

Provincetown Municipal Airport
Provincetown, MA

Capital Improvements Plan

Application for Development of Regional Impact

Submitted by:

Provincetown Airport Commission

July 2015

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Development of Regional Impact

Provincetown Municipal Airport Capital Improvement Plan
176 Race Point Road, Provincetown, MA

Document Organization

Part 1 **Application Forms and Attachments**

Part 2 **DRI Overview and Design Narrative**

Part 3 **Project Narrative**

(See Table of Contents below)

Part 4 **Plans and Graphics**

Project Locus Maps and Figures
Project Plans (11x17 and 24x36 formats)

Part 5 **Attachments**

See list within Table of Contents

*Note: All Attachments are provided with the DRI Application in electronic form on a CD.
Paper copies are available upon request.*

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Part 1 Application Forms and Attachments

Application Cover Sheet

DRI Application Filing Procedures & Requirements

Application Attachments:

- Certified List of Abutters
- Filing Fee Statement
- USGS Locus (See Part 3 for additional Figures and Graphics)
- List of Permits or Actions with Status
- Lease Agreements (NPS Special Use Permits)
- Endorsement of CIP project by Provincetown Selectmen
- Development Plans

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Part 2 DRI Overview and Design Narrative

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Development of Regional Impact

DESIGN NARRATIVE AND PROJECT OVERVIEW

Provincetown Municipal Airport Capital Improvement Plan

Introduction and Background

The Provincetown Municipal Airport initiated a master planning process in 2005. The planning process identified needed safety and operational improvements for the airfield as well as facility improvements, and a series of Capital Improvement Program (CIP) project elements was developed. The planning process kept in mind the role of the Airport to provide commercial service into Boston Logan as well as its unique environmental context within the Cape Cod National Seashore. As part of the planning process, wetland, wildlife, and rare species habitat assessments were completed.

The CIP project elements were designed to comply to the extent feasible with current design guidance issued by Federal Aviation Administration (FAA), the Massachusetts Department of Transportation (MassDOT) Aeronautics Division, and the Transportation Security Administration (TSA). The various FAA Advisory Circulars contain the standards and recommendations for the geometric layout and engineering design of runways, taxiways, aprons, and other facilities at civil airports. A Wildlife Hazard Assessment completed for the Airport made recommendations to manage wildlife hazards on the airfield. TSA guidelines address security at airports. The FAA required that airport improvement projects receiving Federal grant-in-aid assistance comply with the national airport design standards; site specific constraints are also taken into account as discussed below.

The resulting CIP consists of several project elements which were presented for public and agency comment in the Environmental Notification Form in April of 2006. A Draft Environmental Impact Report/Environmental Assessment (EIR/EA) was circulated in May of 2007 which presented additional alternatives for some of the projects in response to comments received.

Extensive coordination was carried out with state and federal agencies during the preparation of the Final EIR/EA. Alternatives were further evaluated to minimize impacts and a mitigation framework was developed that would satisfy regulatory requirements and protect the habitat values at the Airport. The Final EIR/EA was circulated in December of 2011. FAA issued a Finding of No Significant Impact (FONSI) on May 24, 2012, and the National Park Service (NPS) issued a FONSI on April 7, 2014.

The Airport Commission seeks to obtain CCC approval in 2015 for the CIP Project elements listed below. The terminal building and the associated Phase 2 parking lot have been deferred to a

future review process. Recent changes to the floodzone elevations coupled with the FAA's policy regarding new construction within an airport's secure airspace have resulted in the need to reevaluate and/or redesign the elevation of the terminal building. The Airport will request approval for the terminal building and related parking lot modifications as either an amendment or a separate permit process, as deemed appropriate, once the design issues have been resolved.

The proposed project elements are discussed in detail in the attached Project Narrative. This Design Narrative explains the development and evolution of the design of the projects, the benefit to the region, and how the proposed mitigation will be protective of the environment.

1. Improve Westerly Taxiway System;
2. Relocate East End Taxiway;
3. Reconstruct Terminal Apron (footprint pavement reconstruction completed in 2008);
4. Reconstruct Easterly End of Taxiway (footprint pavement reconstruction completed in 2012);
5. Install Taxiway Lighting and Construct Electric Vault;
6. Repair Sightseeing Shack;
7. Improve Access Road to Approach Light System;
8. Construct Service Access Roads to Localizer Equipment Shelter (LES) and to the Automated Weather Observation Station (AWOS);
9. Install a Perimeter Safety/Security Fence;
10. Construct Phase 1 Auto Parking;
11. Expand Turf Apron.

Project Development

Taxiway Improvements (Project Elements 1, 2, 4, 5 and 6)

The taxiway (TW) improvements are proposed to correct design deficiencies and improve operational safety. The TW pavement is in poor condition and needs to be reconstructed. When runways or taxiways are reconstructed, they are subject to current airspace and airfield design criteria. As mentioned above, site specific constraints are taken into account. At Provincetown Airport there is no control tower and frequent low visibility conditions, each of which must be considered along with the need to minimize environmental impacts. The Taxiway Improvement project elements will accomplish the following:

- relocate the west end TW D out of the critical approach airspace;
- construct ninety degree intersections with the runway for TW D and the mid connector TW C to provide pilots waiting to take off a clear view of the runway;
- construct a run-up pad for pre-flight checks; and
- relocate the east end TW B to eliminate the need to back-taxi on the runway.

The taxiway improvements also include TW edge lighting with a new electric vault. The current electric vault, inside the sightseeing shack, is outdated. A new electric vault will be installed and TW lights will improve safety during nighttime or foggy conditions. The reconstruction of the sightseeing shack is Incidental to removing the electric equipment. There are no feasible alternatives to the taxiway improvements that would avoid wetland and resource area impacts and provide an equivalent level of airspace and airfield safety. The mitigation proposed for the TW projects will restore wetlands where TWs will be removed and maintain the habitat in this area. A benefit of updating the taxiway system, in addition to the public safety benefits, is the ability to reduce pavement width on the taxiways since larger DC3 aircraft no longer use the airport. LED lights will be used in the TW lights and elsewhere for airfield lighting to reduce energy consumption.

Apron Projects (Project Elements 3 and 11)

The Airport has paved and turf aprons used for aircraft parking. The terminal apron was reconstructed within the existing footprint in 2008. This project provided an opportunity to improve the existing drainage system, thus benefitting local water quality. The proposed turf apron has been narrowed from earlier designs in order to eliminate wetland impacts. The new turf apron will be able to accommodate the smaller planes that use the airport and will have a similar appearance to the existing condition.

MALSF Road (Project Element 7)

The existing service road to the approach light system is narrow with water on both sides. Without a place to turn around, vehicles must back up the 400-foot road. Since its construction in 2000, there have been several incidents of a truck going off the road and onto the slope. On one occasion, a large crane was required to remove the truck from the wetlands. Although design guidelines include a minimum 10 foot wide driveway with a turn-around, there is no specific requirement for a turn-around. However, at this specific site, the risk of going off the road and the cost to remove the vehicles is too high to not address the issue. It is not possible to avoid impacts to wetlands, but the turn-around is as small as possible and wetland mitigation is proposed at a greater than 3:1 ratio.

Access Roads to LES and AWOS (Project Element 8)

These airfield navigation facilities had to be relocated in 2000 to accommodate the runway reconstruction. Currently, access to these facilities is gained via un-defined routes across the coastal dunes. There have been several occasions when the service truck was mired in sand and had to be towed out. The purpose of the proposed access roads is to provide a defined and stable access to the equipment. This will protect the trucks and prevent debris from being tracked onto the TWs and runway. The project also provides an environmental benefit because the risk of the trucks driving over wildlife or damaging habitat is greatly reduced. Four concepts each for the AWOS and LES access roads were developed for the Master Plan. These concepts were further refined in the Draft EIR/EA as three concepts for each road. The preferred

alignment minimizes the impact to the coastal dunes and freshwater wetlands by using a 10-foot pavement width and complies with airspace requirements by keeping the road out of runway safety areas.

Perimeter Safety/Security Fence (Project Element 9)

There are two reasons for the perimeter fence: to deter deer and to deter unauthorized access to the airfield. Six concepts for the safety/security fence were developed to minimize impacts to wetlands and potential Eastern Spadefoot toad breeding habitat, while at the same time maintaining FAA protected safety areas and airspace surfaces. Details for the fence design and installation were further developed in coordination with NHESP for the protection of state-listed rare species and their habitats. The alignment of the fence is as close to the airfield as it can be without interfering with airspace and navigational signals. Although the westerly end of the airfield will be open, the extensive tidal marshes will serve as a natural barrier and deterrent.

Auto Parking, Phase 1 (Project Element 10)

The demand for parking at the airport exceeds capacity and cars frequently need to park along Airport Drive. The use of taxis and the shuttle bus is encouraged, but demand for parking remains. Satellite parking was investigated but deemed not feasible based on cost and logistics. Four concepts were developed to expand the existing parking lot. The preferred alternative is phased and avoids impacts to the adjacent vegetated wetlands. The proposed parking lot drainage meets the MassDEP stormwater management standards.

Development of Regional Impact

The project is categorically deemed to be a Development of Regional Impact (DRI) and is subject to DRI review by the CCC because it required the preparation of an Environmental Impact Report (EIR) under the Massachusetts Environmental Policy Act (MEPA). Unavoidable impacts from the CIP have been mitigated to the greatest extent practicable such that the benefits from the CIP outweigh the detriments from the Project. The CIP is consistent with most of the applicable Minimum Performance Standards (MPS). A list of applicable MPS and Best Development Practices (BDPs) is provided in the table below.

Table 1. Applicable Minimum Performance Standard for Provincetown Municipal Airport CIP Project

Minimum Performance Standards (MPSs) and Best Development Practices (BDPs)	Consistency with RPP	Comments
ECONOMIC DEVELOPMENT		
ED1.4 Resource-based Economic Areas	Consistent	Does not impair function of adjacent recreation land. CIP project is within Airport lease area. Hunting and other access will continue on portions of the airport lease area not within the proposed perimeter fence.
ED3.1 (BDP) Local Labor and Service Providers	Consistent	Procurement requirements apply to municipal projects. Local qualified contractors will be selected for construction and maintenance as practicable.
ED4.1 Demonstrated Need and Public Benefit	Consistent	CIP project responds to the need to maintain the Airport and provide safety, security, and facility improvements.
WATER RESOURCES		
WR1.1 Five-ppm Nitrogen Loading Standard	Consistent	Addressed through LID stormwater management practices. Existing nitrogen loading is 0.39 ppm; proposed nitrogen loading is 0.38 ppm (see Nitrogen Loading Calculations and Stormwater Report).
WR1.5 Turf and Landscape Management Plan	Consistent	Native and drought resistant plants will be used for landscaping. Fertilizers and pesticides are not used at the Airport.
WR1.6 (BDP) Management of Water Withdrawals/Wastewater Discharges	Consistent	Airport is on municipal water supply. Existing septic system will be maintained and is in compliance with current Title 5. No proposed change in water supply use or septic system discharge.
WR1.8 (BDP) Alternatives to Chemical Fertilizers and Pesticides	Consistent	Fertilizers and pesticides are not used at the Airport. Herbicides may be used for invasive species management as a resource area mitigation as permitted by regulatory agencies and NPS. Herbicides proposed for <i>Phragmites</i> management for resource enhancement; plan to be reviewed by regulatory agencies and NPS.
WR1.9 (BDP) Greater Protection of Groundwater/Surface Water	Consistent	Stormwater management system for proposed Phase 1 parking lot expansion will improve protection of water quality, both surface and groundwater. CIP will result in overall reduction in impervious surface.
WR7.1 No New Direct Discharges of Untreated Stormwater	Consistent	There will be no new direct untreated discharges of stormwater. Stormwater bioretention areas and swales are proposed to capture, treat, and infiltrate parking lot runoff, as shown on project plans and in Stormwater Report.

Minimum Performance Standards (MPSs) and Best Development Practices (BDPs)	Consistency with RPP	Comments
WR7.2 On-Site Infiltration	Consistent	On-site infiltration proposed for roadway and parking lot runoff associated with the Phase 1 Auto Parking Expansion. Bioretention areas will be installed to accommodate new impervious surfaces; water quality infiltration swale will be installed between existing rows of gravel parking spaces.
WR7.4 Biofiltration Practices	Consistent	Stormwater management is proposed in the form of permeable pavement and bioretention basins, and has been designed to accommodate the first 1-inch of flow. Stormwater management BMPs have been designed and will be constructed in accordance with the Massachusetts Stormwater Management Standards (MASWMS) for redevelopment.
WR7.5 Structured Infiltration Devices	Consistent	Stormwater management measures have been designed in accordance with the Massachusetts Stormwater Management Standards for both new and re-development. The parking lot is designed to be permeable with no runoff; under frozen conditions, runoff will flow to the bioretention cells, designed for redundancy, and sized to accommodate the 25-year 24-hour storm.
WR7.6 Impervious Surfaces	Consistent	Proposed parking lot will include a permeable pavement drive aisle and gravel paver parking spaces. Overall, the CIP Project will result in a net reduction in impervious surfaces.
WR7.8 Minimum Two-foot Separation to Groundwater	Flexibility	Proposed stormwater management structures have been designed in accordance with the Massachusetts Stormwater Management Standards for both new and re-development. On average the permeable parking lot will maintain a two to three-foot separation between points of infiltration and high groundwater. Flexibility requested.
WR7.9 Best Management Practices during Construction	Consistent	Erosion control is depicted on site plans and will be implemented during construction.
WR7.10 Stormwater Maintenance and Operation Plan	Consistent	An O&M plan is provided in the Stormwater Management Report. The SWPPP Plan will be revised and updated after facilities are constructed.
COASTAL RESOURCES		
CR2.3 Migration of Coastal Resources	Consistent	Project will not impede landward migration of coastal resources. Well-vegetated, low-lying dunes are not actively migrating in this area.

Minimum Performance Standards (MPSs) and Best Development Practices (BDPs)	Consistency with RPP	Comments
CR2.4 Damage Prevention and Flood Minimization	Consistent	Proposed project is designed to accommodate CR 2.2. Fill for parking lot constitutes less than 0.015% of available flood storage capacity within surrounding coastal flood basin and will maintain flood damage prevent and flood control functions.
CR2.8 Public Infrastructure in Land Subject to Coastal Storm Flowage	Flexibility	The entire Airport is within LSCSF, and there is no feasible alternative location outside of the coastal flood zone for the CIP Project. Phase 1 parking is the minimum needed to meet existing and projected demand, and is not intended to result in promotion of new growth and development in coastal floodzone. Flexibility requested
CR2.10 General Exceptions	Consistent	Project involves maintenance of existing public infrastructure intended to comply with FAA, MassDOT, and TSA safety standards. Entire Airport is within LSCSF, and project is designed to minimize adverse impacts and to mitigate for resource impacts. Project will result in a net reduction of impervious surface.
CR2.13 Remove Development from Coastal Floodplains (BDP)	Consistent	Project will result in a net decrease in impervious surface. Not feasible to remove an existing aviation facility.
CR2.14 Use Mean Sea Level Data (BDP)	Consistent	NAVD88 datum has been used for Phase 1 parking design.
CR3.1 Buffers to Coastal Wetlands	Hardship	Existing buffers are overlapping with Airport infrastructure and other resource areas; project cannot be implemented without relief from this MPS. Buffer Zone interests will be protected. Hardship Exemption requested
CR3.3 Stormwater Discharges	Hardship	Stormwater treatment will be provided, due to existing constraints with wetland resources which are within 10 feet of existing parking lot, a 100-foot minimum buffer cannot be achieved for the proposed stormwater BMPs. Hardship Exemption requested
CR3.4 Stormwater Management Designed to Accommodate Relative Sea-level Rise	Flexibility	Proposed stormwater BMPs are within 300-feet of the spring high water contour and are designed to accommodate SLR to the extent practicable. A 2-3 foot separation to high groundwater is provided for infiltration, but a full 3 feet cannot be achieved due to existing grade and groundwater elevations. Flexibility requested

Minimum Performance Standards (MPSs) and Best Development Practices (BDPs)	Consistency with RPP	Comments
WETLANDS		
WET1.1 Wetlands	Hardship	Existing Airport, while not water-dependent, is located in close proximity to wetland resources. There is no alternative to the proposed project in order to address proposed safety and security standards without wetland alteration. Wetland restoration and enhancement is proposed, and wetlands interests will be protected. Hardship Exemption requested
WET1.2 Wetland Buffers	Hardship	Existing buffers are overlapping with Airport infrastructure and other resource areas; project cannot be implemented without relief from this MPS. Buffer Zone interests will be protected. Hardship Exemption requested
WET1.4 Stormwater	Hardship	Stormwater treatment will be provided, due to existing constraints with wetland resources, which are within 10 feet of existing parking lot, a 100-foot minimum buffer cannot be achieved for the proposed stormwater BMPs. Hardship Exemption requested
WET1.5 Wetland Restoration (BDP)	Consistent	Wetland restoration is proposed as part of the overall wetland mitigation measures for all regulatory agencies. Additional wetland mitigation measures include wetland enhancement via invasive species management to restore natural plant communities. Wetland restoration proposed at a 1:1 ratio, through the removal of pavement wetland; wetland enhancement (invasive species management) also proposed; monitoring as described in mitigation plan.
WET1.6 Artificial Wetlands (BDP)	Consistent	Bioretention areas are proposed to treat stormwater runoff associated with new parking lot and a portion of redeveloped access roadway. Stormwater BMPs will maintain or improve water quality and will not adversely impact resource areas. Stormwater management structures (bioretention areas) proposed for parking lot expansion project are designed to blend into the natural surroundings while still treating stormwater.
WILDLIFE AND PLANT HABITAT		
WPH1.1 Natural Resources Inventory	Consistent	A Natural Resources Inventory has been compiled.
WPH1.2 Clearing and Grading	Consistent	Clearing for the fence and grading for the airfield improvements and terminal parking area have been minimized to the maximum extent practicable.

Minimum Performance Standards (MPSs) and Best Development Practices (BDPs)	Consistency with RPP	Comments
WPH1.3 Wildlife and Plant Habitat	Consistent	The alignment of the proposed safety/security fence minimizes impacts to wildlife habitat and will incorporate wildlife passage “gaps” along the bottom of the fence.
WPH1.4 Rare Species	Consistent	Project has involved ongoing coordination with NHESP. NHESP comment on FEIR and MESA Project Review is provided in Attachments. The proposed fence has been designed to provide passage for Eastern Box Turtle and other small wildlife and to avoid prime breeding habitat for Eastern Spadefoot as coordinated with NHESP. Wetland mitigation is designed in part to maintain rare species habitat. By design the purpose of the fence is to discourage deer and coyote from entering the active airport area. Hundreds of acres of the airport lease area remain open to wildlife.
WPH1.6 Invasive Species	Consistent	A draft Integrated Invasive Species Management Plan has been developed.
WPH1.7 Habitat Restoration (BDP)	Consistent	Non-native invasives will be managed in coastal dune areas proximal to airport infrastructure.
WPH1.8 Un-development (BDP)	Consistent	The project will result in a net reduction of impervious surface within areas of mapped habitat.
TRANSPORTATION		
TR0.1 Source(s) of Trip-generation Data	Consistent	Trip generation estimates followed procedures outlined in the Institute of Transportation Engineers' (ITE) Trip Generation, Eighth Edition, 2008 was used. An empirical method suggested by CCC staff was also used to more accurately reflect the unique operating characteristics of the Airport.
TR1.1 No Degradation of Safety	Consistent	Safety will be maintained for all transportation modes. Pavement markings and signage at the intersection of the bike path with Airport Road and the employee parking access drive will be refreshed.
TR1.6 Sight-distance Obstructions	Consistent	Lights will be full cutoff. No new signs proposed. Landscaping will not create obstructions to sight distance for all modes, but rather serve to screen parking lot from Park users.
TR1.7 Bicyclists and Pedestrians Safety and Access/Egress Requirements	Consistent	No change to existing driveway and bike path. Signage will continue to be provided for motorists and bicyclists; see also Project Plans.
TR1.10 (BDP) Transportation Safety	Consistent	Project includes safety/security improvements for the Airport. Aviation transportation safety and access will be improved for Cape Cod.

