
FINAL ENVIRONMENTAL ASSESSMENT

PROPOSED FUTURE PROJECTS AT THE PORTLAND INTERNATIONAL JETPORT

City of Portland, Cumberland County, Maine

Prepared for:

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

(As lead Federal agency pursuant to the *National Environmental Policy Act of 1969*)

and

THE CITY OF PORTLAND

Prepared by:

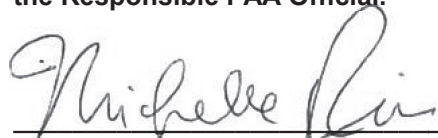
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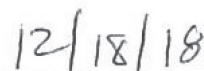
Coffman Associates
Phoenix, Arizona

December 2018

This environmental assessment becomes a Federal document when evaluated, signed and dated by the Responsible FAA Official.



Responsible FAA Official



Date

GENERAL INFORMATION ABOUT THIS DOCUMENT

WHAT'S IN THIS DOCUMENT? This document contains a Final Environmental Assessment (EA) for the Proposed Future Projects at the Portland International Jetport (Jetport) in the City of Portland, Cumberland County, Maine. This document discloses the analysis and findings of the potential impacts of the Proposed Action and No Action alternatives. The Jetport seeks Federal Aviation Administration (FAA) approval to implement capital improvements and other safety-related actions listed as high priority (i.e., completion within five to seven years) in its recently approved Sustainable Airport Master Plan (SAMP). These proposed projects are depicted on the Jetport's Airport Layout Plan (ALP) and will require federal funding and approvals by FAA. Federal actions are subject to the *National Environmental Policy Act (NEPA) of 1969* (Title 42 United States Code [USC] Sections 4321 et seq.). FAA is the lead federal agency responsible for ensuring compliance with NEPA for airport development actions.

WHAT SHOULD YOU DO? Read this Final EA on the Proposed Action to understand the actions that the City of Portland and FAA intend to take relative to the Proposed Action at Portland International Jetport.

WHAT HAPPENS AFTER THIS? Following review of the Final EA, the FAA will either issue a Finding of No Significant Impact (FONSI), a FONSI/Record of Decision (ROD), or decide to prepare a Federal Environmental Impact Statement.

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT**

**Portland International Jetport
Portland, Maine**

Proposed Action

The City of Portland seeks Federal Aviation Administration approval to implement capital improvements and other safety-related actions listed as high priority (i.e., completion within five to seven years) in the Portland International Jetport's Sustainable Airport Master Plan. These proposed projects are depicted on the Jetport's airport layout plan and will require Federal funding and approvals by the FAA. They are identified on Exhibit 1D of the Environmental Assessment (EA) and are collectively referred to as the Proposed Action:

- Long-term hold/deicing/remain overnight apron (Phases 1 and 2) (Items 2 and 3)
- Runway 11 end taxiway bypass and realignment of perimeter service road (Item 4)
- Tree removal to clear the glideslope qualification surface (GQS) for the Runway 36 end (Item 5)
- Air cargo taxiway (Phase 2) (Item 6B)
- Taxiway C realignment (Phases 1 and 2) (Items 7 and 9)
- Taxiway A relocation east of Runway 18-36 (Item 8)
- Service access road relocation east of cargo area (Item 10)
- Taxiway B construction from Runway 36 end to Runway 29 end (Item 11)

Purpose And Need

The purposes for the Proposed Action addressed in this EA are:

1. To improve the operational safety of the airfield consistent with FAA design standards;
2. To protect the instrument approaches to the runway system;
3. To improve the Jetport's operational efficiency; and
4. To implement the Jetport's sustainability goals and objectives at a project-specific level.

Alternatives Considered

Chapter 2 of the EA details the Alternatives considered. Each alternative had different project component configurations, but each identified the project components discussed above, with the exception of the No Action (i.e., no build) alternative.

