engineering / Environmental	541330	359	8	2.2%		$0.00
Engineering/Subconsultant Specialty (FAA Flight Check)	541330	359	0	0.0%		$0.00
Environmental Engineering, Compliance and Permitting Subconsultant	541620	55	12	21.8%		$0.00
Erosion Control Engineering	541690	77	0	0.0%		$0.00
Historical /Archaeological Investigation Subconsultant	541720	7	0	0.0%		$0.00
Legal Services	541110	683	1	0.1%		$0.00
Materials Testing (Soils Investigation) Subconsultant	541380	39	3	7.7%		$0.00
Negotiation & Relocation Services (Property Services)	531390	43	0	0.0%		$0.00
Real Estate Appraisal / Review Appraisal	531320	41	0	0.0%		$0.00
Reprographics Subconsultant	561439	18	0	0.0%		$0.00
Structural Engineer	541330	359	7	1.9%		$0.00
Survey (GIS) Subconsultant	541370	61	4	6.6%		$0.00
Survey (Land) Subconsultant	541370	61	8	13.1%		$0.00
FAA Airways Facilities	NA	0	0			$0.00
				Subtotal		$0.00
				% DBE Participation		0.0%
Independent Fee Estimate Contract						
Engineering/Specialty Subconsultant - IFE	541330	359	0	0.0%	$0.00	$0.00
				Subtotal	$0.00	$0.00
				% DBE Participation		0%
Construction and Project Improvement						
(Electrical Power Distribution) Utility Backcharges	221122	48	0	0.0%	$0.00	$0.00
Airport Runway Lighting Contractors/Electrical Contractors	238210	484	0	0.0%	$0.00	$0.00
Asbestos Removal/Remediation	562910	28	3	10.7%	$0.00	$0.00
Asphalt Paving	237310	73	1	1.4%	$0.00	$0.00
Building Demolition	238910	367	1	0.3%	$0.00	$0.00
Drainage Subconsultant	237310	73	1	1.4%	$0.00	$0.00
Electrical Contractors (Electrical Installation)	238210	484	0	0.0%	$0.00	$0.00
HazMat Inspection/Remediation	541620	55	10	18.2%	$0.00	$0.00
Hydroseeding/Seeding	561730	834	2	0.2%	$0.00	$0.00
Landscaping	561730	834	2	0.2%	$0.00	$0.00
Lead Paint Inspection Services	541620	55	5	9.1%	$0.00	$0.00
Masonry (Block Retaining Wall)	238140	98	1	1.0%	$0.00	$0.00
Pavement and Pavement Markings (Painting) Subconsultant	237310	73	0	0.0%	$0.00	$0.00
Remediation (UST Removal) Subconsultant	562910	28	3	10.7%	$0.00	$0.00
Sedimentation and Erosion Control (Landscaping)	561730	834	1	0.1%	$0.00	$0.00
Site Preparation (Land/Tree Clearing)	238910	367	3	0.8%	$0.00	$0.00
Specialty Contractor (Fence and Gate)	238990	156	1	0.6%	$0.00	$0.00
Specialty Contractor (Install Aboveground Fueling System)	238990	156	1	0.6%	$0.00	$0.00
Specialty Contractor (Irrigation)	561730	834	0	0.0%	$0.00	$0.00
Specialty Contractor (Underground Storage Tank Removal)	238990	156	1	0.6%	$0.00	$0.00
Rare Species Habitat Replication	541620	55	3	5.5%	$0.00	$0.00
Trucking (hauling of bulk materials, gravel, sand etc.)	484220	128	1	0.8%	$0.00	$0.00
Unclassified Excavation	238910	367	3	0.8%	$0.00	$0.00
Construction Material Providers:						
* Asphalt	324121	17	0	0.0%	$0.00	$0.00
* Castings (die)	331511	2	0	0.0%	$0.00	$0.00
* Concrete	327320	18	0	0.0%	$0.00	$0.00
* Electrical supplies	423610	77	8	10.4%	$0.00	$0.00
* Geotechnical Fabrics	313230	2	0	0.0%	$0.00	$0.00
* Pipe & Pipe Fitting Suppliers	332996	3	0	0.0%	$0.00	$0.00
* Pre-cast Concrete Pipe Manufacturer	32733	5	0	0.0%	$0.00	$0.00
* Safety Equipment	444190	238	0	0.0%	$0.00	$0.00
5% Contingency	NA	NA	NA	0.0%	$0.00	$0.00
				Subtotal	$0.00	$0.00
				% DBE Participation		0%
Non - Contributive Expenses						
Sponsor Admin Fee	N/A	N/A	N/A	0%	$0.00	$0.00
Acquisition of Parcel	N/A	N/A	N/A	0%	$0.00	$0.00
				Subtotal	$0.00	$0.00
				% DBE Participation		#DIV/0!