Minimum Performance Standards (MPSs) and Best Development Practices (BDPs)	Consistency with RPP	Comments
TR2.9 Parking Spaces	Consistent	Minimum number of parking spaces is proposed. Proposed increase in parking capacity is within accepted guidelines for the existing and proposed conditions.
TR2.15 Bike Racks and/or Storage	Consistent	Bike racks are provided.
TR2.16 Alternate Modes of Travel	Consistent	Breeze bus services the Airport. Taxi sharing program is provided at Airport.
TR3.1 Operational Requirements	Consistent	Operations have been analyzed. No measurable effect on the network operation within, and outside of, the study area as a result of the minimal projected increase in traffic.
TR3.3 Traffic Studies	Consistent	Traffic studies have been completed and reviewed by CCC staff.
WASTE MANAGEMENT		
WM1.5 Compliance with Massachusetts Hazardous Waste Regulations	Consistent	Airport is not a generator of hazardous wastes, except for small amounts of oil and gasoline. The Airport has a SPCCP to manage the small amounts of hazardous materials; see Attachments.
WM1.6 (BDP) Elimination of Hazardous Materials/Waste	Consistent	Airport is not a generator of hazardous wastes, except for small amounts of oil and gasoline. The Airport has a SPCCP to manage the small amounts of hazardous materials; see Attachments.
WM2.1 Construction Waste	Consistent	Construction and demolition waste handling is part of all construction contracts.
WM2.2 C&D Waste Plan	Consistent	Removed pavement will be recycled.
WM2.3 Post-construction Waste	Consistent	Airport has plan for waste disposal and recycling.
HERITAGE PRESERVATION AND COMMUNITY CHARACTER		
HPCC 2.9 Landscaping Improvements for Redevelopment	Consistent	Landscaping buffers are provided for the parking area.
HPCC 2.10 Landscape Plan Requirements	Consistent	Landscape Planting Plan provided.
HPCC 2.17 (BDP) Impervious Parking Areas	Consistent	Impervious parking areas will be provided.

Regional Policy Minimum Performance Standards

The CIP project elements will provide operational safety and security improvements at the Airport and maintain compliance with current FAA, TSA, and MassDOT regulations and recommendations. The Airport Commission and staff have worked closely with the CCC staff and other state, federal, and local regulatory agencies to develop a CIP that meets aviation obligations while minimizing environmental impacts and respecting the sensitive environment. In addition, as the Airport is situated within the confines of the National Seashore (CCNS) on lands owned by the National Park Service (NPS) and leased to the Airport, extensive coordination has been carried out with NPS staff as well, to identify ways in which the Project can be designed in compliance with the applicable MPS.

The CIP Project is in compliance with most of the mandatory MPSs. In cases where it is not possible to comply with a given MPS, mitigation is proposed that will protect the interests as discussed below and presented in detail in the Project Narrative. Due to the unique setting of the Airport, certain MPS cannot be met while allowing for the proposed improvements to Airport safety and the existing and projected demands of the important aviation transportation facility.

Relief Sought

The Airport seeks relief from nine MPS, all due to the unique setting of the Airport and the wetlands and habitat constraints of the existing surrounding environment.

A Hardship Exemption has been requested for certain MPS (CR3.1, CR3.3, WET1.1, Wet1.2, and WET 1.4), where the existing use and the environmental site constraints preclude the CIP Project from meeting the MPSs. The Airport seeks to have the CCC invoke its Flexibility Clause where the interests protected by a given MPS can be met through an alternate approach that is as protective and would be not be more detrimental to the protected resources than would be allowable under the applicable MPS (WR7.8, CR2.8, CR3.4, and WPH1.2).

The Airport Commission specifically requests a Hardship Exemption for the following MPSs:

- *CR3.1 Buffers to Coastal Wetlands;*
- *CR3.3 Stormwater Discharges;*
- *WET1.1 Wetlands;*
- *WET1.2 Wetland Buffers; and*
- *WET1.4 Stormwater.*

The request for use of the Flexibility Clause is for the following MPSs:

- *WR7.8 Minimum Two-foot Separation to Groundwater;*
- *CR2.8 Public Infrastructure in Land Subject to Coastal Storm Flowage;*
- *CR3.4 Stormwater Management Designed to Accommodate Relative Sea-level Rise; and*
- *WPH1.2 Clearing and Grading.*

Benefit to the Region and to the Community

The Provincetown Municipal Airport is an important and relied upon component of the Town of Provincetown. As a destination airport from Logan International Airport, it provides commercial airline service from a major city to the Cape Cod region. Facilitating the ability and ease of access to Provincetown for tourists, business associates, and residents alike, as well as travel for medical purposes and appointments, is an important consideration for the Town's economic development. The CIP Project furthers this community benefit in that it will improve safety and security for the airline passengers as well as the community and residents of the Town of Provincetown.

Implementation of the CIP project will also result in a net benefit to the region. By implementing safety and facility improvements at the Airport, the CIP project supports the Regional Policy Plan goals to foster a sustainable economy, protect resources, and provide transportation options. The project will improve reliable access to the Airport for pilots and passengers.

Resource Area Avoidance, Minimization, and Mitigation

An extensive and detailed alternatives analysis was undertaken during the planning and agency review phase of the Project and was presented in the Final Environmental Impact Report/Environmental Assessment (FEIR/EA), previously submitted to the Cape Cod Commission. Project design objectives minimize alterations to the extent practicable while still meeting the project purpose and need. Impacts to natural resources will be mitigated through a mitigation plan that includes the following elements:

- *wetland restoration;*
- *wetland enhancement;*
- *coastal dune creation;*
- *coastal dune restoration;*
- *cultural grassland restoration;*
- *invasive species management;*
- *stormwater management;*
- *rare species protection plans*
- *implementation of erosion and sedimentation control;*
- *construction timing and management;*
- *implementation of vegetation management; and*
- *long-term monitoring.*

Conclusion

The Provincetown Municipal Airport is an important transportation component of the Town of Provincetown and the outer Cape Cod region. By implementing safety and facility improvements

at the Airport, the CIP project supports the Regional Policy Plan goals to foster a sustainable economy, protect resources, and provide transportation options.

While the Airport is able to comply with the majority of the MPSs within the Regional Policy Plan, the need for meeting these safety and security standards in conjunction with the unique location of the airport infrastructure within environmentally sensitive resource areas and rare species habitat will not allow the Airport to comply with all of the MPSs. The Airport Commission is seeking a Hardship Exemption for certain MPS directly related to wetland and buffer zone alteration that otherwise cannot be met as a result of the environmental constraints of the site. Further, the Airport Commission is requesting that the Cape Cod Commission invoke its Flexibility Clause to allow for flexibility with respect to the MPSs directly related to groundwater separation with the proposed stormwater management BMPs, that meet and/or exceed the Massachusetts Stormwater Management Standards, but cannot meet the more stringent design MPSs to the fullest extent.

Implementation of the proposed CIP will not be more detrimental to the protected resources than would be allowable under the applicable MPS because of proposed mitigation that includes wetland and coastal dune restoration and enhancement, protection of rare species habitat, project design and construction measures, and long-term monitoring. The Airport Commission believes that this approach is at least as protective of the natural resource as full compliance with the MPS, and that the CIP meets the spirit of the Regional Policy Plan.

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Part 3 DRI Project Narrative

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Development of Regional Impact

PROJECT NARRATIVE

Provincetown Municipal Airport Capital Improvement Plan

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Attachment 2 Summary of Wetland Resource Areas (April 2007)
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List of Frequently Used Abbreviations in this Document

AWOS	Automated Weather Observing System
BVW	Bordering Vegetated Wetland
CCNS	Cape Cod National Seashore
CCC	Cape Cod Commission
CIP	Capital Improvements Project
DRI	Decision of Regional Impact
EA	Environmental Assessment
FEIR	Final Environmental Impact Report
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
GA	General Aviation
HW	Horsley Witten Group, Inc.
ILS	Instrument Landing System
ILSF	Isolated Land Subject to Flooding
IVW	Isolated Vegetated Wetland
LES	Localizer Equipment Shelter
LSCSF	Land Subject to Coastal Storm Flowage
MassDEP	Massachusetts Department of Environmental Protection
MassDOT	Massachusetts Department of Transportation – Aeronautics Division
MALSF	Medium Intensity Approach Light System with sequenced Flashing lights
MEPA	Massachusetts Environmental Policy Act
MESA	Massachusetts Endangered Species Act
NEPA	National Environmental Policy Act
NHESP	Massachusetts Natural Heritage and Endangered Species Program
NPS	National Park Service
PCC	Provincetown Conservation Commission
PEM	Palustrine Emergent Marsh
PFO	Palustrine Forested
PSS	Palustrine Scrub-Shrub
PVC	Provincetown Municipal Airport
RSA	Runway Safety Area
RW	Runway
TSA	Transportation Security Administration
TW	Taxiway
WOUS	Waters of the United States

Development of Regional Impact

PROJECT NARRATIVE

Provincetown Municipal Airport Capital Improvement Plan

1.0 OVERVIEW AND BACKGROUND

1.1 CIP Project Overview

The Provincetown Airport Commission has developed a Capital Improvements Plan (CIP) Project consisting of safety/security and facility improvements for the Provincetown Municipal Airport in Provincetown, Massachusetts. The Airport Commission seeks to permit eleven of the twelve CIP project elements this year. The elements of the CIP Project, for review under this DRI application, include the following:

- (1) Westerly Taxiway System Improvements;
- (2) Relocate East End Taxiway;
- (3) Reconstruct Terminal Apron;
- (4) Reconstruct Easterly End of Taxiway;
- (5) Install Taxiway Lighting and Construct Electric Vault;
- (6) Repair Sightseeing Shack;
- (7) Improve Access Road to Approach Light System;
- (8) Construct Service Access Roads to Localizer Equipment Shelter (LES) and to the Automated Weather Observation Station (AWOS);
- (9) Install a Perimeter Safety/Security Fence;
- (10) Expand Auto Parking Phase 1; and
- (11) Expand Turf Apron.

Table 1 provides a summary of the purpose and need for each Project Element. Additional discussion of the applicable federal and state safety recommendations is provided as Attachment 1.

Table 2. Summary of Purpose and Need

CIP Project Element	Purpose	Need
1. Westerly Taxiway System Improvement	Safety	TW is in the approach and connects parallel to the runway.
2. Relocate East End Taxiway	Safety	Aircraft are required to back-taxi on active runway
3. Reconstruct Terminal Apron	Safety and Maintenance of Airfield Pavement	Pavement was over 20 years old and in poor condition. Aircraft can be damaged by loose or cracked pavement.
4. Reconstruct Easterly End of Taxiway	Safety and Maintenance of Airfield Pavement	Pavement was over 20 years old and in poor condition.. Aircraft can be damaged by loose or cracked pavement.
5. Install Taxiway Lighting and Construct Electric Vault	Safety	Lights and signage are needed to improve safety during nighttime and poor visibility conditions; electric vault is needed to upgrade the reliability of airfield lighting.
6. Repair Sightseeing Shack	Safety/Maintenance	Ancillary to the installation of the taxiway lighting project, the building will require repairs following removal of electrical equipment to maintain safety and integrity of structure.
7. Improve Access Road to Approach Light System	Safety	FAA service vehicles must reverse over 400 feet on narrow embankment.
8. Construct Service Access Roads to Localizer Equipment Shelter (LES) and Automated Weather Observation Station (AWOS)	Safety	Airport does not currently have access roads to these FAA facilities per FAA Order 6940.1.
9. Install a Perimeter Safety/Security Fence	Safety and Security	Airport does not comply with security guidelines for Part 107 airports.
10. Expand Auto Parking	Capacity	Peak season demand exceeds capacity.
11. Expand Terminal Building	Capacity – Replace lost public use area	Peak season demand exceeds capacity. TSA screening area occupies >60% of passenger lobby and waiting areas.
12. Expand Turf Apron	Capacity	Peak season demand exceeds capacity.

1.2 Change to the CIP Project Since the FEIR/EA

The Airport Commission has removed the terminal building and the associated Phase 2 parking lot grading from the DRI and other pending permit applications, and deferred these elements to a future review process. The Phase 1 expansion of the parking lot will remain in this year’s applications. Recent changes to the floodzone elevations coupled with the FAA’s policy regarding new construction within the Airport’s secure airspace have resulted in the need for the project team to reevaluate and/or redesign the elevation of the terminal building. The

terminal building and related Phase 2 parking lot modifications will be reviewed as either a permit amendment or a separate permit process once these design issues have been resolved.

1.3 Permitting Overview

The CIP Project requires state, regional, and federal permits. The status of each is provided in Table 2. Additional details of the overall project permitting are provided in Section 10.

Table 3. Project Permits and Reviews

Review / Permit	Issuing Authority / Reviewing Agency	Action / Status
Massachusetts Environmental Policy Act (MEPA)	MEPA Unit, Executive Office of Energy and Environmental Affairs (EEA No. 13789)	FEIR Certificate issued 02/17/12
National Environmental Policy Act	FAA and NPS	FAA FONSI issued 05/24/12 NPS FONSI issued 04/09/14
National Historic Preservation Act, Section 106	Massachusetts Historical Commission (MHC RC.9962)	Completed 04/02/07
Section 404 Clean Water Act Permit	U.S. Army Corps of Engineers (NAE-2006-4281)	Application pending
CZM Federal Consistency Certification	MA Office of Coastal Zone Management	Application pending
Section 401 Water Quality Certification (with Variance)	MassDEP (Trans. X266607)	Application pending
Development of Regional Impact	Cape Cod Commission	Application submitted
Order of Conditions pursuant to Massachusetts Wetlands Protection Act	Provincetown Conservation Commission (MassDEP File No. 058-0535)	Public Hearing closed; Order of Conditions pending
Order of Conditions pursuant to Provincetown Wetlands Bylaw	Provincetown Conservation Commission	Application pending
National Pollutant Discharge Elimination System General Permit for Construction (NPDES)	U.S. Environmental Protection Agency	Application by contractor prior to construction

2.0 GENERAL SITE DESCRIPTION

2.1 Airport Facilities

The Provincetown Municipal Airport is a primary service, public-use airport with scheduled passenger service to and from Logan International Airport in Boston, Massachusetts. Located in Provincetown, Massachusetts, and situated on the northern tip of Cape Cod, the Airport is confined within the bounds of the CCNS, sited on approximately 331 acres of federally-owned land administered by the NPS. The Airport consists of developed airside and landside areas that

are maintained for airport facilities and operations, as well as undeveloped areas that consist of coastal dunes, freshwater wetlands, and grasslands (Figures 1 and 2).

Landside Facilities

Landside facilities include a terminal building, aircraft hangar, an aircraft rescue and firefighting/snow removal equipment garage (ARFF/SRE), ground support facilities, the former administration building referred to as the Sightseeing Shack, and two auto parking areas. Photo 2 depicts the location of the Airport's landside facilities. Figure 3 depicts the location of the Airport's landside facilities.

Airside Facilities

Figure 4 depicts the location of the Airport's airside facilities. Airside facilities include a single runway (Runway 7-25), a taxiway system, aircraft parking aprons (ramps), an approach lighting system (Medium Intensity Approach Light System with Flashing lights or MALSF), navigational aids, and an Automated Weather Observation Station (AWOS). Runway 7-25, first paved in 1948, is currently 3,500 feet long and 100 feet wide with paved runway safety areas (RSAs). The taxiway system provides aircraft with direct routes between the terminal area and the runway, and include a partial parallel taxiway (Taxiway A) and three entrance taxiways: West-End (Taxiway D), Mid-Connector (Taxiway C), and East End Taxiways (Taxiway B). Aircraft parking aprons include both paved and turf aprons to accommodate both commercial service and GA aircraft.

The Instrument Landing System (ILS) consists of a glide slope antenna, the glide slope critical area (a flat area maintained to bounce radio signals), a localizer antenna and its critical area, and an approach lighting system (MALSF) and its critical area. The Airport also has an on-field weather instrumentation (AWOS), located between Runway 7-25 and the parallel taxiway. Photo 1 depicts the locations of the airside facilities.

The terminal building is an approximately 4,800 square foot (SF) single story wooden structure, which provides passenger facilities, TSA screening areas, and a conference room. The Airport has a paved/gravel parking lot which provides 62-parking spaces for passengers and visitors, and a separate, 20-space employee gravel parking area located east of the terminal area.

The single hangar, which is attached to the passenger terminal building, is a 6,000 SF steel-framed structure that houses a large central bay for aircraft storage. The ARFF/SRE garage is approximately 40 feet wide by 80 feet long located on the east end of the terminal ramp, adjacent to the employee parking lot. The garage houses the ARFF vehicle and some SRE equipment.

Constructed in approximately 1948, the Sightseeing Shack is thought to be the original administration building, although it is no longer used for passenger waiting space. Currently this structure includes airfield navigational aid electrical equipment, a Remote Communications

Outlet (RCO) for radio signal repeater equipment, and the airfield electric lighting vault, as well as a small bathroom (now out of service).

There is one 10,000-gallon below ground tank housed immediately east of the Sightseeing Shack. The fuel tank is a double steel-walled underground storage tank (UST) with a leak detection monitoring system.

Finally, there are small sections of security fencing located at the east end of Runway 7-25, around the terminal apron and around the fueling station.

3.0 RESOURCE AREAS AND JURISDICTIONAL DETERMINATION

Wetland Resource Areas found within the Airport lease area include freshwater Isolated Vegetated Wetlands (IVW) and Bordering Vegetated Wetlands (BVW), the coastal floodzone or Land Subject to Coastal Storm Flowage (LSCSF), and Coastal Dunes.

These resource areas are subject to regulation pursuant to the Federal Clean Water Act (33 U.S.C. 1251, et seq.), the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131 § 40), and/or the Provincetown Wetlands Protection Bylaw (Chapter 12), as well as the Cape Cod Commission's (CCC) Regional Policy Plan. A general description of the wetland resource areas encountered at the Airport is provided below. Resource areas were approved under an Order of Resource Area Delineation (ORAD) issued by the Provincetown Conservation Commission (MassDEP File No. SE-058-0425), and are valid through January 12, 2017. Figure 5 depicts the limits of the approved resource areas. The presence of waters of the United States was confirmed under a Preliminary Jurisdictional Determination.