Assessment

Chapter 3 of the EA describes in detail the Affected Environment; Chapter 4 describes the Environmental Consequences of the Proposed Action. The following potential impacts have been mitigated below a level of significance (see Mitigation Measures below): a total of 1.16 acres of freshwater wetlands would be removed as a result of the proposed long-term hold/deicing/remain overnight apron (Items 2 and 3); a total of 0.1 acre of mowed freshwater wetlands would be removed as a result of the proposed Taxiway A relocation east of Runway 18-36 (Item 8); temporary impacts to wetlands could occur within the Calvary Cemetery (Project Item 5); and temporary, indirect impacts to wetlands adjacent to the service road relocation east of the cargo area (Project Item 10) could result from construction activities. No other significant impacts would result from the Proposed Action due to the avoidance and minimization measures incorporated into the project or already implemented at the Jetport.

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT**

The cumulative impacts section of Chapter 4 addresses reasonably foreseeable, future projects in combination with past and present actions. Cumulative impacts expected to occur are not significant because of the types of projects, the built environment in which they occur, and the mitigation, avoidance, or minimization measures previously undertaken, and proposed as part of this Project.

Mitigation Measures

Wetlands have been avoided to the extent practicable by only including the project elements necessary to improve the operation and safety of the Jetport. Mitigation for anticipated wetland impacts shall be provided by payment of in-lieu fee to the Maine Department of Environmental Protection (MDEP) at the established rate for the type of wetland impacts associated with the Proposed Action. All vegetation affected by temporary impacts within the Calvary Cemetery (Item 5) shall be reestablished. (For the tree removal of the GQS area, trees shall be removed on a tree-by-tree basis, and all stumps shall be treated and left in place.) Erosion control measures to protect wetlands adjacent to the service road relocation east of the cargo area (Item 10) shall be implemented per the applicable MDEP and United States Army Corps of Engineer permit conditions.

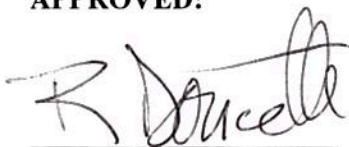
Avoidance and Minimization Measures

Avoidance and minimization measures include best management practices and permit procedures associated with the following: air quality and dust control measures; timing construction activity to avoid the breeding/pup rearing period for federally and state-protected bat species and migratory birds; enforcement of the Jetport's existing stormwater pollution prevention, spill containment and countermeasure, and erosion and sediment control plans; notification of FAA and the State Historic Preservation Office in the event of unanticipated discovery of cultural resources; and the continuing use of the Jetport's ongoing noise hotline and other noise abatement procedures throughout the construction phases of all Proposed Action components. Impacts to surface waters are avoided and minimized by installation and maintenance of the proposed water quality filters and improvement to the existing water quality pond east of Runway 18-36.

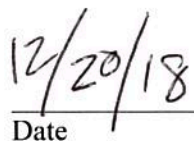
Finding of No Significant Impact

I have carefully and thoroughly considered the facts contained in the attached EA. Based on that information, I find the proposed Federal action is consistent with existing national environmental policies and objectives of Section 101(a) of the *National Environmental Policy Act of 1969* (NEPA) and other applicable environmental requirements. I also find the proposed Federal action will not significantly affect the quality of the human environment or include any condition requiring any consultation pursuant to Section 102(2)(C) of NEPA. As a result, FAA will not prepare an Environmental Impact Statement (EIS) for this action.