*based on the 2014 U.S. Government Economic Census for New Hampshire
**based on the NHDOT DBE Directory (January 2017) with adjustments for specific discipline

Overall Total	$0.00	$0.00
% Overall DBE Participation		**0.0%**

STEP 2: Goal Adjustment

% Goal Adjustment **0%**

FINAL PROJECT DBE PARTICIPATION GOAL ***0.0%***

Appendix K

Post Inspection Land Use Report – August 18, 2005

POST INSPECTION LAND USE REPORT

Date: August 18, 2005

Prepared By:

Donna R. Witte
Airports Program Specialist
Airports Division, New England Region

Inspection Site Location: Boire Field, Nashua, New Hampshire

FA**A Representatives:** Donna R. Witte, Airports Program Specialist and Tracey McInnis, Program Analyst

Sponsor Representative: Roy Rankin, Airport Manager

Date of Inspection: June 29, 2005

Background: The following is based on records and files maintained by the FAA, Airports Division, New England Regional Office:

Grant Acquired Land:

Federal Aid to Airport Program (FAAP):

1) 9-27-017-4901: Fee simple interest in Parcels 8, 9 & 10 shown on Exhibit "A"dated 8/15/05.

2) 9-27-017-5903: Perpetual easement and right-of-way for hazard beacon shown as Parcel Nos. 13 and 14 on the Exhibit "A" Property Map dated 8/15/05.

3) 9-27-017-C807: Fee simple interest in Parcel 16 shown on Exhibit "A" dated 8/15/05.

Airport Development Airport Program (ADAP):

1) 7-23-0012-02: Fee simple interest in Parcel 19 on Exhibit "A" dated 8/15/05.

2) 5-33-0012-04: Fee simple interest in Parcel 20 on Exhibit "A" dated 8/15/05.

3) 5-33-0012-05: Fee simple interest in Parcel 31 on Exhibit "A" dated 8/15/05.

Airport Improvement Program (AIP):

1) 3-33-0012-01: Fee simple interest in Parcels 17 and 22 on Exhibit "A" dated 8/15/05.

2) 3-33-0012-08: Fee simple interest in Parcel 33 on Exhibit "A" dated 8/15/05.

3) 3-33-0012-11: Fee simple interest in Parcel 34 on Exhibit "A" dated 8/15/05.

4) 3-33-0012-15: Fee simple interest in Parcel 37 on Exhibit "A" dated 8/15/05.

5) 3-33-0012-19: Fee simple interest in Parcel 38 on Exhibit "A" dated 8/15/05.

FAA Releases Airport Property:

1) In November of 1983, FAA approved two land swaps: The swaps are shown on the 8/15/05 Exhibit "A" as Parcels 25 for 26 and 27 for 28.

2) On May 18, 1992, the FAA authorized a land swap of Parcels 35 and 36 of the 8/15/05 Exhibit "A" Property Map.

The City of Nashua and Nashua Airport Authority are obligated as follows:

1) FAAP and ADAP Land: Although the grant obligations have expired, the Sponsor is still prohibited from placing any encumbrances on the airport property unless approved by FAA. Title VI and Exclusive Rights provisions continue as long as the property is used as an airport.

2) AIP Land Acquired for Airport Development: The grant assurances require that land no longer needed for airport purposes be disposed of at current fair market value. The pro-rata share of the proceeds fro the sale of property must be returned to the FAA or be reinvested in an FAA eligible project. FAA approval of any disposal is required. Sufficient property interests must be retained by the Sponsor to protect the airports interests.

Findings:

1) During our review it was learned that the deed transferring Parcel 28 of the referenced Exhibit "A" was never recorded.

   Recommendation: The sponsor must have the deed recorded.

2) There were several errors on the Exhibit "A" Property Map.

   Recommendation: As of the date of this report, the sponsor has already made the necessary corrections.

There were no instances of unauthorized land uses found.

Donna R. Witte
Airports Program Specialist

Appendix L

Hangar Use Policy Letter – January 8, 2018

New Hampshire DOT
Department of Transportation

Victoria F. Sheehan
Commissioner

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

William Cass, P.E.
Assistant Commissioner

January 8, 2018

Mr. Chris Lynch, Airport Manager
Boire Field
93 Perimeter Rd.
Nashua, NH 03063

RE: Use of T-Hangar at Boire Field – Acceptance

Dear Mr. Lynch:

Thank you for organizing the meeting with the affected parties on December 8, 2017. This meeting was very worthwhile. I believe that we all found common ground on this issue going forward.

We are in receipt of your response letter dated December 12, 2017 in which you have adequately addressed all three conditions (no further automobile maintenance activities in the hangar; removal of automobile parts from the hangar; and on-airport building access by the Nashua Airport Authority) identified in my letter dated November 17, 2017. Nashua Airport Authority is returned to substantial compliance with FAA's hangar-use policy for obligated airports.