3.1 Freshwater Wetlands

The majority of the wetland areas encountered at the Airport are IVW that are part of a larger interdunal swale system. Freshwater wetland habitats at the Airport generally fall into three different types based upon vegetative cover: those dominated by grass and herbaceous species (Palustrine Emergent Wetlands or PEM); shrub-dominated wetlands (Palustrine Scrub-Shrub Wetland or PSS); and freshwater forested wetlands (Palustrine Forested Wetland or PFO), dominated by pitch pine (*Pinus rigida*). These isolated wetlands, ranging in size from a few hundred square feet to several acres in size, are associated with coastal interdunal swales, and are often separated from each other by low to moderate dune ridges closer to the airfield, and extensive higher dune ridges, oriented approximately parallel to the Airport runway, further out from the airfield. Isolated PSS wetlands also occur within the existing airfield, located between the existing taxiways and the runway, and are separated from paved surfaces by managed grassland communities of varying width.



Photo 1. Example of transitional wet meadow/scrub shrub swamp community within managed areas at Airport: Wetland I with coastal dune ridge in background (northern aspect). Photo taken September 2007; photo credit Horsley Witten Group.

Shrub-dominant interdunal wetlands (PSS), which are the predominant type of wetland habitat at the Airport, have a non-tidal, seasonally or temporarily flooded water regime. The relatively dense shrub communities include plant species such as winterberry (*Ilex verticillata*), dwarf huckleberry (*Gaylussacia dumosa*), meadowsweet (*Spiraea latifolia*), highbush blueberry (*Vaccinium corymbosum*), northern bayberry (*Morella pensylvanica*), red chokeberry (*Aronia* spp.), and often dense

mats of American cranberry (*Vaccinium macrocarpon*). Herbaceous plants observed frequently among the Airport wetlands include sphagnum moss (*Sphagnum* spp.), various sedges (*Carex* spp.), rushes (*Juncus* spp.), cinnamon fern (*Osmunda cinnamomea*), royal fern (*O. regalis*), and sensitive fern (*Onoclea sensibilis*), common reed (*Phragmites australis*), cattail (*Typha* sp.), woolgrass (*Scirpus cyperinus*), and various goldenrods (*Solidago* spp.). Photo 1 is an example of a shrub-dominant interdunal wetland.

Within the forested area between the runway and the steeply sloping coastal dune habitat to the southeast of the Airport managed areas, there is an extensive mosaic of additional interdunal forested wetland swales. Within these freshwater wetlands, pitch pine (*Pinus rigida*) has adapted to the seasonally saturated conditions and is considered a local wetland indicator species (Photo 2).



Photo 2. Example of forested wetland at Airport dominated by pitch pine with an understory of American cranberry. Photo taken March 2008 by Horsley Witten Group.

In the far western reaches of the Airport, there is a larger wetland system (Wetland C/J/FK) that is regulated as BVW under the Massachusetts Wetlands Protection Act. This wetland transitions along a salinity gradient from a freshwater system (PEM-PSS-PFO) to a brackish system (primarily PEM, trending toward Estuarine Emergent Marsh or EEM) as groundwater seeps are met with the tidal influence of the Hatches Harbor estuarine system. Brackish and freshwater portions of this wetland system are dominated by a non-native invasive species, common reed. Efforts to control and manage this invasive plant community were implemented in the early 2000s through the Hatches Harbor Restoration Project, and areas of *Phragmites* die-back with an emerging salt marsh community can be observed along the landward-reaches of the restored salt water regime influence.

3.2 Coastal Dunes

Surrounding the wetland areas and in an approximate parallel configuration to the shoreline and the Airport runway, are a series of coastal dunes. These dune habitats range from developing mounds of sands occupied by American beachgrass (*Ammophila breviligulata*) or other grass and herbaceous species, to extensive forested dune ridges that are stabilized with mature vegetation, including trees and shrubs.

The coastal dune habitats located along the lease line to the northwest of the airfield are mapped within the boundaries of the Race Point Barrier Beach (Figure 6). Although the barrier beach system includes both primary and secondary dune habitats, there are no primary dunes



Photo 3. Example of low-lying secondary coastal dune habitat within airfield. Airport terminal and hangar visible in background. Photo credit Horsley Witten Group.

located within the Airport lease area. Dunes north of the Airport are generally vegetated with American beachgrass and common hairgrass (*Deschampsia flexuosa*) in open exposed areas. Occasionally, seaward-facing slopes (both primary and secondary dunes) are completely devoid of vegetation.

Topography among these dunes varies widely from nearly flat to steeply sloping.

Coastal dune habitats located to the southeast of the airfield are secondary coastal dune habitats that are not within the barrier beach system. While the topography among these secondary dunes is equally varied, the more stable substrate of these areas supports a greater diversity of vegetative species, including trees and shrubs. It is in these areas that communities of Maritime Pitch Pine on Dunes and Maritime Shrubland occur to varying degrees.

Secondary coastal dunes located within the immediate area surrounding the Airport runway/taxiway system dunes found within the Airport Area generally exhibit low topographic relief (e.g., one to three feet above the elevation of adjacent wetlands and/or Airport infrastructure), and are often interspersed with low-lying wetland areas. These dunes are generally stable as a result of often dense vegetative cover, and are not actively migrating. Woody vegetation, such as pitch pine or oak, within these dunes is maintained by the Airport within active areas, and as a result, the community generally consists of low-growing shrubs, such as golden heather (*Hudsonia ericoides*) and bearberry (*Arctostaphylos uva-ursi*), low-growing bunch-forming grasses, low-growing herbaceous species, intermingled with patches of lichen. Occasional bare patches of sand also occur within these low-lying dunes (Photo 3). These dunes are also typically bounded by managed facilities, structures, and mowed grassland safety areas (referred to as Cultural Grasslands) that flank the runway and taxiways, and instrument landing system. Coastal dune areas are also depicted on Figure 5.

3.3 Cultural Grasslands

Cultural Grassland habitat, at the Airport includes primarily Cultural Grassland with incipient (or developing) Sandplain Grassland, and/or Sandplain Heathland. Cultural Grasslands result from the Airport’s active mowing of the airfield’s operational safety areas, in compliance with FAA regulations, and occur adjacent to the taxiway and runway (see Photo 4 and Figure 5). These areas are mowed frequently to maintain runway and taxiway safety areas as well as clear surfaces for navigational instrumentation.



Photo 4. Example of managed grasslands along Airport taxiways and runway (foreground). Photo credit Jacobs.

3.4 Coastal Floodplain

Hatches Harbor Dike

In 1930, a dike was constructed across the Hatches Harbor salt marsh in an attempt to control salt marsh mosquitoes. Due to the dike restriction, approximately half of the 200 acres of salt marsh floodplain (base flood elevation 12 feet NAVD 88) became isolated from tidal flow. The Airport was constructed in the 1940s on land that was filled in behind the dike. The presence of the Hatches Harbor dike has likely influenced the ebb and flow of tides in this area. As this is a coastal floodplain, rising tide levels will inundate only those low-lying areas that are able to



Photo 5. View of Hatches Harbor dike facing northeast. Photo credit Jacobs.

receive floodwaters. Within the Airport Area, this flooding is somewhat attenuated by the presence of the Hatches Harbor dike.

The Hatches Harbor Restoration Project was implemented in the late 1990s by the NPS in partnership with the Town of Provincetown to restore up to 90 acres of salt marsh behind the dike. During the winter of 1998-99, new culverts

with adjustable tide gates were installed in the dike to gradually allow tidal flow into the marsh with the overall objective of restoring native salt marsh functions and values to the tidally restricted wetlands to the extent possible without compromising safety at the Airport.

FEMA Designation

The Airport facilities are situated within a low-lying area between parallel dune ridges. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (Community Panels FM25001C0103J and FM25001C0104J; July 2014), the Airport is located in the 100-year coastal floodzone/floodplain (Land Subject to Coastal Storm Flowage or LSCSF) (Figures 7 and 8). The majority of the Airport is located within Zone AE, elevation 12 feet above mean sea level, NAVD 88. Some of the supports for the approach lights, which extend westerly beyond the Runway 25 End, lie within Zone AE, elevation 13 feet above mean sea level NAVD 88. The limit of the Velocity Zone or "VE" (elevation 14 feet above mean sea level NAVD 88), an area of 100-year coastal flood with velocity (wave action), is confined to areas seaward of the Hatches Harbor dike to the west of the Airport. The Limit of Moderate Wave Action is located only at the far western end of the MALSF lighting system.

The surrounding elevated dune system is located within areas of minimal flooding (Zone X), defined as "areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood."

A more robust discussion of the natural resources found at the Airport is provided in Attachment 2.

4.0 STATE-LISTED RARE SPECIES HABITAT

The Massachusetts Natural Heritage Atlas (13th Edition, October 1, 2008) maps the entire Airport lease area within both Estimated Habitat of Rare Wildlife and Certified Vernal Pools (EH 79) and Priority Habitat of Rare Species (PH 15) (Figure 9).

Currently, the Airport supports habitat for three State-listed rare species: Eastern Box Turtle (*Terrapene carolina*), Eastern Spadefoot (*Scaphiopus h. holbrookii*), and Vesper Sparrow (*Pooecetes gramineus*). To support the preparation of the MEPA/NEPA reviews and permit applications, HW field biologists performed species-specific surveys between 2004 and 2005, and again in 2008, in addition to general wildlife habitat assessments (e.g., Natural Resources Inventories) performed by HW staff between 2004 and 2006, with additional data gathered in 2007 and 2008 (Attachment 3).

Habitats encountered were evaluated for their ability to provide suitable habitat for rare species. The presence of each of these species is documented at the Airport, either through HW's surveys or through past records held by NPS. At the direction of the Massachusetts Natural Heritage and Endangered Species Program (NHESP), HW conducted additional species-specific surveys for Eastern Spadefoot Toad to further refine potential habitat areas (Attachment 4).

A brief discussion of the habitat requirements for each of these species and the location of potential habitat is provided below; NHESP Fact Sheets for these species are attached. The Airport submitted a MESA Project Review with NHESP in 2014, and has received a conditional approval, provided species specific and project-specific rare species protection plans are provided, approved by NHESP, and implemented prior to construction (Attachment 5). The Airport will continue to work with NHESP during permitting.

4.1 Eastern Box Turtle

The Eastern Box Turtle is a Massachusetts Species of Special Concern. This small terrestrial turtle uses a relatively wide range of habitats, including woodlands, field edges, thickets, and wetlands. Optimal habitats on Cape Cod include pine barrens and oak thickets, where box turtles are associated with cranberry-dominated swales. This species would be considered a generalist species in the context of habitat preference, and potential habitat for this species is found throughout the Airport lease area. A single individual Eastern Box Turtle was observed during an on-site meeting in June 2007. Suitable habitat for this species is present, particularly in areas within the southern portions of the Airport, where foraging habitat and abundant food sources are found within close proximity to open areas of sand suitable for nesting habitat. Pitch-pine dominated habitats, including the cranberry-pine swales, as well as the lower slopes of the pitch pine and oak-dominant dune habitats provide potential habitat for Eastern Box Turtles.

4.2 Eastern Spadefoot

The Eastern Spadefoot (toad) is a Massachusetts Threatened Species. Reported habitat for this medium-sized toad species includes dry sandy or loose soils in areas of sparse shrub growth of open forest areas with adjacent shallow, temporary pools that provide breeding habitat. Portions of the Airport provide suitable habitat features for this species, particularly south and southeast of the Airport runway and presence of this species has been observed at the Airport by NPS biologists. HW field biologists conducted an in-depth habitat suitability study in the spring of 2008 to identify prime and potential breeding habitat for this species at the Airport. HW worked in conjunction with Brad Timm, Ph.D., an Eastern Spadefoot specialist, to complete the field surveys, the results of which are depicted on Figure 10.

4.3 Vesper Sparrow

The Vesper Sparrow is also designated as a Threatened Species in Massachusetts. This small sparrow is reported to inhabit open areas (cultivated fields, grasslands, fallow fields, and pastures), as well as Sandplain Heathlands. Potential habitat for the Vesper Sparrow occurs within the managed Cultural Grasslands adjacent to the Airport runway, taxiway, and runway approach areas and the immediately adjacent maintained shrub thickets, as well as throughout the open grassy dune habitats to the north and west of the Airport. Regular mowing of the Cultural Grasslands as part of routine Airport maintenance, in part, provides suitable habitat for this species.

5.0 PROJECT DESCRIPTION

The elements of the CIP Project included in this DRI application are:

- (1) Westerly Taxiway System Improvements;
- (2) Relocate East End Taxiway;
- (3) Reconstruct Terminal Apron (completed footprint pavement project);
- (4) Reconstruct Easterly End of Taxiway (completed footprint pavement project);
- (5) Install Taxiway Lighting and Construct Electric Vault;
- (6) Repair Sightseeing Shack;
- (7) Improve Access Road to Approach Light System;
- (8) Construct Service Access Roads to Localizer Equipment Shelter (LES) and to the Automated Weather Observation Station (AWOS);
- (9) Install a Perimeter Safety/Security Fence;
- (10) Expand Auto Parking (Phase 1);
- (11) Expand Turf Apron.

This section describes each proposed project element, briefly describes the alternatives considered for each project element and how the preferred alternative was selected¹, and describes resource area impacts. Table 4 provides a comprehensive breakdown of wetland resource area impacts incurred by the proposed improvements, by project element, and specific to each affected resource. This table also provides a breakdown of proposed mitigation for each project element.

The project elements are shown in concept on aerial photos in Figures 11-14. Details of the proposed CIP Project are presented within the enclosed “*Town of Provincetown Massachusetts Permitting Plans (Not for Construction), Provincetown Municipal Airport (AIP No. 3-25-0043-36-2013), Capital Improvement Plan,*” prepared by Jacobs Engineering Inc. and Horsley Witten Group, Inc., dated May 2015 (Sheets 1 through 15).

5.1 Westerly Taxiway System Improvements

The Westerly Taxiway System Improvements consist of the following:

- Relocate the West End Taxiway (TW D),
- Realign and reconstruct the westerly end of the parallel taxiway (TW A) with a run-up pad, and
- Realign the Mid Connector Taxiway (TW C).

TW D is currently within the approach to RW 7 and intersects RW 7 in a parallel configuration rather than at a right angle. This puts taxiing planes within the runway approach and, limits pilot view of the runway prior to take-off. Without a tower at the Airport, pilots rely on visual and radio contact. The western end of TW D will be relocated and narrowed to intersect at a ninety-degree angle with the end of RW 7. The westerly end of the parallel taxiway (TW A) will be realigned, narrowed and will include a run-up pad. The Mid Connector Taxiway (TW C) will be reconstructed in approximately the same alignment at a narrower width with standard right angle intersection with the runway.

Alternatives considered were minimal, as the proposed configuration of the relocated taxiways is largely dictated by runway approach safety standards. The No Action alternative would not meet the project purpose and need for maintaining safe conditions at the Airport.

Alterations to wetlands and coastal dune have been minimized to the extent practicable. Calculations² of project impacts include 29,191 SF of Wetland I (isolated wetland) and 274 SF of Wetland C/J/FK (BVW). Coastal dune alterations are calculated at 5,567 SF. Removal of the existing paved surfaces provides opportunities for on-site wetland restoration and creation of coastal dunes. A discussion of the proposed mitigation measures is provided in the mitigation section of this document (Section 7).

¹ A detailed alternatives analysis was presented in the FEIR/EA, previously submitted to the Cape Cod Commission and for brevity is not presented again in this narrative. An electronic copy of the FEIR is provided as Attachment 6.

² Project impacts and mitigation areas were calculated using AutoCAD.

5.2 Relocate East End Taxiway

The East End Taxiway project consists of shifting TW B approximately 200 feet to the east so that it connects at the end of Runway 25. Unlike the other two taxiway entrances, TW B has the standard design of a ninety-degree intersection; however, it does not connect with the end of Runway 25. As a result, pilots are required to “back-taxi” prior to takeoff at Runway 25, creating the potential for collisions between back-taxiing aircraft and landing aircraft. Relocation of TW B is designed to address this safety issue. As with the taxiway improvements at the western end, alternatives considered for this project included only the No Action alternative and the proposed project that is designed in accordance with current FAA standards for airport safety.

The East End TW project element will alter approximately 28,110 SF of Wetland Area B and 4,781 SF of coastal dunes. As with the Westerly Taxiway System Improvements, removal of the existing pavement provides an opportunity to restore wetland and dune habitat.

5.3 Install Taxiway Lighting and Construct Electric Vault

Currently, there is no lighting along the taxiways. The installation of Taxiway Lighting and the construction of the Electric Vault are designed to improve operational safety on the taxiways during nighttime operations, and to upgrade the reliability of the power supply to the taxiway and runway lighting systems.

The taxiway edge lights and lighted signs will be installed 10 feet off the edge of the pavement within cultural grasslands that are currently mowed as part of Airport operations. Electric equipment currently housed within the Sightseeing Shack will be upgraded to current electric codes and housed within a new vault adjacent to the Sightseeing Shack. The new electric vault will be a 10 x 10 foot structure, approximately 10 feet tall and similar in appearance to the existing utility buildings for the localizer and the glide slope equipment. An approximately four-foot wide gravel area will be constructed around the vault with a paved walkway to the service door. The vault will be located adjacent to the Sightseeing Shack.

The two primary alternatives analyzed for this project element are the No Action alternative and the selected alternative as presented. Implementation of the No Action would not meet the project purpose of improving safety conditions along the taxiway. The proposed action will address the current safety hazards along the taxiways. Alternatives to the electric cable installation were also considered, and the selected method will result in the least disruption to the grassland habitat.

Minimal alterations to the mowed grasslands along the taxiway will be restored in kind following installation of the lights and the electric cable (using the cable plowing method). Construction timing and other construction mitigation measures will minimize rare species habitat impacts. The net result of all grassland impacts will result in no net change to the overall amount of grassland habitat at the Airport.

5.4 Repair Sightseeing Shack

Repairs to the Sightseeing Shack consist of repairs to the building once the electrical equipment is removed. The structure will remain within the existing footprint and will not be enlarged. During the MEPA review process the Massachusetts Historical Commission (MHC) determined that it is not an historically significant structure.

Work will occur entirely within the footprint of the existing Sightseeing Shack and will not impact nearby natural resource areas.

5.5 Improve Access Road to Approach Light System

Improvements to the access road to the Approach Light System (MALSF) consist of construction of a T-shaped area 25 feet long and 10 feet wide that will provide adequate space for a vehicle to safely reverse direction, as well as minor upgrades to the existing gravel access road. The current design of the Access Road to the MALSF Approach Lights presents hazards to FAA service vehicles. At present, vehicles are required to back up 400 feet along the existing narrow gravel embankment, a difficult maneuver, in part due to the lack of shoulders on the path, and particularly during inclement conditions. FAA design standards for access roads to FAA owned and operated facilities have specific pavement requirements for the roads, including that the first 300 feet will be paved and will use some existing paved area.