APPROVED:



Richard Doucette,
Environmental Program Manager



Date



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PORTLAND INTERNATIONAL JETPORT

Portland, Maine

Final

ENVIRONMENTAL ASSESSMENT FOR

FUTURE PROJECTS AT THE PORTLAND INTERNATIONAL JETPORT

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Chapter One

PURPOSE AND NEED

Chapter One

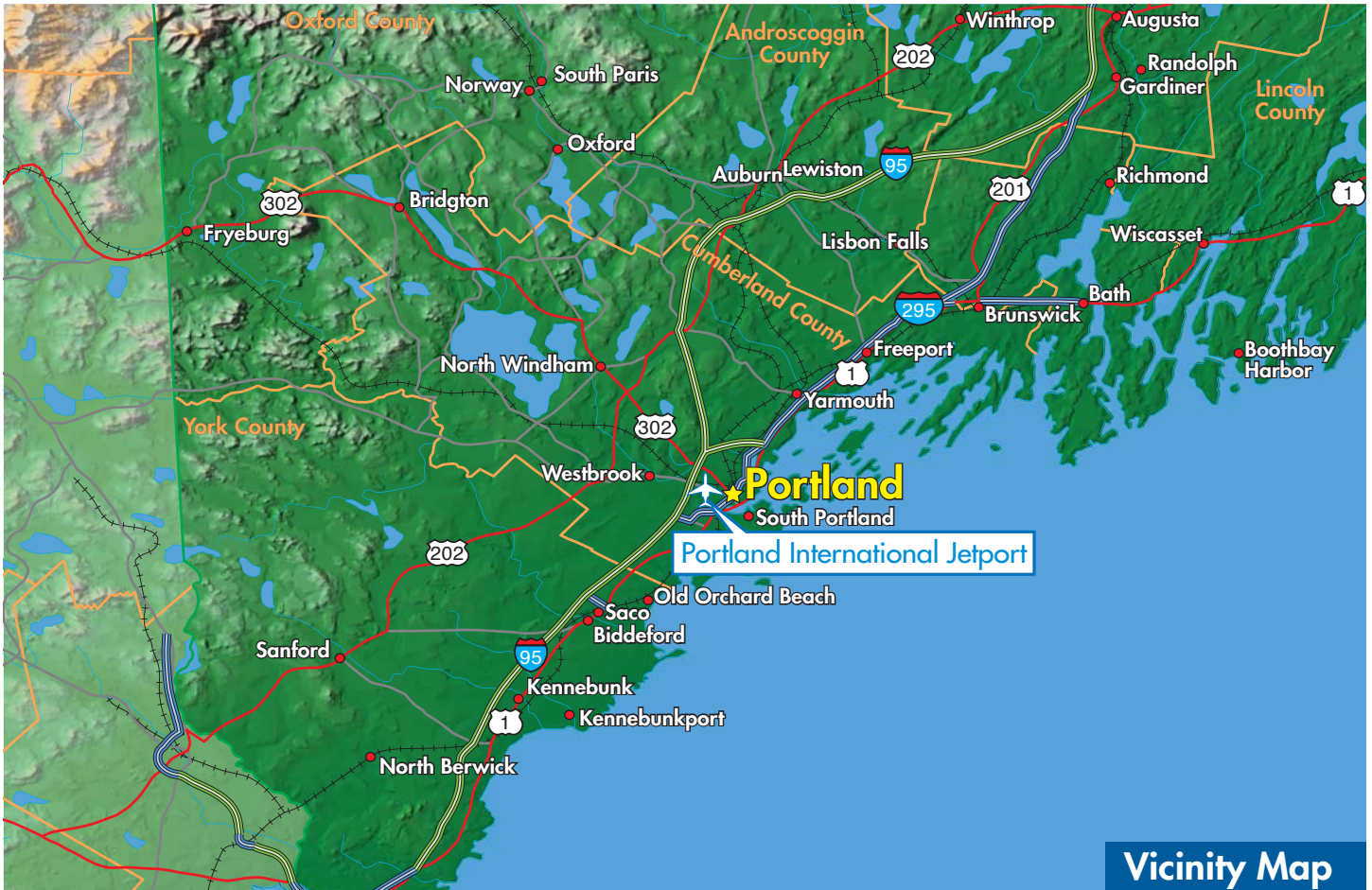
PURPOSE AND NEED

1.1 INTRODUCTION

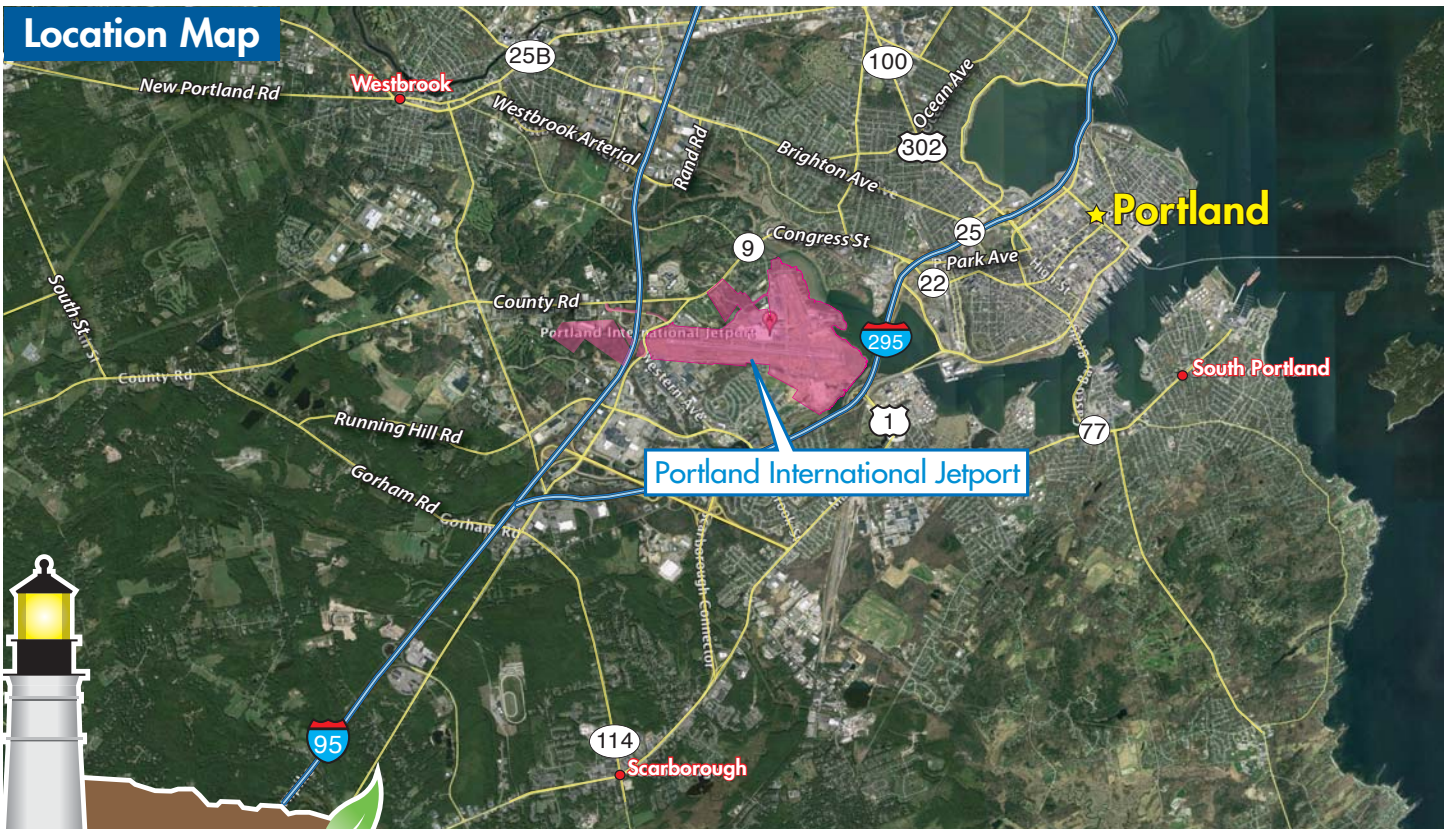
Portland International Jetport (Jetport or PWM) is a small hub, commercial service airport that serves the greater Portland region of the State of Maine. It is owned and operated by the City of Portland, and is in the southeastern portion of Cumberland County, approximately three miles from downtown Portland (**Exhibit 1A**). The Jetport encompasses 769 acres within the corporate boundaries of the cities of South Portland and Portland. The primary runway (Runway 11-29) and the southern half of the cross-wind runway (Runway 18-36) are in South Portland; the northern half of Runway 18-36 and most of the landside facilities are in Portland. Part of the Jetport's westernmost property, which protects the west approach to Runway 11-29, abuts the corporate limits of Westbrook (**Exhibit 1B**). The Fore River and its tributary, Long Creek, are located adjacent to the eastern Jetport boundary. Interstate 295 crosses the Fore River just east of the Jetport and then continues south to the east of Long Creek. There are two residential areas in proximity to the Jetport: the historic Red Bank/Brick Hill neighborhood, which includes a new apartment complex along Lydia Lane, is south of the Jetport in South Portland; and the historic Stroudwater neighborhood is north of the Jetport in Portland.