As non-aeronautical use of on-airport structures are proposed at Boire Field in the future, please don't hesitate to contact our office to request approval using the template on our website (https://www.nh.gov/dot/org/aerorailtransit/aeronautics/programs/blockgrants.htm#NonAero) as a guide. I remain available to answer any questions you or your Authority may have on this issue (603-271-1675 or carol.niewola@dot.nh.gov).

Sincerely,

Carol L. Niewola, PE, CM
Senior Aviation Planner
Bureau of Aeronautics

cc: Jorge Panteli, Compliance, FAA/New England Region

Appendix M

Notice of Potential Non-Compliance and Request for Corrective Actions Relative to Hangar Use at Boire Field

New Hampshire DOT
Department of Transportation

THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

Victoria F. Sheehan
Commissioner

William Cass, P.E.
Assistant Commissioner

November 17, 2017

Mr. Chris Lynch, Airport Manager
Boire Field
93 Perimeter Rd.
Nashua, NH 03063

RE: Use of T-Hangar at Boire Field – Findings

Dear Mr. Lynch:

Thank you for responding to the remaining questions in your November 1, 2017 letter to me.

During our meeting on November 7, 2017 with Jorge Panteli (FAA Airports Compliance Specialist) and Sandra Cushing and Farrell Woods (Nashua Airport Authority), we were able to clarify the following:

- This hangar is a "double-unit" in a nested-T-hangar structure designated as Hangar 19 with two operable hangar doors…one to each unit. No access to this hangar was available at the time of the meeting.
- The easterly unit of this hangar has a door that faces roughly north and it houses a Vans RV-4 (N654ML) that is currently in NY having work done on its engine.
- The westerly unit of this hangar has a door that faces roughly south and it houses the hangar owner's aircraft building activities, along with at least two automobile chassis, their associated parts, a third apparently intact automobile, and other miscellaneous items.
- The Nashua Airport Authority (Authority) currently has a $0.05/SF aeronautical land lease rate and a $0.15/SF non-aeronautical land lease rate assumed to be annual rates. These rates are re-evaluated every two years by the Nashua Airport Authority to ensure current fair-market value.

There were a number of other issues that were discussed as a result of this inquiry. One concern related to the airport's policing powers of the privately owned hangars on the airfield. A review of a lease indicated that there is a subordination clause within that lease that connects the lessee's activity with your grant assurances. If this is representative of your other land and hangar leases, any activities occurring within the hangars are subject to the Authority's review and, if found to be illegal or not permissible, then corrective actions must be implemented. The lease provided to your tenants is a legal document detailing what can and cannot be done on the airport's property and is the controlling mechanism for the Authority.

The lease we reviewed, as written, satisfies the basic requirements outlined in Grant Assurance 5, Rights and Powers. However, the lease did not appear to define the ability for the Authority to access tenants' buildings for compliance with federal, state, or local laws, regulations, and requirements such as periodic hangar inspections or fire and safety inspections. Although existing leases are already in place, both NHDOT and FAA suggest that the Authority review its leases and, if not already in place, develop an agreement with all tenants of privately owned buildings on airport property such that the Authority has access rights as required from time to time for inspections. This agreement can be amended to the existing lease or held as a separate document. If the Authority does not have inspection rights, the Authority would be liable for any illegal or non-permissible actions or accidents occurring within the hangars.

Therefore, we find that the referenced "double-unit" hangar in Hangar 19 **is substantially compliant with the FAA's hangar-use policy for obligated airports conditioned on the following three items**:

1. The automobiles and all associated parts are to be removed from the hangar and no further automobile maintenance activity is to be completed in the future within this hangar unless approval is first obtained from NHDOT for a temporary non-aeronautical use and the Authority collects non-aeronautical lease rates for this hangar. Aircraft maintenance and amateur-built aircraft construction remain acceptable activities within this hangar as is the temporary parking of an automobile while the aircraft usually stored in that hangar is flying.
2. The Authority is to provide NHDOT with verification of the automobile parts removal through either a letter from the Authority or on-site inspection by NHDOT no later than December 20, 2017.
3. The Authority will develop an action plan to address the on-airport building access issue and develop a schedule to implement the action plan. This action plan and schedule need to be submitted to NHDOT and FAA no later than February 1, 2018.

The Authority has responsibility under its grant assurances to continue to monitor hangar usage at Boire Field. We hope that we've been able to give you the tools that you need to be good stewards of airport to benefit public aviation. We look forward to confirmation of the three conditions stated above. In the meantime, if you or your team has any questions on FAA's hangar-use policy, please feel free to contact me at 603-271-1675 or carol.niewola@dot.nh.gov.

Sincerely,

Carol L. Niewola, PE, CM
Senior Aviation Planner
Bureau of Aeronautics

cc: Jorge Panteli, Compliance, FAA/New England Region