Several alternatives to this project element were considered, including the No Action alternative as well as various alternative configurations, each designed improve the safety conditions for service vehicles. As with other No Action alternatives, this was rejected as it did not meet the purpose and need for addressing safety issues.

This project element will result in 238 SF of impact to Wetland C/J/FK (BVW). Wetland mitigation is provided as discussed in Section 7.

5.6 Construct Service Access Roads

FAA maintenance trucks currently access the Localizer Equipment Shelter (LES) and the Weather Station (AWOS) as necessary, traversing areas of low-lying dunes with no formal access point or direction, as there are currently no access roadways to either structure. FAA operation standards mandate that vehicles have access to airfield equipment.

The two service access roads will be constructed opposite each other and perpendicular to the (reconfigured) East End TW B. The roadways will be banked by one-foot grass shoulders on each side and will also involve small turn-around areas. As with the access road for the MALSF, the first 300 feet of these access roadways will be paved to prevent stones and gravel from being tracked onto the runway and taxiway, which can create a safety hazard.

Several alternative configurations and designs were analyzed for each of the Service Access Roads, including the No Action alternative. Ultimately, the design and configuration were

driven by FAA safety standards. The No Action alternatives would not meet the project purpose and need for improving safety conditions.

Construction of the access road to the AWOS will necessitate alterations to coastal dune (6,595 SF) and 335 SF of wetland alteration within Wetland H. The LES access road will require alterations to 4,768 SF of coastal dune habitat. Proposed mitigation measures, including construction and timing measures, and compensatory mitigation for the loss of natural resources is part of the design of this alternative.

5.7 Install a Perimeter Safety/Security Fence

The perimeter fence is proposed to protect more of the perimeter of the Airport and to deter hazardous wildlife, especially deer, as well as minimize unauthorized access. The proposed fence alignment (“Concept 6”) consists of 11,700 linear feet (LF) of fencing, nine feet high. A 4-foot wide path either side of the fence will be maintained as open areas with only low shrubs, to allow for inspection and maintenance of the fence. These areas will be either brush hogged or trimmed, but will not be graded; no perimeter road is proposed.

The proposed fence alignment will almost completely enclose currently unsecured areas, and will connect with the existing sections of fence adjacent to the bike path and the SRE building. This will identify the active airfield and safety areas, which comprise approximately 113 acres out of the 331-acre lease area. The western-most end around the ILS system will not be enclosed.

In consultation with NHESP, the fence design will incorporate gaps that are 6 inches high along the bottom every 100 feet to allow for the movement of Eastern Box Turtles, minimizing impacts to the movements of this state-listed rare species.

For the purposes of assessing the potential impacts associated with the safety/security fence, impacts to wetland resource areas (freshwater wetlands and coastal dunes) have been identified as falling into one of two general categories: direct or indirect for mitigation. These categories are based upon discussions with MA MassDEP and other regulatory agencies specific to characterizing impacts associated with the installation and maintenance of the safety/security fence. Agreement was also reached on what would be considered negligible impacts.

- Direct Impacts. The term Direct Impact identifies alterations which would involve permanent fill (e.g., from fence posts), and areas of vegetation management that would significantly alter the plant community within the clear areas along the fence. For instance, vegetation management where the wetland plant community would be appreciably altered from an existing forested community (PFO) or a dense shrub community (PSS) to one that is permanently maintained as a low-growing plant community has been included as a direct impact.

- **Indirect Impacts.** Indirect impacts, while modifying the vegetation communities, would not significantly alter the wetlands or dunes and would not impair the ability of these resource areas to continue to provide the same or similar functions and values as those provided by these areas prior to disturbance. An example of indirect impacts may be reducing the height of shrubby vegetation, but still maintaining a shrub swamp community.
- **Negligible Impacts.** Areas of minimal, if any, vegetation cutting and maintenance would not be considered an impact. For example, when the fence alignment would traverse existing low-growing plant communities, this area would not be included as an impact (but for the impacts associated with the fence posts, which area accounted for as Direct Impacts). In addition, vegetation management practices that would necessitate the cutting of *Phragmites* within the wetland along the fence alignment would not be considered an impact. *Phragmites* is currently cut by the Airport in the ILS area and the plant is also cut by other agencies for mosquito control or drainage.

The proposed fence will result in unavoidable impacts to resource areas, including the direct alteration of 1,152 SF of BVW, 25,648 SF of isolated freshwater wetlands, and 8,060 SF of coastal dune. Long-term maintenance of a low-growing shrub or herbaceous plant community within a four-foot wide strip on either side of the fence (i.e., an eight-foot wide strip) will indirectly impact BVW, isolated freshwater wetlands, and coastal dunes. Table 3 summarizes the various direct and indirect impacts; Figure 15 provides a visual depiction of these areas. In addition, the project team prepared a visual presentation of the impacted areas based upon the preferred alternative (“Concept 6”), which is included as Attachment 3.

Table 4. Breakdown of Fence Impacts by Resource Area and Vegetation Cover

FENCE IMPACTS BY VEGETATION COVER					
	BVW	IVW	Dune	Grassland	Gravel
Vegetation Community Type:	Area (SF)	Area (SF)	Area (SF)	Area (SF)	Area (SF)
Open Dune or Open Herbaceous	(2,812)	(3,744)	(22,324)	(1,852)	(708)
Low shrubs (PEM/PSS)	(952)	(208)	(1,704)	--	--
Dense Shrubs (PSS)	--	12,288	2,180	--	--
Pitch Pine w/o understory (PFO)	1,152	12,632	5,216	--	--
Dense Pitch Pine & Shrubs (PFO)	--	728	664	--	--
<i>Phragmites</i>	(5,208)	--	--	--	--
TOTAL TO BE CUT*:	1,152	25,648	8,060	--	--
Total Area to Be Cut (DIRECT)	1,152	25,648	13,440		
INDIRECT/SECONDARY	8,972	3,952	24,028	1,852	708
<i>Phragmites</i> (to be cut)	5,208	--	--	--	--

*Note areas of Open Dune or Open Herbaceous vegetation or Low-growing Shrubs (in parentheses) are not anticipated to be directly impacted by the fence, as these areas would not need to be cut to maintain a clear area along the fence.

5.8 Expand Auto Parking – Phase I

The expansion of the auto parking area is proposed to meet existing and projected parking needs assessed during the CIP master planning. Phase I of the parking lot expansion (the only portion proposed for permitting at this time) will involve the construction of 28 additional spaces adjacent to the existing parking lot and reconstruction of a portion of the deteriorating Airport Road. The proposed parking area will be constructed with a permeable paved drive aisle (or equivalent) and gravel paver parking spaces. These pervious surfaces will allow for infiltration and groundwater recharge. In addition, a bioretention system with two forebays will provide stormwater management and water quality treatment for larger storms that do not infiltrate directly through the porous pavement system and will serve as backup to the porous pavement system. A brief discussion of the proposed Stormwater Management is provided below in Section 7.5. Additional details are provided in the attached Stormwater Report (Attachment 8) and on the project plans. In addition, the Airport will provide landscape buffers to screen the new parking areas.

Alternatives to the Phase I parking lot design and configuration were analyzed, including the No Action alternative. Phase I is designed to address the current parking demand³. As an adjunct element to Phase I, efforts to reduce demand by improving awareness of the shuttle system, encouraging the use of taxis, and working with NPS to explore the use of remote lots for long term parking may possibly reduce or delay the need for Phase II. Only after additional parking studies are conducted and subsequently reviewed and approved by NPS and CCC, would the second phase be proposed. As presented in the MEPA/NEPA documents, the phases were intended to be permitted separately so that each phase could be evaluated independently, but



Photo 6. Example of a bioretention area constructed within a coastal dune setting, Sandy Neck Beach, Barnstable, MA. Photo credit Horsley Witten Group.

to allow for an understanding of the entire project.

Phase I of the proposed parking lot expansion will result in alterations to approximately 15,100 SF of coastal dunes. Graded areas and the proposed bioretention cells will be vegetated with native dune plantings to minimize the visual impacts and help blend the stormwater structure into the surrounding dune area. An example of such design is depicted in Photo 6.

³ Phase II would construct additional parking spaces along Airport Road.

5.9 Expand Turf Apron

The existing turf apron is not able to accommodate all parking aircraft outside of the Taxiway Object Free Area (TOFA) during the peak season. The turf apron expansion will be situated between the two existing turf apron parking areas adjacent to the parallel TW (Taxiway A). The area will be reinforced to support light, single-engine GA aircraft.

Approximately 16,780 SF of existing managed cultural grassland habitat will be temporarily impacted during construction, and will be restored to managed grassland habitat.

Table 5. Breakdown of Proposed Resource Impacts and Proposed Mitigation Measures for Preferred Alternatives for CIP Projects

ISOLATED FRESHWATER WETLANDS (Various)				
DIRECT FILL IMPACTS			PROPOSED MITIGATION	
PROJECT	IMPACT AREA	FUNCTIONS AND VALUES	DESCRIPTION OF PROPOSED MITIGATION	AREA OF PROPOSED MITIGATION
Westerly TW System Improvements	29,191 SF / 0.67 ac (Wetland I)	flood storage/flood control; groundwater and water quality; wildlife habitat	Wetland Restoration (Areas A & C)	80,000 SF (1.84 ac)
Relocate East End TW	28,110 SF / 0.65 ac (Wetland B)	flood storage/flood control; groundwater and water quality; wildlife habitat; rare species breeding habitat (ES)		
Construct Service Access Road AWOS Road	335 SF / 0.01 ac (Wetland H)			
TOTAL DIRECT FILL	57,636 SF / 1.32 ac	--		
SECONDARY IMPACTS (Change in Vegetative Community)			PROPOSED MITIGATION	
Install Perimeter Fence	12,288 SF / 0.28 ac PSS	flood storage/flood control; groundwater and water quality; wildlife habitat; potential rare species breeding habitat; avoids prime ES breeding habitat	Wetland Enhancement (Wetlands B, H, and I)	616,350 SF (14.2 ac)
	728 SF / 0.02 ac (PFO, shrub understory)			
	12,632 SF / 0.29 ac (PFO, open understory)			
TOTAL SECONDARY IMPACTS	25,648 SF / 0.59 ac	--		
INDIRECT IMPACTS			PROPOSED MITIGATION	
Install Perimeter Fence	3,952 SF / 0.09 ac (PEM/low-growing PSS)	flood storage/flood control; groundwater and water quality; wildlife habitat; potential rare species breeding habitat	Wetland Enhancement (Wetlands B, H, and I)	616,350 SF (14.2 ac)
TOTAL INDIRECT IMPACTS	3,952 SF / 0.09 ac	--		

For permitting purposes, direct fence impacts within BVW have been calculated based upon direct fill for the fence posts and conversion of forested and dense shrub areas to low growing communities as a result of long-term vegetation management. Additional impacts to 5,208 SF of a *Phragmites australis* monoculture will be mitigated through wetland enhancement activities.

EBT = Eastern Box Turtle Habitat
 ES(B) = Eastern Spadefoot Toad Breeding Habitat
 ES(N) = Eastern Spadefoot Toad Non-Breeding Habitat
 VS = Vesper Sparrow Habitat

Table 5 (cont.). Breakdown of Proposed Resource Impacts and Proposed Mitigation Measures for Preferred Alternatives for CIP Projects

BORDERING VEGETATED WETLANDS (Wetland C/J/FK)				
DIRECT FILL IMPACTS			PROPOSED MITIGATION	
PROJECT	IMPACT AREA	FUNCTIONS AND VALUES	DESCRIPTION OF PROPOSED MITIGATION	AREA OF PROPOSED MITIGATION (SF)
Westerly TW System Improvements	274 SF / 0.01 ac	flood storage/flood control; groundwater and water quality; wildlife habitat	Wetland Restoration (Area C)	5,000 SF / 0.11 ac
Improve Access Road to Approach Lights (MALSF)	238 SF / 0.01 ac	flood storage/flood control; groundwater and water quality; wildlife habitat; rare species habitat (EBT)		
TOTAL DIRECT FILL	512 SF / 0.01 ac	--		
INDIRECT IMPACTS			PROPOSED MITIGATION	
Install Perimeter Fence	1,152 SF / 0.03 ac			
TOTAL DIRECT FILL	1,152 SF / 0.03 ac	--		
SECONDARY / IMPACTS			PROPOSED MITIGATION	
Install Perimeter Fence	5,208 SF / 0.12 ac (<i>Phragmites</i>)	flood storage/flood control; groundwater and water quality; wildlife habitat	Wetland Enhancement (Wetlands B, H, and I)	616,350 SF / 14.2 ac
TOTAL INDIRECT IMPACTS	8,972 SF / 0.21 ac			

For permitting purposes, direct fence impacts within BVW have been calculated based upon direct fill for the fence posts and conversion of forested and dense shrub areas to low growing communities as a result of long-term vegetation management. Indirect impacts include areas that may not be cut initially, but occur within the cleared access way. Additional impacts to 5,208 SF of a *Phragmites australis* monoculture will be mitigated through wetland enhancement activities.

EBT = Eastern Box Turtle Habitat
 ES(B) = Eastern Spadefoot Toad Breeding Habitat
 ES(N) = Eastern Spadefoot Toad Non-Breeding Habitat
 VS = Vesper Sparrow Habitat

Table 5 (cont.). Breakdown of Proposed Resource Impacts and Proposed Mitigation Measures for Preferred Alternatives for CIP Projects

COASTAL DUNE				
DIRECT IMPACTS			PROPOSED MITIGATION	
PROJECT	IMPACT AREA	FUNCTIONS AND VALUES	DESCRIPTION OF PROPOSED MITIGATION	AREA OF PROPOSED MITIGATION
Westerly TW System Improvements	5,567 SF / 0.13 ac	wildlife habitat; rare species habitat (EBT, ES(N))	Dune Creation Areas A & C	36,000 SF (0.83 ac)
Construct LES Service Access Road	4,768 SF/ 0.11 ac			
Construct AWOS Service Access Road	6,595 SF/ 0.15 ac			
Expand Auto Parking (Phase 1)	7,315 SF / 0.17 ac			
TOTAL DIRECT FILL	44,871 SF / 1.03 ac			
Install Perimeter Fence	2,180 SF / 0.05 ac dense shrubs	wildlife habitat; rare species habitat (EBT, ES(N))	On-site Dune Enhancement	TBA
	664 SF / 0.02 ac forested – open understory			
	5,216 SF / 0.12 ac forested – shrubs			
TOTAL DIRECT IMPACTS	8,060 SF / 0.19 ac			
INDIRECT IMPACTS			PROPOSED MITIGATION	
Install Perimeter Fence	24,028 SF / 0.55 ac	wildlife habitat; rare species habitat (EBT, ES(N))	On-site Dune Enhancement	TBA
TOTAL INDIRECT IMPACTS	24,028 SF / 0.55 ac			

For permitting purposes, direct fence impacts within coastal dunes have been calculated based upon direct fill for the fence posts and conversion of forested and dense shrub areas to low growing communities as a result of long-term vegetation management.

EBT = Eastern Box Turtle Habitat
 ES(B) = Eastern Spadefoot Toad Breeding Habitat
 ES(N) = Eastern Spadefoot Toad Non-Breeding Habitat
 VS = Vesper Sparrow Habitat

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6.0 AFFECTED RESOURCES

A total of 1.95 acres of freshwater wetlands (BVW and IVW) and 1.03 ac of low-lying coastal dunes will be directly impacted as a result of all proposed project elements. No net loss of cultural grasslands will occur, although the grasslands will be reconfigured somewhat.

Direct and indirect or temporary impacts associated with construction activities will be mitigated accordingly, so as to achieve no net loss of the functions and values of the affected wetlands as a result of the CIP projects. A brief discussion of the impacted resources as well as an overview of the various proposed mitigation measures is presented below. Additional details regarding the proposed wetland mitigation plan are provided in Attachment 9.

6.1 Isolated Freshwater Wetlands

A total of 1.91 acres (83,284 SF) of isolated freshwater wetlands will be altered as a result of CIP project elements. Indirect impacts to freshwater wetlands include alterations of 0.09 ac of isolated vegetated wetlands and 0.21 ac of BVW Impacts will occur within portions of Wetland B, Wetland C, Wetland H, Wetland I, Wetland DM, Wetland BC/F, Wetland E/DD, Wetland DB/F/G, and Wetland L.

- Wetland B is an isolated wetland habitat located to the southeast of the Airport terminal and hangar building. An existing gravel path traverses this wetland east of Taxiway B. This wetland is characteristic of a scrub-shrub/emergent palustrine habitat (PSS/PEM). Plant species documented within Wetland B include American cranberry, highbush blueberry, dangleberry (*Gaylussacia frondosa*), meadowsweet (*Spiraea latifolia*), winterberry, pitch pine, willow (*Salix* spp.), various sedges and rushes, and patches of *Phragmites*. Wetland B has a non-tidal seasonally- or temporarily-flooded water regime and the western portions of this wetlands fall within Airport managed areas.



Photo 7. Eastern portions of Wetland B adjacent to existing gravel path. The proposed fence would traverse a portion of the gravel area to reduce resource area impacts. Photo Horsley Witten Group.

- Wetland I is non-tidal and has a seasonally or temporarily-flooded water regime that is confined by the runway and Taxiways A, C, and D, and buffered from impervious surfaces by

managed grasslands. Vegetation within Wetland I is characteristic of a transitional wet meadow/emergent marsh (PEM) shrub swamp (PSS) dominated by chokeberry (*Aronia* spp.), meadowsweet, steeplebush (*Spiraea tomentosa*), dwarf huckleberry, maleberry (*Lyonia ligustrina*), highbush blueberry, American cranberry, northern bayberry, and poison ivy (*Toxicodendron radicans*). Herbaceous species observed within Wetland I include, but are not limited to, woolgrass (*Scirpus cyperinus*), clumps and patches of sensitive fern (*Onoclea sensibilis*), royal fern (*Osmunda regalis*), soft rush (*Juncus effusus*), various goldenrods (*Solidago* spp.), and sphagnum moss (*Sphagnum* spp.). Patches of *Phragmites* and lesser amounts of purple loosestrife (*Lythrum salicaria*) are also present. Vegetation within Wetland I is managed as part of the Airport operations (see Photo 1).

- Wetland H is similar to Wetlands B and I in that it is a transitional wet meadow/scrub-shrub habitat. Wetland H is confined by the runway and Taxiways A, B, and C and physically



Photo 8. Wetland H is located between Runway 7-25 and Taxiways B, C, and A and is managed regularly to maintain safe conditions within the airfield. Photo Horsley Witten Group.

separated from Wetland B by Taxiway B. The plant community consists primarily of chokeberry, winterberry, meadowsweet, steeplebush, highbush blueberry, American cranberry, bayberry, and poison ivy. Commonly observed plant species along the wetland periphery include winged sumac (*Rhus copallinum*), bayberry, and little bluestem (*Schizachyrium scoparius*). As with Wetlands B and I, this wetland is non-tidal and has a seasonally- or temporarily-flooded water regime, and is also within the Airport managed areas.

The following isolated wetlands would be impacted by the fence only. Locations of these wetland areas can be found on Figure 15.