The City of Portland is seeking to implement capital improvements and other safety-related actions listed as high priority (i.e., completion within five to seven years) in its recently approved Sustainable Airport Master Plan (SAMP) (City of Portland 2018a). These proposed projects are depicted on the Jetport's Airport Layout Plan (ALP) and will require federal funding and approvals by the Federal Aviation Administration (FAA). Federal actions are subject to the *National Environmental Policy Act (NEPA) of 1969* (Title 42 United States Code [USC] Sections 4321 et seq.). FAA is the lead federal agency responsible for ensuring compliance with NEPA for airport development actions.

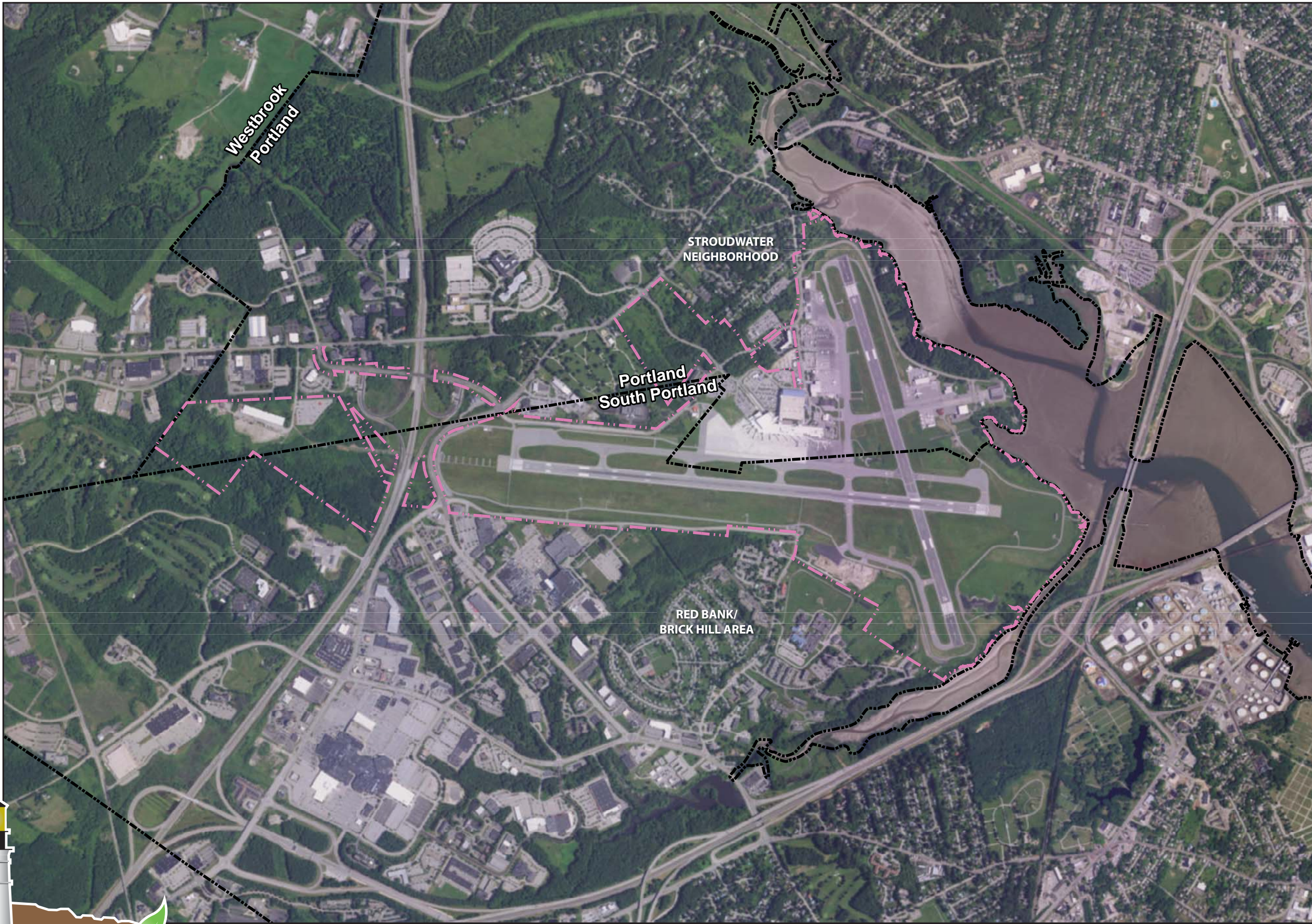
This Environmental Assessment (EA) discloses the potential impacts of a Proposed Action alternative, a No Action alternative, and other reasonable and feasible alternatives. This document has been prepared pursuant to the requirements of NEPA Section 102(2)(c), President's Council of Environmental Quality (CEQ) Regulations (Title 40 Code of Federal Regulations [CFR] Sections 1500-1508), and Section 509(b)(5) of the *Airport and Airway Improvement Act of 1982*, as amended. It has also been prepared in accordance with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* (FAA 2015d), and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*