- Wetland C is an expansive, yet isolated, freshwater wetland located north of Taxiway A. The easternmost portions of this wetland area are characteristic of an emergent marsh/scrub-shrub community. Commonly observed plant species included winterberry, arrowwood (*Viburnum dentatum*), meadowsweet, blue-joint (*Calamagrostis canadensis*), American cranberry, and rose (*Rosa* spp.). Lesser amounts of purple loosestrife, wide-leaf cattail, and woolgrass were also observed. Areas closer to Taxiway A are managed as part of the Airports vegetation management program. Eastern portions of Wetland C, closer to the Airport terminal and parking lot and outside of the managed areas are dominated by

taller shrubs, including willow (*Salix* spp.), and are more characteristic of a transitional shrub swamp-forested palustrine habitat (PFO). Wetland C is non-tidal and with a seasonally- or temporarily-flooded water regime.

- Wetland DM is a small isolated wetland defined by just four flagging stations. Vegetation within this open marsh is limited to black rush (*Juncus gerardii*) and twig-rush (*Cladium mariscoides*). Wetland DM is an example of a wetland alteration that would be minimal, confined to the installation of fencepost(s), but not requiring vegetation management in order to maintain a clear corridor along the fence.
- Wetland BC/F is an extensive wetland with a meandering wetland boundary marked by over 400 flags and encompassing a large portion of the southeastern corner of the Airport lease area. At least four substantial coastal dune islands were located within the interior of Wetland BC/F. This isolated wetland area consists of a transitional shrub swamp/forested swamp with areas of emergent marsh along the wetland exterior in more open areas that are dominated by twig-rush, black grass, and woolgrass. The vegetative community within the interior consists of a canopy of pitch pine with clumps and patches of highbush blueberry, American cranberry, sphagnum moss, and bayberry. Areas adjacent to these wetland areas that are at slightly higher ground elevations are low-profile coastal dune habitats dominated by American beachgrass, scrub oak (*Quercus ilicifolia*), beach plum (*Prunus maritima*), bearberry, bayberry, and common hairgrass (*Deschampsia flexuosa*). These wetlands are non-tidal and support a seasonally- or temporarily-flooded water regime.

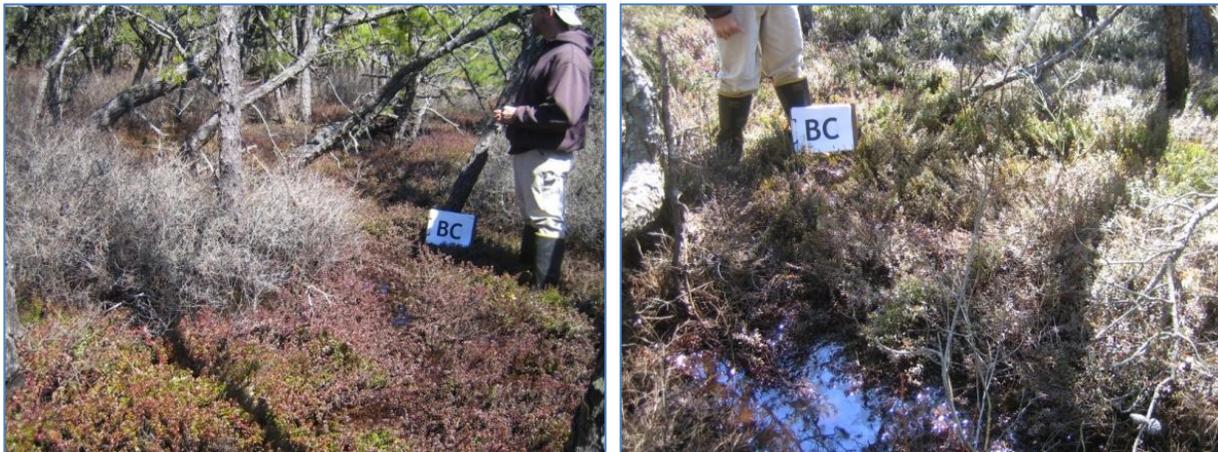


Photo 9. Wetland BC/F depicting varying habitats within this extensive wetland. Photos Horsley Witten Group.

- Wetland E/DD is a large isolated wetland area located in the northeastern portion of the Airport. The dominant vegetation within this open forested community includes American cranberry, black grass, and twig-rush with a pitch pine canopy.

- Wetland DB/F/G is also an expansive wetland that incorporates several small upland islands of secondary coastal dune. Vegetation within this transitional forested wetland included a canopy of pitch pine, with dense carpets of American cranberry, scattered clumps of woolgrass, black grass, twig-rush, and patches of sphagnum moss. Portions of this extensive wetland also support highbush blueberry.



Photo 10. Open portions of Wetland DB/F/G dominated by American cranberry and herbaceous vegetation. Photo Horsley Witten Group.

- Wetland L is an expansive wetland area located to the south/southeast of the runway. Portions of Wetland L extend into the runway vegetation management area and are dominated by a relatively low-growing shrub community. In these areas, a combination of herbaceous and shrub-dominant plant communities exists. Shrub species including highbush blueberry, winterberry, chokeberry, arrowwood, and bayberry are common. Herbaceous vegetation in these areas consists primarily of various sedges and



Photo 11. Wetland L near the managed areas of the Airport. Photo Horsley Witten Group.

rushes as well as an abundance of American cranberry. Areas more distant from the runway consist of a forested community dominated by pitch pine that forms a wetland mosaic within the extensive pitch pine-forested habitats to the southeast of the runway. The typical plant community in the understory is composed primarily of highbush blueberry, American cranberry, and woolgrass. This non-tidal wetland experiences a seasonally- or temporarily-flooded water regime.

6.2 Bordering Vegetated Wetlands

Approximately 0.04 acres (1,664 SF) of BVW (Wetland C/J/FK) will be altered.

- Wetland C/J/FK is a tidally-influenced BVW, and evidence of dieback due to an increase in salinity from the Hatches Harbor project has been observed. Vegetation within Wetland

C/J/FK includes winterberry, highbush blueberry, arrowwood, meadowsweet, American cranberry, and Virginia rose (*Rosa virginiana*). Lesser amounts of purple loosestrife, wide-leaf cattail, and woolgrass are also present, along with significantly large communities of common reed to the north and west of the parallel Taxiway.



Photo 12. Various vegetation communities represented by Wetland C/J/FK. General habitat along MALSF where proposed turnaround area is located is dominated by *Phragmites*. Vegetation is managed along approach light system for safety purposes. Photo at left Horsley Witten Group; photo at right Jacobs.

6.3 Coastal Dunes

A total of 1.03 acres of direct coastal dune impact and an additional 0.55 ac of indirect impacts to coastal dunes is associated with the CIP project elements.

As noted above, secondary coastal dunes found within the Airport Area generally exhibit low topographic relief (e.g., one to three feet above the elevation of adjacent wetlands and/or Airport infrastructure), and are often interspersed with low-lying wetland areas. These dunes are generally stable as a result of often dense vegetative cover, and are not actively migrating. Woody vegetation, such as pitch pine or oak, within these dunes is maintained by the Airport, and as a result, the community generally consists of low-growing shrubs, such as golden heather and bearberry, low-growing bunch-forming grasses, low-growing herbaceous species, intermingled with patches of lichen. Occasional bare patches of sand also occur within these low-lying dunes (Photo 13). These dunes are also typically bounded by managed facilities, structures, and mowed grassland safety areas (referred to as Cultural Grasslands) that flank the runway and taxiways, and instrument landing system.



Photo 13. Example of coastal dunes located within the active or otherwise maintained areas of the Airport. Coastal dunes in these locations exhibit generally low topographic relief and are vegetated with low-growing shrubs or grass and herbaceous species. Photo credit: Horsley Witten Group.

The project team presented a technical memorandum regarding the impacts to the coastal dunes in the context of the larger dune system within the CCNS. It is anticipated that the Provincetown Conservation Commission, in consultation with the Massachusetts Department of Environmental Protection (MA MassDEP) will find that the proposed impacts to coastal dunes resulting from the implementation of the CIP Project will result in no adverse effect to this resource area. A copy of the technical memorandum was forwarded to the CCC, and is provided as Attachment 10.

6.4 Coastal Floodplain

Cumulatively, implementation of the Preferred Alternatives would result in alterations to approximately 2.34 acres (101,915 SF) of coastal floodplain, which includes and overlaps with direct alterations to freshwater wetlands and coastal dunes, all of which also occur within the coastal floodplain. Aside from the No Action alternatives, none of the CIP project elements proposed at the Airport, has an available alternative that would result in less direct impact within the coastal floodplain. All project elements must logically be sited within the coastal floodplain in order to meet the purpose and need of each project element.

There are approximately 81,053,049 SF, or 15,536,110 cubic yards (CY), of available flood storage volume at the Airport. This flood storage area was calculated converting LiDAR (Light Detection And Ranging) data to a terrain model surface within the limits of Race Point Road and the two major dune ridges on either side of the airfield to define the storage area. Given this magnitude and its location well within the “backwater” area of Hatches Harbor, the proposed fill required will have virtually no change on the velocity of flood waters or result in an increase in flows or flow characteristics at the Airport. In addition, there will be no new impacts to the surrounding resource areas or on adjacent properties (e.g., on NPS facilities) and no impacts to the flood storage capacity of the coastal floodplain at the Airport.

7.0 MITIGATION MEASURES

Several of the CIP project elements will result in unavoidable alterations to freshwater wetlands (isolated and/or bordering) as well as to coastal dunes and cultural grasslands (e.g., buffer zones). Impacts will occur within mapped rare species habitat. The unique environmental setting of the Airport, specifically the abundance and proximity of resource and habitat areas to one another and their overlapping nature, have made project design and the avoidance of natural resources challenging. However, the Airport has designed all project elements to avoid and minimize impacts to natural resources to the fullest extent practicable in order to preserve and protect the functions and values of the resource areas and habitats without incurring a substantial hardship, while still addressing the FAA, TSA, and MassDOT safety and security directives. Project impacts are unavoidable, primarily due to the fact that the improvements to the Airport must occur within discrete locations (i.e., the taxiway realignments must occur within a certain portion of the taxiway, not in an alternative location outside the vicinity of the airfield), and are held to FAA-regulated standards.

The CIP projects contribute to the general public good and safety. The Airport has developed a comprehensive and integrated mitigation package through coordination with NPS, the Corps, MA MassDEP, NHESP, CCC, and the Provincetown Conservation Commission, along with other pertinent regulatory entities in order to compensate for direct and indirect impacts to wetlands and other protected resource areas.

Proposed mitigation measures include on-site in-kind wetland restoration and replacement, on-site wetland enhancement, construction management including implementation of an erosion and sedimentation control program and rare species protection plans, stormwater management including a net reduction of impervious surface of approximately 0.65 acres (34,011 SF), and implementation of an integrated vegetation management plan. No additional coastal floodplain will be impacted; there will be a net reduction of existing impervious surface at the Airport, which may provide some additional temporary flood storage during a major flooding event. These measures have been developed in order to address the various regulatory requirements for loss of wetland resource areas. As noted, site constraints limit the potential for on-site mitigation such that these are confined to areas of existing pavement that will be removed for the West End and East End Taxiway projects. In addition the presence of

invasive species encourages the implementation of an invasive species management program and wetland enhancement. A discussion of these various mitigation measures follows. Additional details are provided on the site plans and in the Attachments.

7.1 Wetland Mitigation – Restoration and Replacement

Wetland restoration plans have been developed in compliance with several regulations, performance standards, and guidance documents that relate to wetlands, including the Massachusetts Wetlands Protection Act, the Provincetown Wetland Bylaw, Sections 401 and 404 of the Clean Water Act, and the CCC Regional Policy Plan (RPP). Given the environmental constraints at the Airport, on-site wetland mitigation for direct impacts will occur primarily as wetland restoration in areas where existing impervious surfaces and fill will be removed. Indirect impacts as well as secondary impacts associated with the cutting of vegetation and long-term maintenance of vegetation communities along the fence will be mitigated through wetland enhancement, the integrated management of discrete populations of *Phragmites australis*, an invasive species in Massachusetts.

Wetland Restoration Overview

Relocation of the taxiways and subsequent reduction of the existing paved areas for TW A and Runway 7 allow for resource area restoration within the footprint of existing developed and paved areas. As proposed, wetland mitigation will result in a total of approximately 1.84 acres (80,000 SF) of restored freshwater wetlands (shrub swamp) at the Airport in two locations (Mitigation Areas A and C). Mitigation Area A would be located within the curved footprint of the existing West End TW adjacent to portions of Wetland C/J/FK and contiguous with Wetland I, while Mitigation Area C would be located within the footprint of the existing East End TW, south of the terminal apron and contiguous with Wetland H, as shown on the site plans. A third location, Mitigation Area B, would be located adjacent to the access road to the approach lights, to the southwest of the (abandoned) West End TW. Mitigation Area B would be contiguous with Wetland C/J/FK and would restore approximately 0.11 acres (5,000 SF) of BVW, resulting in a net gain of 0.06 acres (2,888 SF). Each of these areas is highly suitable for wetland restoration due to their proximity to existing wetlands and the existing shallow groundwater table, and will result in a total of 85,000 of restored wetlands at the Airport.

Restoration Process

The wetland mitigation methodology is modeled from the Massachusetts Inland Wetland Replication Guidelines (March 2002) prepared by the Massachusetts MassDEP, as well as the performance standards for wetland replacement in accordance with the Massachusetts Wetlands Protection Act regulations at 310 CMR 10.55(4)(b)(1 through 7), the Town of Provincetown Wetlands Bylaw (Chapter 12 of the General By-Laws of Provincetown), and the Corps' New England District Compensatory Mitigation Guidance and Mitigation Plan Checklist.

Wetland restoration activities will generally involve removal of existing pavement and gravel sub-base, excavation to appropriate sub-grade to intercept existing hydrology, incorporation of pit and mound microtopography to mimic existing conditions within lost wetland areas, re-introduction of native wetland vegetation (salvaged from lost areas and supplemented with native nursery stock), and long-term monitoring to ensure the successful establishment of a wetland plant community. A qualified wetland scientist will oversee wetland restoration efforts. Additional details of the wetland restoration activities are provided in Attachment 9.

7.2 Coastal Dune Mitigation

Coastal Dunes will be created by placing mounded sands in areas formerly occupied by impervious surfaces or grasslands followed by revegetation with pioneer species such as American beachgrass (*Ammophila breviligulata*) to stabilize the sand. Dune habitat will be created with on-site sands (from areas of proposed projects), supplemented as necessary with sediments compatible with existing aeolian sands at the Airport⁴.

Randomly spaced mounds of sand will be placed at elevations one to three feet above the existing grade, representative of the existing mosaic dune habitat encountered among the coastal interdunal swales at the Airport and within the airfield. The alignment and orientation of the created dunes will also be consistent with the configuration of the existing dune systems that currently run in a series of bands from east to west.

Following the placement of sands, these areas will be planted primarily with American beachgrass and supplemented with additional herbaceous material and low-growing shrubs as observed within undisturbed dune areas interspersed among the isolated wetlands at the Airport. When feasible, vegetation within the existing dune habitat to be impacted will be salvaged and transferred to the created dune habitat, providing an existing natural seedbank and rootstock. Proposed species to be planted along the lower elevations of the created dunes include switch grass, beach pea (*Lathyrus japonicus*), beach heath, Virginia rose (*Rosa virginiana*), and bayberry, or other acceptable equivalents. Planting specifications are provided on the project plans. This assemblage of species observed within other dunes at the Airport, will provide wildlife habitat value, replacing lost habitat due to implementation of the CIP projects.

In locations where dunes will be created immediately adjacent to restored wetlands, the dune area will be created and planted prior to the creation of the wetland pit and mound microtopography and introduction of plantings to mitigation area and a row of erosion control material (siltation fencing or straw wattles) will be placed at the toe of the newly created dune area to protect the wetland from sedimentation while vegetation becomes established enough

⁴ If additional material is needed, the contract documents will require that the source of the sand be compatible with existing sediments at the Airport and the source will be certified that it does not contain archaeological resources or non-native plant seeds.

to stabilize the created dunes. Once the dunes are stabilized, the siltation barrier will be removed, minor raking and supplemental plantings (if deemed necessary) will be performed.

As with the wetland mitigation areas, a qualified professional will oversee all phases of the dune creation to ensure that all dune creation activities are carried out in accordance with the permitted mitigation plan. This individual will have experience in coastal geomorphology or in dune creation, and will have the discretion to make site-specific adjustments during construction to ensure that the resultant coastal dune will function as designed upon full growth. A monitoring plan similar to that for the wetland restoration areas will be implemented to ensure the successful establishment of the created dune communities. The monitoring plan for the created dune areas will entail annual monitoring and reporting as required by the various regulatory agencies, to occur in conjunction with other monitoring activities, and will include provisions for implementation of corrective measures, if necessary, to ensure the successful establishment of dune habitat.

7.3 Cultural Grassland Mitigation Methodology

Areas of Cultural Grassland are located along the shoulders of Runway 7-25, and the taxiways with more substantial areas near the glide slope approach (southeast of Runway 7; see Photo 4). Following reconfiguration of the taxiways, these areas will be restored or replaced in kind as shown on the project plans and in Figure 16. Re-establishment of Cultural Grassland will generally involve the reseeded of graded shoulders along each of the reconfigured paved areas and re-seeding with a native seed mix, such as the “New England Coastal Salt Tolerant Grass Mix,” or a similar custom seed mix that contains a variety of native grasses that are similar in species or growth form to that which exists currently. This custom seed mix is commercially available⁵ and includes native species similar to those found within the existing Cultural Grasslands at the Airport, including Canada wild rye (*Elymus canadensis*), creeping red fescue (*Festuca rubra*), big bluestem (*Andropogon gerardii*), little bluestem, Indian grass (*Sorghastrum nutans*), side oats grama (*Bouteloua curtipendula*), switch grass, and sand dropseed (*Sporobolus cryptandrus*)⁶. The seed mix will be applied at the recommended application rate and will be lightly raked in and covered with a light mulching of seed-free straw to conserve moisture during germination.

Following successful re-establishment of the created grasslands there will be no net loss of cultural grassland or the potential habitat it provides.

7.4 Invasive Species Integrated Management Plan and Resource Enhancement

As noted within the wetland descriptions, both *Phragmites* and purple loosestrife are currently present in some of the wetland areas. In addition, spotted knapweed has been observed within some of the coastal dune areas within the airfield areas and near the parking lot. These

⁵ New England Wetland Plants, Inc. (www.newp.com)

⁶ According to the website, exact seed mixes composition is subject to seed availability.

species, identified as invasive or likely invasive within the state of Massachusetts, are required to be addressed as part of the DRI Technical Bulletin 01–001: Guidelines for Invasive Plant Species Management Plan as well as part of the Mitigation Plan required by the Corps and MassDEP for the WQC.

Details of the management approach for these invasive species are provided in the Draft Invasive Species Management Plan (Attachment 11), which provides a background on the biology of each species, a discussion of the various methods of management based upon studies conducted by research scientists and land managers throughout the U.S. and worldwide, and identifies the preferred management technique at the Airport. The Plan identifies the most appropriate and preferred method of control for each species that ensures greater success in management, and that also comply with NPS policies on land management and other regulatory agency requirements. The Plan also discusses restoration of the native plant communities.

The proposed wetland enhancement plan is in addition to the invasive species management that is required within areas of wetland restoration. Wetland enhancement activities are specifically tied to the management of *Phragmites*, within Wetlands H and I, and will involve implementation of the preferred management method, overplanting with native species, and long-term monitoring to track the successful regeneration of native plant communities within wetland areas currently supporting populations of *Phragmites*. Figure 17 depicts the surveyed locations of existing *Phragmites* populations within the inner airfield.

7.5 Stormwater Management

Existing Conditions

Approximately six percent of the 331-acre airport site is paved. Stormwater runoff from the facility is discharged on site through runoff infiltration. The Airport is located within the CCNS, and as such all waters (and wetlands) in and adjacent to the CCNS are designated Outstanding Resource Waters (ORW) pursuant to the regulations at 314 CMR 4.06, Cape Cod Coastal Drainage Area. Stormwater runoff from the runway, taxiways, GA paved apron, and most of the terminal apron drains via sheet flow to surrounding grass areas, and infiltrates to underlying sandy soils. Salt and sand are not applied by the Airport to these paved areas.

Roof drains from the terminal building, hangar, and equipment garage all flow to the ground and either drain off the pavement and infiltrate into the ground or flow into the catch basins. The stormwater drainage system on the terminal apron towards the ARFF/SRE garage consists of two catch basins, associated outfalls, and a trench drain, which drains into the outflow pipe for one of the catch basins. These structures collect sheet flow from small areas of the apron in front of the terminal and ARFF/SRE garage to prevent flooding and/or icing. The catch basins and trench drain have been fitted with a filtration system to intercept petroleum-based pollutants from the stormwater runoff. The filtration system contains adsorbent material that is an inert blend of minerals known as amorphous alumina silicate, which removes pollutants.

There are two automobile parking lots on the Airport property. The main parking lot, located on the north side of the terminal building, has paved traffic aisles with the parking spaces and median unpaved. The median is also equipped with a gravel swale to facilitate drainage. The smaller lot, for employee parking was constructed in a similar manner.

Proposed Conditions

The Phase 1 parking area is designed to meet the Massachusetts Stormwater Management Standards for new development. Stormwater from the proposed expansion of the main parking lot will be managed with porous pavement and a bioretention facility with pre-treatment forebays. The proposed drive aisle will be paved in porous asphalt and the parking stalls will be constructed of a porous gravel paver system. These features have been incorporated to directly infiltrate water where it falls on the pavement surface and temporarily store it in the stone reservoir prior to infiltration to the underlying sandy soils. A bioretention system with two forebays will serve for stormwater management and treatment for larger storms that do not infiltrate directly through the porous pavement system and will serve as backup to the porous pavement system. Runoff that does not infiltrate directly through the porous pavement system will be conveyed via overland flow to forebays and a bioretention cell for treatment. The bioretention system has also been sized to manage runoff from the portion of existing Airport Drive draining to the site.

The bioretention area will be planted with a combination of native species compatible with the surrounding landscape to enable the bioretention area to blend into the surrounding coastal dune area. Species tolerant of occasional inundation, and well drained soils, including but not limited to, bayberry, Virginia rose (*Rosa virginiana*), switch grass (*Panicum virgatum*), and dwarf huckleberry, will be planted within the bioretention area, with American beachgrass, bearberry, seaside goldenrod (*Solidago sempervirens*), beach heath and little bluestem (*Schizachyrium scoparius*) planted along the side slopes. In addition, landscape plantings will be introduced within the surrounding dune areas to screen the expanded parking area from Park users along Race Point Road and the nearby CCNS bike path. Landscape plantings were also selected to blend into the surrounding dune areas, and include pitch pine, eastern red cedar (*Juniperus virginiana*), sea myrtle, bayberry, beach plum, American beachgrass, and bearberry.



Photo 14. Example of a bioretention area constructed within a coastal dune setting. Sandy Neck Beach Park, Barnstable, MA. Photo credit Horsley Witten Group.

Details of the proposed stormwater management are provided within the project plans (Sheets 9 through 11). Attachment 8 contains the MA Stormwater Checklist, stormwater report, and a discussion of how the project is designed to meet the MA Stormwater Management Standards.

7.6 Erosion and Sedimentation Control

The Airport proposes to implement an Erosion and Sedimentation Control program for each project element to protect adjacent undisturbed resources during and immediately following construction activities. Erosion controls consisting of silt sock will be installed and staked in place prior to commencement of any work associated with a given project element. Erosion controls will serve as the limit of work. Alternative erosion control barriers may be required, such as siltation fencing and/or straw bales, to serve as wildlife diversions in accordance with rare species protection measures, and will be coordinated through NHESP. Erosion control measures will remain in place and maintained in good condition until all disturbed areas are stabilized with vegetation.

7.7 Rare Species Protection Plans

As discussed above, the Airport is mapped for three State-listed rare species, whose habitat requirements overlap with the habitat provided within the natural resources at this site. The Airport has undergone a MESA Project Review with NHESP and has been issued a conditional “no take” approval from NHESP. Attachment 5 provides additional information on the rare species habitat, including a copy of the MESA letter, copies of the NHESP Fact Sheets for the three species, and draft Rare Species Protection Plans, which will be further developed and refined in conjunction with NHESP in order to ensure the short- and long-term protection of rare species and their habitats.

7.8 Construction Management Plan

All construction other than paving operations will be conducted during the Airport’s off season, approximately after the first week of September (Labor Day) and prior to April 15th to minimize disruption to rare species during their most active times of year. Paving is anticipated to be conducted through May, as the availability of asphalt plants is tied to the typical schedule for asphalt plants in the region, which typically do not begin production until mid-April

A Construction Management Plan for Environmental Compliance will be developed with bid specifications, and will include specifics on construction timing and methodology, as well as additional measures designed to protect the natural resources at the Airport prior to, during, and immediately following construction. Elements to be included within the Construction Management Plan would include the following:

- Construction timing (as discussed);
- Rare Species Protection Plans for each Project element – a draft of these plans is provided, and will be finalized in conjunction with NHESP Attachment 5);

- Implementation of an Erosion and Sedimentation Control program (see Stormwater Management Report (Attachment 8));
- Construction Methods such as the use of hand equipment, driving of fence posts with an air compressor and elimination of the concrete footing for the posts where feasible, the use of wetland mats (“swamp mats’), designated construction access, stockpile locations, etc.; and
- Oversight by an Environmental Monitor with a schedule for overseeing construction activities and monitoring.

Prior to construction, the Airport anticipates attending pre-construction site walk(s) with regulatory authorities and other appropriate individuals to review construction details. Also anticipated is a pre-construction refinement of the exact location of the proposed fence. These measures are intended to further ensure the protection of natural resources and rare species habitat.

7.9 Vegetation Management Plan

Critical areas for aviation are managed at the Airport with a schedule for mowing and brush hog cutting as shown on Figure 16. At present, grass areas adjacent to the paved surfaces of the runway, taxiways, along the glide slope area and approach areas at the runway ends, and along an approximately 400-foot wide swath of *Phragmites* along the MALSF lights are mowed as needed, typically three to four times annually. Beyond the grass areas, woody vegetation between the taxiways and runway and to the south of the runway is mowed with a brush hog every one to three years to maintain the object-free zone around the critical areas.

The mowing plan was reviewed as requested by NHESP to see if there were any grassland areas outside of the Airport’s critical areas that could be mowed on a less-frequent schedule to enhance grassland bird habitat. Given the unique location of the Provincetown Municipal Airport and the small percentage of grassland at the Airport, the mowing schedule under proposed conditions is similar to the current schedule (Figure 16) although some of the areas will have shifted slightly.

8.0 COMPLIANCE WITH MINIMUM PERFORMANCE STANDARDS

While many of the Minimum Performance Standards (MPSs) and Best Development Practices (BDPs) identified in the current Regional Policy Plan (RPP) are not applicable to the proposed CIP Project, the Project is designed to meet the MPSs and BDPs when applicable. However, existing site constraints at the Airport, specific to the protection of freshwater and coastal wetlands and their respective buffer zones, would not allow for the project to be approved without relief from some of the MPSs.

As mentioned in the Design Narrative and listed in the Table I in that section, the Airport Commission seeks a Hardship Exemption for those MPSs that cannot be met due to existing conditions. Similarly, the Airport seeks to have the CCC invoke the RPP Flexibility Clause where

the proposed design cannot fully meet the required standards but will meet the intent of the provisions through alternative means.

In addition to Table 1 presented in the Design Narrative, Summary Table 6 (Attachment 12) lists all of the MPSs in the RPP and identifies which of the Minimum Performance Standards (MPSs) and Best Development Practices (BDPs) of the current Regional Policy Plan apply to the project. Applicable MPSs and BDPs, as well as those where a Hardship Exemption or Flexibility are being sought, are identified in Table 5. Those MPSs and BDPs that are not applicable are shaded in grey. Table 6 also discusses the CIP Project's consistency with the applicable MPS. Where needed, additional discussion is provided below. A request for invoking the Flexibility clause follows.

8.1 Further Discussion on Minimum Performance Standards

The following section provides an expanded discussion on how the CIP Project complies with certain applicable MPS. The section is organized by Issue Area of the RPP for those MPS that require more information than provided in Table 5.

Water Resources

The CCC has further characterized sensitive water resources in the RPP:

- The Airport falls within the Pilgrim groundwater lens, as depicted in Map WR1 in the RPP.
- According to Map WR2, the Airport is not within a Public Water Supply Wellhead Protection Area (Zone II) or a Potential Public Water Supply Area, nor are there any public supply wells or small volume wells located at or within the vicinity of the Airport lease area.
- The Airport does, however, fall within a Marine Water Recharge Area, according to Map WR3, and within an area designated as "*Water Quality Sampling for MEP Technical Analysis Underway and Coordinated with SMAST at UMass Dartmouth.*"
- The Airport is not within any freshwater resource or recharge areas as depicted on Map WR4.
- Map WR5 designates the area as containing Development, which consists of the Airport facilities.

Despite the unique location of the existing airport infrastructure within resource areas, the Airport CIP is in compliance with nearly all applicable MPSs pursuant to Water Resources (see Section 8 below). Additional discussion of how the proposed CIP project is in compliance with certain applicable standards is provided below.

WR1.1 Five-ppm Nitrogen Loading Standard:

All development and redevelopment shall not exceed a 5-parts per million (ppm) nitrogen loading standard for impact on groundwater unless an alternative standard applies in accordance with the water resources classification system as described in the Water Resources planning section found on p. 27. Guidance on methodology to meet this standard can be found in Cape Cod Commission Nitrogen Loading Technical Bulletin 91-001, as amended.

The proposed CIP project will not exceed the 5 ppm nitrogen loading standard. Under existing conditions, nitrogen loading is calculated at 0.39 ppm. The proposed reduction in impervious surfaces at the airport of 34,011 SF as well as the proposed Low Impact Development (LID) stormwater management practices will allow the Airport to maintain nitrogen loading levels well below this threshold, with a slight reduction (0.38 ppm). The use of permeable pavement or equivalent and bioretention areas associated with the proposed expanded parking lot will capture, treat, and infiltrate stormwater on-site. These practices are anticipated to maintain and/or improve the quality of local groundwater and surface water. The Stormwater Management Report is provided as Attachment 8. Nitrogen loading calculations at the Airport are provided in Attachment 13.

Coastal Resources

The unique setting of the Airport, situated between two coastal dune ridges and largely within the coastal flood zone requires special design considerations. Additional discussion of how the proposed CIP project is in compliance with certain applicable Coastal Resources standards is provided below

CR2.3 Migration of Coastal Resources

New development and redevelopment within the 100-year floodplain shall not impede the landward migration of resources, such as salt marshes, coastal dunes, coastal beaches, tidal flats, or coastal floodplain. The landward migration of coastal resources in response to relative sea-level rise shall be incorporated into the location, design, and construction of structures and other activities proposed.

The CIP project will not impede landward migration of coastal resources (specifically coastal dunes). While the tip of Cape Cod is comprised of an expansive coastal dune system of primary and secondary dunes, the Airport is situated further away from the immediate coastline among stable secondary dunes where wind-borne sands are less likely to shift and alter the topographic relief over time as is the case with primary dunes. Coastal dunes immediately surrounding the Airport where the majority of the CIP project elements are proposed are typically low-lying, and well-stabilized with vegetation and are not actively shifting or migrating (see Attachment 10 for additional information).

The only CIP element that would occur slightly beyond the immediate airfield and other Airport infrastructure is the perimeter fence. The fence will also be located among stable, secondary dunes, and the fencing materials will consist of a vinyl coated chain-link fabric with 2-inch mesh openings. It is not anticipated to have any adverse impacts on aeolian processes, particularly since the proposed fence is not the typical design intended for dune creation/stabilization (e.g., snow fencing).

CR2.4 Damage Prevention and Flood Minimization

To maintain the storm damage prevention and flood control functions of Land Subject to Coastal Storm Flowage (LSCSF):

- 1. No activity within a V-Zone shall increase the existing site elevations; and*
- 2. No activity within a V- or A-Zone shall increase the velocity of flood waters or increase flows due to a change in drainage or flowage characteristics on the subject site, adjacent properties, or any public or private way; and*
- 3. Placement of fill in hydraulically constricted areas shall not be permitted.*

No work is proposed within the velocity zone. A floodplain volume assessment was conducted (Attachment 14) to determine the impact, if any, of placement of additional fill material within LSCSF. Considerations for including its ability to provide flood control, and whether there would be any increase in velocity or change in flowage characteristics of floodwaters. It was determined that the fill within the coastal floodplain would account for approximately 0.015% of the available flood storage within the study area. Given this magnitude and its location well within the “backwater” area of Hatches Harbor, the proposed fill required to meet the standards for MPS CR2.4 will have virtually no change on the velocity of flood waters or result in an increase in flows or flow characteristics at the Airport. In addition, there will be no new impacts to the surrounding resource areas or on adjacent properties (see also Attachment 10). Overall, the Project will also result in a net reduction of impervious surface and fill within the coastal floodplain.

Wildlife and Plant Habitat

WPH1.3 Wildlife and Plant Habitat

Fragmentation of wildlife and plant habitat shall be minimized by the establishment of greenways and wildlife corridors of sufficient width to protect not only edge species but also species that inhabit the interior forest, as well as by the protection of large unfragmented areas, and the use of open space or cluster development. Wildlife shall be provided with opportunities for passage under or across roads and through developments where such opportunities will maintain the integrity of wildlife corridors. Fencing shall not be constructed so as to interfere with identified wildlife migration corridors.

In general, the CIP project elements are located immediately adjacent to existing airport infrastructure, or in some instances, will occur within the same footprint, and will thereby

generally avoid fragmentation of wildlife and plant habitat. The proposed perimeter fence is intended to protect airport safety areas from unauthorized human and wildlife incursions; by design, one of its primary purposes is to exclude larger mammals from entering airport safety zones. Approximately 113 acres of the 331-acre lease areas would be separated from remaining areas within the CCNS. The majority of this area (approximately 88 acres or 80 percent) consists of airport infrastructure (paved runway and taxiways, surrounding cultural grasslands, buildings, navigational aids, and managed safety areas). The fence is proposed as close to the existing runway as is allowed under FAA safety regulations, thus minimizing habitat fragmentation. In consultation with NHESP, the fence design also avoids prime breeding habitat for the Eastern Spadefoot, will not be entrenched, and will also incorporate passageway “gaps” along the bottom of the fence to allow for passage of Eastern Box Turtles and other small mammals, reptiles, and amphibians, while excluding larger mammals which can pose a threat to airport safety.

An eight-foot wide swath of vegetation will be cut and maintained as low-growing plant communities, which are anticipated to retain similar wildlife habitat values. Given the relatively narrow width of the maintained area on either side of fence, and considering the vast extent of these habitat types, this project element is not anticipated to fragment existing habitat or interfere with existing wildlife migration corridors, with the exception of purposefully excluding larger mammals from airport safety areas.

WPH1.4 Rare Species

DRI within critical wildlife and plant habitat areas shall submit the development proposal to the Massachusetts Natural Heritage Program for review and comment. DRIs that would adversely affect habitat of local populations of rare wildlife and plants shall not be permitted. Development may be permitted where the proponent can demonstrate that such development will not adversely affect such habitat. A wildlife and plant habitat management plan may be required as a condition of approval when development or redevelopment is permitted in critical wildlife and plant habitat areas.

The Airport has coordinated with NHESP regarding protection of rare species and their habitats and has specifically modified the design of the fence to accommodate two of the species, Eastern Spadefoot and Eastern Box Turtle, and has modified the construction timing to avoid the most active times for these species.

Impacts to potential nesting habitat for Vesper Sparrow (largely cultural grasslands), will result in a shift in the location of some of the grassland habitat, but no net loss of cultural grassland habitat will occur. CCC staff has raised concerns over potential impacts to these ground-nesting species, specifically with respect to the constructed turf apron. The Vesper Sparrow breeding season is from May-August, and this species is thought to be capable of producing 1-2 broods each season in Massachusetts. Management recommendations include delaying mowing of fields at least until July to allow enough time for successful production of at least one brood of young.

The Airport has consulted with NHESP regarding their Vegetation Management Plan with respect to the mowing schedule of the grasslands in the inner airfield. Currently, mowing occurs approximately three times during the summer season. NHESP has issued a conditional determination of No Take on the MESA Project Review (Attachment 5). The Airport will continue to work with NHESP to finalize the project details and ensure that the projects are designed and constructed in compliance with the NHESP determination.

Waste Management

WM2.1 Construction Waste

Development and redevelopment projects shall address the disposal of construction waste at both the construction and post-construction phases of development or redevelopment. To do so, a plan shall be provided to demonstrate how the applicant proposes to handle solid wastes, construction and demolition (C&D) wastes, and recyclable materials currently categorized by the Massachusetts Department of Environmental Protection (MassDEP) as a waste ban material.

Currently, solid waste generated by Airport operations is limited to general office waste, stored within a three cubic yard dumpster located in the main terminal hangar. Recyclable cardboard is contained and stored within a two cubic yard container, also located in the main terminal hangar. Snack and beverage vending machines are the only food services available at the Airport, generating a negligible amount of solid waste, and recycling facilities are available in the terminal building for aluminum, glass, and plastic containers. Solid waste and recyclable materials are transferred by Cape Cod Disposal to the Provincetown or Yarmouth Transfer Station on an as needed basis. Post-redevelopment operation of the Airport is not expected to result in a significant increase in the solid waste stream. The Airport will continue to collect and recycle recyclable materials.

WM2.2 C&D Waste Plan

If C&D waste is to be generated as a part of the proposed development or redevelopment, a plan shall be provided that specifies:

- *a listing of C&D wastes that will be generated during the development or redevelopment;*
- *the method for separating, storing, transporting, and disposing of gypsum (wall board and sheetrock) from the remainder of the waste stream; and*
- *the methods that will be used to recycle or dispose of those remaining materials in the C&D waste stream.*

Prior to the initiation of redevelopment activities, the site contractor will prepare a construction mitigation plan, specifying:

- the types of materials that will be generated during construction and demolition activities;

- procedures for segregation, storage, and recycling of recyclable materials generated during demolition or construction activities; and,
- the destination and end use of all recycled materials segregated from the construction and demolition waste stream.