Vicinity Map



Location Map



Legend

- Airport Property Line
- Municipal Boundary

0 1,500 3,000
Feet



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(FAA 2006b). This EA will aid the FAA and the City of Portland in complying with various federal environmental laws and regulations that are applicable to the Proposed Action.

This chapter contains background information on the Jetport, describes the Proposed Action, including its purpose and need, lists requested federal actions, and outlines the document format. The EA's scoping and agency coordination materials are in **Appendix A**.

1.2 JETPORT BACKGROUND

The Jetport was originally a privately-owned facility known as Stroudwater Airport. It was purchased by the City of Portland in 1934 and renamed Portland Municipal Airport; in 1969, it was renamed Portland International Jetport. The Jetport is a Class I, Part 139-certificated facility, which means that it has an Airport Operating Certificate (AOC) per 14 CFR Part 139 that supports the regularly (and irregularly) scheduled operations of large and/or small air carrier aircraft conducting commercial operations at the facility. An airport/jetport is considered Class I if it is certificated to serve scheduled operations of large air carrier aircraft and can also serve unscheduled passenger operations of large air carrier aircraft and/or scheduled operations of small air carrier aircraft.

1.2.1 Description of Existing Jetport

The Jetport has two runways: Runway 11-29 is the primary runway, is 7,200 feet long and 150 feet wide, and is oriented in an east-west manner; Runway 18-36 is the crosswind runway, is 6,100 feet long and 150 feet wide, and is oriented in a north-south manner. **Exhibit 1C** presents a summary of the airfield characteristics. The runways are constructed of grooved asphalt. Runway 11-29 has 14-foot-wide shoulders, precision pavement markings, and high-intensity runway edge and centerline lighting. Runway 18-36 has 15-foot-wide shoulders, non-precision pavement markings, medium-intensity runway edge lighting, and no centerline lighting. The runways have additional visual approach, weather, and navigation aids as identified in the table insets on **Exhibit 1C**. All taxiways associated with the runways are equipped with medium-intensity taxiway edge lighting.