WM2.3 Post-construction Waste

A solid waste and recycling management plan shall be provided that identifies how both solid wastes and recyclable materials will be handled in the post-construction phase of the development. In particular, the applicant shall provide a plan detailing how waste ban materials (particularly plastic, glass containers, and cardboard) will be collected, stored on site, and recycled.

Solid waste and recyclables at the Airport will continue to be stored within containers located in the main terminal hangar. Solid waste will continue to be transferred to the Provincetown and Yarmouth Transfer Station by a waste removal service on regular intervals. Recyclable materials collected at the Airport will be transferred to the Provincetown Transfer Station on an as needed basis. Redevelopment of the Airport will not include the addition of food services. Vending machines remaining on site will not result in an increase in food waste or necessitate food waste composting practices.

8.2 Request to Invoke Flexibility Clause

The RPP includes a Flexibility clause that states:

The Minimum Performance Standards are mandatory standards; hence, they use the word “shall.” If it can be demonstrated by an applicant, however, that the interests protected by a given Minimum Performance Standard can be achieved by an alternate approach including appropriate mitigation, the Cape Cod Commission or the local permitting authority may modify the application of these standards. In approving such a modification, the Commission or the local permitting authority must make a finding that the proposed use will not be more detrimental to the protected resource than would be allowable under the applicable Minimum Performance Standard. The burden to prove the applicability of this provision shall be on the applicant.

The Airport seeks to have the CCC invoke the RPP Flexibility clause where the proposed design cannot fully meet the required standards, but will meet the intent of the provisions through alternative means. This request is largely centered on the need for flexibility directly related to the stormwater management BMPs proposed for the parking lot expansion where existing conditions of groundwater elevations and proximity to wetland resources preclude the ability to fully meet the MPS. The proposed stormwater BMPs are designed to meet the Massachusetts Stormwater Management Standards, and include additional measures to ensure groundwater recharge (infiltration) and water quality, addressing the intent of the MPSs without being more detrimental to the protected resources.

The request for Flexibility is for the following MPSs:

- WR7.8 Minimum Two-foot Separation to Groundwater;
- CR2.8 Public Infrastructure in Land Subject to Coastal Storm Flowage;
- CR3.4 Stormwater Management Designed to Accommodate Relative Sea-level Rise; and
- WPH1.2 Clearing and Grading.

WR7.8 Minimum Two-foot Separation to Groundwater

New infiltration basins or other stormwater leaching structures shall maintain a minimum two-foot separation between points of infiltration and maximum high water table except as required under MPS CR3.4. Guidance on the high groundwater adjustment methodology can be found in Estimation of High Groundwater Levels for Construction and Land Use Planning, Technical Bulletin 92-001, as amended.

The proposed stormwater management system is within 300-feet of the spring high water contour. To the extent practicable, the proposed stormwater management system for the parking lot expansion has been designed to accommodate sea-level rise as per MPS CR3.4 (also see discussion on CR3.4 below). Existing constraints for the design and location of the parking lot and associated shallow seasonal high groundwater elevations preclude the ability of the Project to meet this MPS to the fullest extent. The proposed permeable pavement and bioretention facilities will on average provide a two to three foot separation from existing groundwater elevations. The stormwater BMPs have been designed in accordance with the Massachusetts Stormwater Management Standards (MASWMS) and will provide equivalent water quality benefits (see Attachment 8 and the Project Plans for further detail).

The Airport requests that the Commission invoke the Flexibility Clause for the proposed stormwater management facilities. The stormwater BMPs are designed to provide for stormwater treatment and infiltration; the bioretention cells are designed for redundancy to accommodate the 25-year 24-hour storm event. Overall the stormwater management design is intended to provide an equivalent level of protection for groundwater quality within the coastal flood zone.

CR2.8 Public Infrastructure in Land Subject to Coastal Storm Flowage

No new non water-dependent public infrastructure or expansion of existing non water-dependent public infrastructure shall be made in LSCSF, unless it is shown that there is no feasible alternative location and there is an overriding public benefit, and provided that such infrastructure will not promote new growth and development in flood hazard areas.

The Airport is an existing use, constructed in the 1940s, and is currently entirely within the LSCSF. The proposed CIP Project, intended to address safety and security deficiencies at the Airport, as well as to address current and projected demand for Airport use, must also logically

occur within the coastal floodplain, adjacent to the existing infrastructure. Thus no feasible alternative exists. An extensive Master Plan was developed for the Project to address existing and projected demand for the foreseeable future. The two capacity-based projects are not intended to promote new growth or development, but rather are proposed to accommodate existing needs for public parking under existing and projected conditions. The Project elements represent the minimum necessary to address these needs. Although not water dependent, the Project serves an overriding public benefit of improving the safety conditions at the Airport, and maintaining a public facility for aviation transportation in the region. The Airport seeks to have the Commission invoke its Flexibility Clause to accommodate the improvements to the existing infrastructure.

CR3.4 Stormwater Management Designed to Accommodate Relative Sea-level Rise

The design and construction of stormwater management systems proposed within 300-feet of the spring high water contour shall incorporate the historic rate of relative sea-level rise in Massachusetts of one-foot per 100 years by designing a system that achieves a three-foot separation from groundwater. This design shall be incorporated into National Pollution Discharge Elimination System (NPDES) Phase II Plans (where required) and individual project design and construction.

The proposed stormwater management system is within 300-feet of the spring high water contour. To the extent practicable, the proposed stormwater management system for the parking lot expansion has been designed to accommodate sea-level rise. Existing constraints for the design and location of the parking lot and associated shallow seasonal high groundwater elevations preclude the ability of the Project to meet this MPS to the fullest extent. The proposed permeable pavement and bioretention facilities will on average provide a two to three foot separation from existing groundwater elevations. The stormwater BMPs have been designed in accordance with the Massachusetts Stormwater Management Standards (MASWMS) and will provide equivalent water quality benefits.

For these reasons, the Airport seeks to have the Commission invoke the Flexibility Clause for the proposed stormwater management facilities. The stormwater BMPs are designed to provide for stormwater treatment and infiltration; the bioretention cells are designed for redundancy to accommodate the 25-year 24-hour storm event. Overall the stormwater management design is intended to provide an equivalent level of protection for groundwater quality within the coastal flood zone.

WPH1.2 Clearing and Grading

Clearing of vegetation and alteration of natural topography shall be minimized, with native vegetation planted as needed to enhance or restore wildlife habitat. Standing specimen trees shall be protected. The Commission may require designation of building envelopes (for structures, driveways, lawns, etc.), where appropriate, to limit removal of vegetation.

Several of the CIP project elements will result in direct impacts to natural plant communities, including the westerly taxiway improvements, the east end taxiway relocation, installation of the AWOS and LES service access roadways, improvements to the MALSF access roadway, expansion of the parking lot, and installation of the perimeter fence. The alterations are designed to address CIP needs at an existing facility, and must logically occur adjacent to the built environment.

Relocation of the west end, mid connector, and east end taxiways, as well as construction of the service access roads to the AWOS and LES will result in only minor changes to the existing, typically flat, topography within the inner airfield, and is intended to address safety issues. Overall, these projects will result in a net reduction in impervious surface and a net increase in wetland habitat over existing conditions, where restoration of previously existing wetlands will replace existing pavement. Mitigation plans for wetland restoration are designed to salvage large patches of the existing plant communities within the scrub-shrub wetlands to be placed in the restoration areas. Plant communities will be further supplemented with compatible native plantings to further establish the dense plant communities in these areas to mimic existing conditions, including habitat for rare species (see also Attachment 15).

Improvements to the MALSF will result in a small area of fill adjacent to the existing access roadway to serve as a turnaround. The surrounding plant community is largely dominated by *Phragmites*, which is maintained to provide a clear area along the approach light system. Management of *Phragmites* is proposed elsewhere within freshwater wetlands.

The parking lot expansion will result in approximately 15,100 SF (0.35 ac) of alteration within the secondary coastal dunes, adjacent to the existing parking lot and the Airport access road, for the construction of the expansion. Grade changes are necessary to match the grades of the existing parking area and entrance roadway. As with other natural areas, efforts will be made to salvage native vegetation for later reuse within disturbed areas. These plants would be stockpiled and protected during construction; their reuse will help to minimize the loss of established native vegetation. Proposed landscape screening plantings around the expanded parking area will use native plantings, and proposed bioretention facilities will also be planted with native species and will be designed to blend in with the surrounding natural community.

Extensive evaluations of the impacts to vegetative communities with respect to the installation of the fence have been conducted. The preferred fencing alignment ("Concept 6") has been strategically sited to avoid prime breeding habitat for the Eastern Spadefoot Toad as well as large expanses of dense vegetation. In addition, the preferred fence alignment is strategically located in closer proximity to the partial parallel taxiway on the north side of the airfield to eliminate the need to establish a patrol road. Impacts associated with the installation of the 11,700 LF fence will involve direct impacts associated with the installation of fence posts, and long-term maintenance of lower growing plant communities.

Of the 331 acres of land within the Airport lease area, only approximately 0.62 acres of freshwater wetlands (BVW and IVW) that are currently comprised of dense shrub swamp or dense forested swamp (with or without a dense shrubby understory) and 0.19 acres of densely vegetated secondary coastal dunes would be directly impacted. The location of the proposed fence and the anticipated impacts to the existing vegetation communities is presented on Figure 15, which identifies the location of the fence, the general habitat community (e.g., dense stands of *Phragmites*, forested swamp, open dune areas, etc.), and the anticipated impact to the vegetation community.

Vegetation management will be conducted every 2-3 years on an as-needed basis along the 8-foot wide fence corridor. The resulting plant community in these areas would be maintained as lower-growing plant communities along the 8-foot wide fence corridor. The resultant plant communities are not anticipated to differ significantly from other naturally-occurring, low-growing plant communities at the Airport, and are anticipated to retain similar wildlife habitat values. The plant communities to be impacted by the proposed fence are depicted within Attachment 7.

In general, while there are no specimen trees at the Airport, proposed alterations within areas of mature trees have been minimized to the extent practicable in association with the fence installation.

9.0 REQUEST FOR HARDSHIP EXEMPTION

9.1 Regulatory Framework

Section 23 of the CCC Act states the following:

The commission shall have the power after holding a public hearing pursuant to section five to grant an exemption, in whole or in part and with appropriate conditions, to any applicant from the terms and provisions of this act where the commission specifically finds that a literal enforcement of the provisions of the act would involve substantial hardship, financial or otherwise, to the applicant and that desirable relief may be granted without substantial detriment to the public good and without nullifying or substantially derogating from the intent or purpose of the act.

The Regulations at Section 7(c)(viii)(c) Hardship Exemptions include Projects of Community Benefit, and the Commission is granted the authority to waive or modify application of one or more of the MPSs “*where such relief shall be the minimum necessary to address the hardship.*” The regulations further state that “*Any relief granted shall not nullify or substantially derogate from the intent and purposes of the Act, and shall not result in a substantial detriment to the public good.*”

In granting a Hardship Exemption acting as such, the Commission must find that:

- (i) a literal enforcement of the provisions of the Act would involve substantial hardship, financial or otherwise; and*
- (ii) desirable relief may be granted without substantial detriment to the public good and without nullifying or substantially derogating from the intent or purpose of the Act.*

The Enabling Regulations also state in Section 9, that *“Projects should comply to the maximum extent feasible with the Minimum Performance Standards of the RPP. Any relief granted from the requirements of the Minimum Performance Standards shall relate directly to the nature of the identified hardship and shall be the minimum relief necessary to address the hardship.”*

9.2 Hardship Exemption Request

The Airport Commission proposes a CIP Project involving a series of safety and facility improvements for the Provincetown Municipal Airport. Several of the CIP project elements will provide operational safety and security improvements at the Airport and are designed to comply with current FAA, MassDOT and TSA safety and security design recommendations and standards for a primary service airport. The use of these standards is mandatory for airport projects receiving Federal grant-in-aid assistance, which is true for the Provincetown Municipal Airport. Certain elements of the existing Airport infrastructure do not meet current safety and security standards, and the current parking facilities cannot efficiently meet current and projected demand.

Located within the confines of the CCNS, the Airport facilities are situated in an environmentally sensitive area, lying within a coastal floodplain surrounded by coastal dunes and freshwater wetlands, and the site is mapped in its entirety as Massachusetts’ rare species habitat. While the Airport’s construction predates many of the current environmental laws and regulations, the proposed CIP projects have been designed to meet current environmental regulations to the extent practicable, while still addressing safety and security standards for primary service airports.

Several of the CIP projects will result in unavoidable alterations within freshwater wetlands, coastal dunes, and/or within the coastal floodzone, as well as within rare species habitat (see Table 4 provided at the end of Section 5), with the exception of the two projects that occurred within the existing footprint of paved areas (Reconstruct Terminal Apron and Reconstruct Easterly End of Partial Parallel Taxiway) and which have since been permitted and constructed. All of the proposed CIP projects will occur within the 100-foot buffer zone to one or more freshwater wetlands of coastal resources, as well as within the coastal flood zone. The various CIP project elements have been designed to avoid and minimize impacts to wetland and coastal resource areas, the associated buffer zones, and rare species habitat and incorporate mitigation for unavoidable impacts. A detailed discussion of the alternatives considered for each of the CIP projects is provided in Section 5, above, and further elaborated within Attachment 6.

While the Airport is able to comply with the majority of the applicable MPSs, the unique location of the existing airport infrastructure within resource areas and rare species habitat, in

conjunction with the required safety and security directives, will not enable the Airport to fully comply with the all of the applicable MPSs.

Meeting all MPSs would result in a substantial hardship in that portions Airport infrastructure would otherwise not be in compliance with current safety and security standards for primary service airports. The inability to comply with the listed standards is directly related to the environmental setting of the Airport, and specifically to those MPSs that prohibit wetland alterations and require a minimum 100-foot undisturbed buffer to coastal and wetland resources.

Maintaining a safe and secure airport is necessary and provides an overriding public benefit. Further, maintaining an important aviation transportation hub for outer Cape Cod is important to the regional community and the public good. As such, the Airport seeks a Hardship Exemption as a Project of Community Benefit under the RPP. Granted relief from the few standards, as discussed below, will not, upon implementation of proposed mitigation measures, derogate from the intent and purpose of the CCC Act.

A discussion of the relief sought, how the various project elements are designed to meet the MPS to the extent practicable is provided below.

9.3 Minimum Performance Standards

Below is a discussion of the MPS that are for the subject of this request for a Hardship Exemption, the performance standards that hinder the implementation of the CIP Project, the relief sought by the Airport from these standards, and details of how the various Project elements contribute to the general public good and maintain the tenets of the Cape Cod Commission Act. The Airport is in the process of developing a comprehensive and integrated mitigation package through coordination with the CCC, ACOE, MassDEP, NHESP, NPS and the Provincetown Conservation Commission, along with other pertinent regulatory entities in order to compensate for all direct and indirect impacts to natural resources. Draft components of the mitigation plan are provided in Section 7 above, the project plans as well as within the Attachments included with the filing on a compact disk (CD).

Site Setting and Context

As noted, the Airport is situated on 331 acres of land within the CCNS. The Airport contains diverse wetland resource areas, including isolated freshwater wetland areas, interspersed within an expansive coastal dune system and an adjacent salt marsh system. The entire Airport is also located in the coastal floodzone, and is mapped for habitat for three state-listed rare species. Areas within the Airport lease area that are maintained for Airport operations include a terminal and other buildings, a paved runway and taxiways, auto parking, and navigation equipment. Additional areas are mowed to maintain various aviation safety areas and navigational surfaces. In general, the areas at the Airport that are not actively maintained as part of Airport operations are either wetland/palustrine habitats or coastal dune habitats.

Project of Community Benefit

The Airport CIP is a unique DRI in that it involves improvements to an existing airport facility that is situated within the confines CCNS on lands owned by the federal government (NPS) and leased to the Airport. Therefore, extensive coordination has been carried out with CCC staff, as well as NPS staff in order to identify those MPSs that apply to the Project and how the Project can be designed in compliance with the applicable MPS.

In addition, the Airport Commission and staff have worked closely with the CCC staff and other state, federal, and local regulatory agencies to minimize environmental impacts and respect the sensitive environment.

The CIP project elements will provide operational safety and security improvements at the Provincetown Municipal Airport and maintain compliance with current FAA, TSA, and MassDOT regulations and recommendations, as well as meet existing and projected demand for airport transportation from this facility. The Airport serves as an important transportation hub for outer Cape Cod region and is an important and relied upon component of the Town of Provincetown. As a hub airport from Logan International Airport, it provides commercial airline service to and from a major city. Increasing the ability and ease of access to Provincetown for tourists, business associates, as well as residents is an important factor for the Town's economic development. The CIP Project furthers this community benefit in that it will improve safety and security for airline passengers as well as the community and residents of the Town of Provincetown.

Therefore, there is an inherent need to maintain this facility for safe air travel for residents and visitors, as well as accommodate existing and projected future demand for the use of this facility. For these reasons the Airport CIP Project serves as a Project of Community Benefit, important to the community and citizens of Barnstable County.

9.4 Specific Relief Sought

The Airport Commission specifically requests a Hardship Exemption for the following MPSs:

- CR3.1 Buffers to Coastal Wetlands;
- CR3.3 Stormwater Discharges;
- WET1.1 Wetlands;
- WET1.2 Wetland Buffers; and
- WET1.4 Stormwater.

Coastal Resources

CR3.1 Buffers to Coastal Wetlands

Undisturbed buffer areas of at least 100 feet surrounding coastal wetlands and/or landward of the mean high water mark of coastal water bodies shall be protected in accordance with MPS WET1.2.

CR3.1 directly references WET1.2. WET1.2 of the RPP calls for the maintenance and/or provision of vegetated, undisturbed buffers of at least 100 feet around coastal and inland wetlands to protect their natural functions. This MPS also includes a modification for areas *“where a buffer area is already altered such that the required buffer cannot be provided without removal of structures and/or pavement, this requirement may be modified by the Cape Cod Commission and other relevant permitting authorities, provided it makes the following findings: (1) that the proposed alteration will not increase adverse impacts on that specific portion of the buffer area or associated wetland, and (2) that there is no technically demonstrated feasible construction alternative.”*

Given the existing conditions at the Airport, the proposed CIP Project elements will necessarily occur within the 100-foot buffer to coastal wetlands. At the Airport, the buffer zone composition consists of one or more of the following under existing conditions: unaltered coastal dune, cultural/managed grasslands, impervious surfaces (buildings, pavement), or in some cases, where wetland areas are in close proximity to each other, the 100-foot buffer zone to one wetland may encompass one or more of the adjacent wetlands or coastal dunes. There is no feasible alternative to the proposed Project that would avoid work within the buffer zone to coastal and freshwater wetlands. As discussed in further detail, the buffer zone to coastal dunes, as well as the buffer zone to Wetland A, Wetland B, Wetland C, Wetland H, Wetland I, Wetland DM, Wetland BC/F, Wetland E/DD, Wetland DB/F/G, and Wetland L will be impacted by several of the proposed CIP projects (see Figure 5 for reference to individual wetland locations).

Strict adherence to MPS CR3.1 would prohibit the Airport from implementing necessary safety and security upgrades associated with hazardous deficiencies in the taxiway design as well as the safety and security measures associated with the proposed fence construction.

Accordingly, the Airport seeks a Hardship Exemption from this MPS (as well as WET1.2) as discussed below.

The Westerly Taxiway System improvements, installation of taxiway edge lights, improvements to the MALSF access road, and construction of the turf apron will occur within the 100-foot buffer zone to Wetland C/J/FK, a freshwater fringe associated with the Hatches Harbor marsh system. Wetland C/J/FK is an expansive BVW spanning the western and southwestern portions of the Airport; its associated buffer zone is comprised of existing pavement and impervious surfaces (taxiway, west end taxiway entrance, and Runway 7 end) and the existing gravel access

road associated with the MALSF access road as well as areas of coastal dune, managed Cultural Grassland, and areas of other freshwater wetlands. Additionally, the installation of the perimeter safety/security fence will directly occur within the buffer zone to Wetland C/J/FK, as well as the buffer zones to isolated freshwater Wetlands B, C, I, H, DM, BC/F, E/DD, DB/F/G, and L. Figure 18 approximates the buffer zone areas to these wetland areas, and provides a visual demonstration of the overlapping nature of the buffer zone at the Airport.⁷ A more detailed analysis of buffer zone impacts may be found in Section 5.0 of the FEIR/EA (Attachment 6).

Strict adherence to MPS CR3.1 (and WET 1.2) will result in a hardship for the Airport to maintain the existing public use and to accommodate existing needs for public parking under existing and projected conditions.

In general, the projects upon implementation will not dramatically change the existing conditions of the buffer zone, but will rather result in a shift in the location and/or composition of the buffer zone. The proposed fence will result in long-term presence of a structure within the buffer zone to several of the freshwater wetlands but will not detract from the ability of the buffer zone to protect the interests it provides.

CR3.3 Stormwater Discharges

No direct untreated stormwater discharges shall be permitted into any coastal waters or wetlands, including discharges above or below the mean high water level. New treated stormwater discharges shall be located a minimum of 100 feet from wetlands and water bodies, consistent with MPS WET1.4. For redevelopment, treated stormwater discharges shall be located a minimum of 100 feet, or the farthest distance practicable, from wetlands or water bodies. All stormwater discharge shall be consistent with MPS WET1.4.

No new direct untreated stormwater discharges will occur within any coastal waters or wetlands as a result of the proposed Project. The stormwater BMPs have been designed in accordance with the Massachusetts Stormwater Management Standards (MASWMS). However, as the Airport is an existing use, with existing infrastructures located within close proximity to wetlands and coastal resources, existing constraints for the design and location of the proposed parking lot stormwater facilities preclude the ability of the Project to meet this MPS.

The parking lot expansion will directly alter the buffer to Wetland A through the addition of gravel parking areas, bioretention facilities, and the installation of natural landscape buffers. The existing buffer to Wetland A consists of open patches of coastal dune and existing paved parking areas. Hardship relief is sought for CR3.3 for the same reasons as for CR3.1. The existing Airport infrastructure occurs within and immediately adjacent to natural resource area buffers, at times as close as 5-10 feet from the boundary of the wetland resource.

⁷ Please note that this figure was presented as Figure 4.5 in the FEIR/EA (Attachment 6). This figure has not been updated for the purposes of permitting and is included only to serve as a visual depiction of the buffer zone at the Airport.

Implementation of all CIP projects, including stormwater BMPs must by necessity, also occur within buffer zone areas. Here, proposed stormwater BMPs are designed to address water quality, and meet the MASWMS as well as the additional provisions within the RPP.

Strict adherence to MPS CR3.3 will result in a hardship for the Airport to maintain the existing public use and to accommodate existing needs for public parking under existing and projected conditions.

Wetlands

WET1.1 Wetlands

Wetland alteration shall not be permitted except as provided herein and in Minimum Performance Standard WET1.3. As an exception, where there is no feasible alternative, water-dependent projects involving wetland alteration with appropriate mitigation may be permitted subject to the approval of all permitting authorities. Such permission may be granted subject to a finding that there is no feasible alternative location for the project and that any necessary alteration is the minimum necessary to accomplish the goals of the project. Appropriate mitigation shall not include wetland creation or replication.

The unique environmental setting of the Airport is comprised primarily of wetlands, which constrains the ability of the Airport to implement necessary security and safety upgrades required by FAA, MassDOT, and TSA. Five of the CIP Project elements will impact wetland systems at the Airport directly and/or indirectly including: Westerly Taxiway System Improvements, Relocation of the East Entrance Taxiway, MALSF Access Road Improvements, AWOS Service Access Road Construction, and Installation of the Perimeter Fence. While these projects will impact wetlands, the collective implementation of all CIP projects will result in an overall reduction of pavement and impervious surfaces at the Airport and an increase in freshwater wetlands, and will greatly improve operational safety and security at the Airport.

Approximately 85,000 SF (1.95 ac) of on-site freshwater wetland restoration are proposed, located within areas of existing impervious surface. Mitigation plans focus on restoration rather than wetland creation in order to enhance the overall success of mitigation and restoration of previously altered or degraded wetlands at the Airport. Mitigation also accounts for direct alterations associated for the fence where vegetation communities will be altered (cut) but will continue to function as wetlands. An overview of proposed mitigation measures is provided in Section 7.1; a draft Mitigation Plan, which is under development with input from several regulatory agencies is provided as Attachment 9. Mitigation plans seek to improve the overall quality of habitat and wetland resources at the Airport and to ensure the sustainability and integrity of these resources. The Airport plans to implement an integrated invasive species management plan that will also serve to increase and protect the functions and values of these wetlands (Attachment 11).

The environmental constraints surrounding the existing airport use necessitate wetland alteration. Maintaining a safe and secure airport is necessary and provides an overriding public benefit, and the CIP Project is integral to operational safety both at this Airport and connecting airports in the region. Further, maintaining an important aviation transportation hub for outer Cape Cod is important for public safety.

The Airport Commission respectfully requests a Hardship Exemption from WET1.1. We believe that relief from this standard, upon implementation of proposed mitigation, will not derogate from the intent and purpose of the CCC Act.

WET1.2 Wetland Buffers

Vegetated, undisturbed buffer areas of at least 100 feet in width shall be maintained and/or provided from the edge of coastal and inland wetlands including isolated wetlands, to protect their natural functions. This standard shall not be construed to preclude pedestrian access paths, vista pruning, or construction and maintenance of water-dependent structures within the buffer area, any of which may be permitted at the discretion of permitting authorities where there is no feasible alternative to their location. The Cape Cod Commission and local Conservation Commissions may require a larger buffer area where necessary to protect sensitive areas or where site conditions such as slopes or soils suggest that a larger buffer area is necessary to prevent any adverse impact to wetlands and associated wildlife habitat. Where a buffer area is already altered such that the required buffer cannot be provided without removal of structures and/or pavement, this requirement may be modified by the Cape Cod Commission and other relevant permitting authorities, provided it makes the following findings: (1) that the proposed alteration will not increase adverse impacts on that specific portion of the buffer area or associated wetland, and (2) that there is no technically demonstrated feasible construction alternative [emphasis added].

As discussed above under CR 3.1, WET1.2 calls for the maintenance and/or provision of vegetated and undisturbed buffers of at least 100 feet around coastal and inland wetlands. However, where a buffer area is already altered and the proposed alteration will not increase adverse impacts on the portion of the buffer area or associated wetland, and there is no feasible alternative, the CCC may invoke a modification to this MPS.

Except for the runway and portions of other Airport facilities, much of the airport operation area falls within the Buffer Zone. At the Airport, the buffer zone consists of one or more of the following under existing conditions: unaltered coastal dune, cultural/managed grasslands, impervious surfaces (buildings, pavement), or in some cases, where wetland areas are in close proximity to each other, the 100-foot buffer zone to one wetland may encompass one or more of the adjacent wetlands (see also Figure 18). The proximity of wetlands to one another and the overlapping nature of the buffer zones do not allow for the strict siting requirements of the projects to avoid these areas. As there is no alternative to improve the Airport infrastructure except to do so within or immediately adjacent to the airport itself, the buffer zone to Wetland A, Wetland B, Wetland C, Wetland H, Wetland I, Wetland DM, Wetland BC/F, Wetland E/DD,

Wetland DB/F/G, and Wetland L would be impacted by several of the proposed CIP project elements.

- Wetland A: The existing buffer to Wetland A consists of open patches of coastal dune and existing paved parking areas. The parking lot expansion will directly alter the buffer to Wetland A through the addition of gravel parking areas, drive lane, bioretention facilities, and the installation of natural landscape buffers. The bioretention facilities and additional landscape screening plantings will be planted with native vegetation and will be designed to blend into the existing landscape to preserve as much wildlife habitat value as feasible in addition to providing the necessary protections to water quality.
- Wetland B: The existing buffer to Wetland B consists of open patches of coastal dune and existing paved portions of the East End taxiway connector, the paved terminal apron, and the paved parking areas associated with the employee parking lot. Two of the proposed CIP projects will result in alterations to the buffer zone associated with Wetland B: relocation of the Easterly End Taxiway entrance to meet current FAA standards and the construction of the LES access road. There will be a net gain in restored wetlands and cultural grasslands within the buffer zone to Wetland B as a result of proposed mitigation (see Section 7 and Attachments 9 and 11).
- Wetland C: The existing buffer to Wetland C consists largely of mowed cultural grasslands and paved portions of the partial parallel taxiway and open patches of coastal dune, as well as existing paved portions of the terminal apron, the terminal building itself, and the Sightseeing Shack. A number of the proposed CIP projects will result in alterations to the buffer zone associated with Wetland C, including improvements to the westerly taxiway, reconstruction of the easterly end of the parallel taxiway, construction of the turf apron, installation of taxiway lighting and electric vault, parking lot expansion, and repair of the sightseeing shack. There will be, however, a net gain in restored wetlands and no net loss of cultural grasslands and the associated habitats that these areas provide within the buffer zone to Wetland C as a result of the proposed mitigation for these Project elements. Coastal dunes will be replaced as practicable.
- Wetland H: The existing buffer zone to Wetland H consists largely of mowed cultural grasslands and paved portions of the partial parallel taxiway, the east-end and mid-connector taxiways, and patches of coastal dune. Seven of the twelve proposed CIP projects will result in alteration of the buffer zone to Wetland H. These projects include: reconstruction of the easterly end of the parallel taxiway, construction of service access road to the AWOS, a small portion of the access road to the LES, relocation of the east end taxiway, reconstruction of the terminal apron, installation of taxiway lighting, construction of the turf apron, and portions of the westerly taxiway system improvements. In general, these impacts to the buffer zone will not result in substantial changes over existing conditions, but rather a shift in the location of impervious surfaces and cultural grasslands.

- Wetland I: The existing buffer zone to Wetland H consists of mowed cultural grasslands and paved portions of the partial parallel taxiway, the west-end and mid-connector taxiways, and coastal dune. Changes to the current condition of the buffer zone to Wetland I will include a shift in the location of pavement and Cultural Grasslands (i.e., Cultural Grasslands converted to pavement and vice versa). However, there will be a net reduction in the overall amount of existing impervious surfaces and Cultural Grasslands, and a net gain in restored freshwater wetlands and coastal dune areas within the buffer zone.
- Buffer Zone Impacts from Fence: In areas where the fence is proposed in close proximity to the airport infrastructure, the buffer areas include paved surfaces and cultural grasslands, as well as undisturbed coastal dunes and wetlands; in more outlying areas, the buffer zone consists largely of undisturbed coastal dune communities or other freshwater wetlands. Unlike with other CIP project elements, installation of the fence will result in minimal changes to the natural buffer zone beyond a shift in the vegetation community along a four-foot wide corridor on either side of the fence (e.g., from a taller-growing shrub swamp to a wetland with a more low-growing plant community). Wildlife movement for larger species will be restricted by design; smaller wildlife passage is anticipated to continue. No grading is proposed, and the existing buffer will continue to protect the adjacent wetlands and resource areas.

A more detailed analysis of buffer zone impacts may be found in Section 5.0 of the FEIR/EA (Attachment 6). Overall, conditions within buffer areas will be improved over existing conditions: impervious surfaces will be reduced and there will be a net gain of wetlands and no net loss of Cultural Grassland. Further, the Airport will implement a series of rare species protection measures for work within the buffer zone as well as in wetland and coastal resources.

The proximity of wetlands to one another and the overlapping nature of the buffer zones do not allow for the strict siting requirements of the projects to avoid these areas. Maintaining a safe and secure airport is necessary and provides an overriding public benefit. Further, the Airport serves as an important aviation transportation hub in outer Cape Cod, which is important to the regional community.

The Airport Commission respectfully requests a Hardship Exemption from WET1.2. Strict adherence to this MPS will not allow for the proposed project benefits. Relief from this standard, upon implementation of proposed mitigation, is in keeping with the intent and purpose of the CCC Act under these unique circumstances.

WET1.4 Stormwater

Stormwater management plans for new development shall preclude direct discharge of untreated stormwater into natural wetlands and water bodies. New stormwater discharges shall be located a minimum of 100 feet from wetlands and water bodies.

No new direct untreated stormwater discharges will occur within any coastal waters or wetlands as a result of the proposed Project. As noted under CR3.3, the stormwater BMPs have been designed in accordance with the MASWMS. However, as the Airport is an existing use, with existing infrastructure located within close proximity to wetlands, existing constraints for the design and location of the proposed parking lot stormwater facilities preclude the ability of the Project to meet this MPS.

The stormwater BMPs are designed to provide for stormwater treatment and infiltration; the bioretention cells are designed for redundancy to accommodate the 25-year 24-hour storm event. Overall the stormwater management design is intended to provide an equivalent level of protection for groundwater quality within the coastal flood zone.

The Airport Commission respectfully requests a Hardship Exemption from WET1.4. Strict adherence to this MPS will not allow for the proposed project benefits. The Airport serves as an important transportation hub in outer Cape Cod and is important to the regional community. Relief from this standard, upon implementation of proposed mitigation, is in keeping with the intent and purpose of the CCC Act under these unique circumstances.

9.5 Summary

The Airport appreciates the Cape Cod Commission's careful review of the request for a Hardship Exemption to five of the MPSs. The unique environmental setting of the Airport, specifically the abundance and proximity of resources and habitat areas to one another and their overlapping nature, have made project design and the avoidance of natural resource areas challenging, particularly in regard to the need to address the safety and security deficiencies of the existing Airport facilities. The Airport has sited the proposed elements based upon an extensive alternatives analysis of the proposed impacts to natural resources and associated buffer zones. This resulted in avoidance and minimization of impacts to the fullest extent practicable in order to uphold the interests of the Act, without incurring a substantial hardship. In cases where wetland and buffer impacts are unavoidable, comprehensive compensatory mitigation will be provided in the form of wetland and buffer zone restoration and invasive species management. Therefore, the Airport respectfully requests that the Commission grant relief. The CIP projects will not result in a substantial detriment to the public good, nor will they substantially derogate from the intent or purpose of the Act. Rather, the Project will result in the continued maintenance and the upgrade of safety and security conditions within this regional aviation transportation hub and related substantial public benefits.

10.0 REGULATORY AND PERMITTING STATUS UPDATE

As noted in Section 1.3, the CIP Project will require several state, regional, and federal permits including a final Order of Conditions under the Massachusetts Wetlands Protection Act (WPA), a Variance pursuant to Section 401 Water Quality Certification, a Development of Regional Impact Decision from the Cape Cod Commission, and an Individual Permit from the U.S. Army Corps of Engineers pursuant to the Clean Water Act, including Individual CZM Consistency

review. Pursuant to the Regional Policy Plan (RPP), the Airport Commission seeks to permit eleven of the original twelve CIP Project elements this year under Development of Regional Impact (DRI) in addition to other required permits from other regulatory agencies. An overview of the current status of environmental permitting for the CIP project is provided below.

10.1 Federal Clean Water Act

Five of the project elements will result in alterations to freshwater wetlands. A 401 Water Quality Certification (WQC) with Variance is required from the MA Department of Environmental Protection in accordance with the provisions of M.G.L. c.21, §§ 26-53, Section 401 of the Federal Clean Water Act (33 U.S.C. §1251 et seq.), and the implementing regulations at (314 CMR 9.00). WQC is required because the proposed work will cumulatively alter greater than 5,000 square feet of Bordering Vegetated Wetland (BVW) and Isolated Vegetated Wetlands (IVW). A Variance under the provisions at 314 CMR 9.06(8) is also required as all wetlands within the CCNS are designated Outstanding Resource Waters (ORWs).

In addition, an Individual Permit is required from the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act for impacts to waters of the United States of greater than one acre. An approved Mitigation Plan is required as part of the Corps permit.

10.2 Massachusetts Wetlands Protection Act

The Provincetown Conservation Commission has reviewed the project under the Massachusetts Wetlands Protection Act only, and has issued an Order of Conditions (OOC) approving the project as of July 21, 2015 with findings and conditions.

10.3 Provincetown Wetlands By-Law

The Airport Commission will file a Notice of Intent (NOI) with the Provincetown Conservation Commission under the Town of Provincetown Wetlands Protection Bylaw (Chapter 12 of the Provincetown General Bylaws) at the conclusion of the DRI review process.

10.4 Massachusetts Coastal Zone Management Federal Consistency

As the Airport is located within the Massachusetts coastal zone, the CIP Project is required to undergo consistency review under Section 307 of the Federal Coastal Zone Management (CZM) Act of 1972. This requires that the Corps provide a consistency statement and receive concurrence from the Massachusetts CZM prior to issuance of the Individual Permit.

10.5 Massachusetts Endangered Species Act

Pursuant to the Massachusetts *Endangered Species Act* (M.G.L. Ch. 131A; MESA), a MESA Project Review from the Massachusetts Natural Heritage and Endangered Species Program (NHESP) is required for activities within Estimated Habitat of Rare Wildlife and Certified Vernal Pools and Priority Habitat of Rare Species. As noted, the project completed its MESA Project Review in August 2014, and has received a conditional “no take” determination from NHESP

requiring the development and implementation of project-specific rare species protection plans. The Airport will continue to work with NHESP to ensure protection of rare species habitat. A copy of the NHESP letter and draft copies of rare species protection plans that provide the framework for the project-specific plans is provided in Attachment 5.

10.6 Cape Cod Commission Regional Policy Plan

The Airport Commission must also seek a Decision from the Cape Cod Commission (CCC) for a Development of Regional Impact (DRI), and must meet the Minimum Performance Standards (MPS) under the Regional Policy Plan (RPP). Certain components of the CIP Project will require a Hardship Exemption from certain MPSs pertaining to wetlands and wildlife habitat. The Applicant also seeks to have the CCC invoke its flexibility clause where appropriate.

Part 4

Plans and Graphics

Project Locus Maps and Figures

Project Plans (11x17 and 24x36 formats)

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Part 5

Attachments

See list within Table of Contents

*Note: All Attachments are provided with the DRI Application in electronic form on a CD.
Paper copies are available upon request.*