The taxiway system at the Jetport is shown on **Exhibit 1C**. Since many of the proposed future projects involve improvements to the Jetport's taxiway system, this system is described in more detail in **Table 1A**, as well as the following text.

Taxiway A is the only full-length, completely parallel taxiway currently at the Jetport. It provides holding/run-up aprons at each end of Runway 11-29. The Taxiway A designator is also given to the entrance/exit taxiways at the east and west ends of Runway 11-29 that connect the two runway ends with the parallel taxiway.¹ There are four other entrance/exit taxiways connecting Runway 11-29 with parallel Taxiway A. These taxiways are designated C, D, E, and F moving from east to west.

¹ The Taxiway A interface with Runway 29 is slightly less than a 90-degree angle. FAA standards suggest that all runway holding positions be aligned with the runway centerline so that the pilot has full range of view in both runway directions.

TABLE 1A
Existing Taxiway Characteristics
Portland International Jetport

Taxiway (TW) Designation	Service	Type	Width (feet)	Strength (1,000 pounds)
A	All Commercial/GA	Parallel	75	75S/169D/300DT
B	Limited Commercial/GA	Exit	60	75S/165D/300DT
C (north of TW J)	Limited Commercial/GA	Parallel	50	75S/165D/300DT
C (south of TW J)	Limited Commercial/GA	Parallel	60	75S/165D/300DT
D	All Commercial/GA	Exit	75	75S/169D/300DT
E	All Commercial/GA	Exit	75	75S/169D/300DT
F	All Commercial/GA	Exit	75	75S/169D/300DT
G (west of Runway 18-36)	All Commercial/GA	Exit/Connector	75	75S/165D/300DT
G (east of Runway 18-36)	All Commercial/GA	Exit/Connector	50	75S/165D/300DT
J	Limited Commercial/GA	Exit	60	75S/165D/300DT
Y	Limited Commercial/GA	Connector	107	75S/165D/300DT
Z	Limited Commercial/GA	Connector	87	75S/165D/300DT

GA = general aviation

S = single-wheel loading

D = dual-wheel loading

DT = double tandem-wheel loading

Source: City of Portland 2018a. *Portland International Jetport Sustainable Airport Master Plan*, Exhibit 1F.

Taxiway C serves as a quasi-parallel taxiway serving the west side of Runway 18-36. The southernmost 1,200 feet is the only portion of the taxiway aligned fully parallel to the runway, with its centerline situated 300 feet west of the runway centerline. To the north, Taxiway C runs along the outer portions of the north general aviation (GA) apron and main terminal apron and then extends through Runway 11-29 before bending to the east to be parallel with the runway. The taxiway varies in width. The Jetport completed constructing snow shoulders² along parts of Taxiway C in 2018.

Taxiway C provides entrance/exit connections at each end of Runway 18-36, with the south end aligned at 90 degrees and the north end less than 90 degrees. The holding positions for Runway 18-36 are located on Taxiway C prior to the entrance taxiway locations. These holding positions are located on the parallel portion of the taxiway so that the pilots of a departing aircraft will look directly into the approach path of the runway end.

There are three entrance/exit taxiways linking Runway 18-36 with parallel Taxiway C, identified as Taxiways B, G, and J. Taxiway B is an exit located at the south end of the runway, Taxiway J is located at the north end of the runway, and Taxiway G is located approximately midfield. Both Taxiways B and J link to the west side of the runway only, whereas Taxiway G links to the east and west. As such, Taxiway G serves both as an entrance/exit taxiway and a connector linking the western terminal facilities with the eastern facilities, including, among others, the cargo apron and United States (U.S.) Customs facility and associated apron.

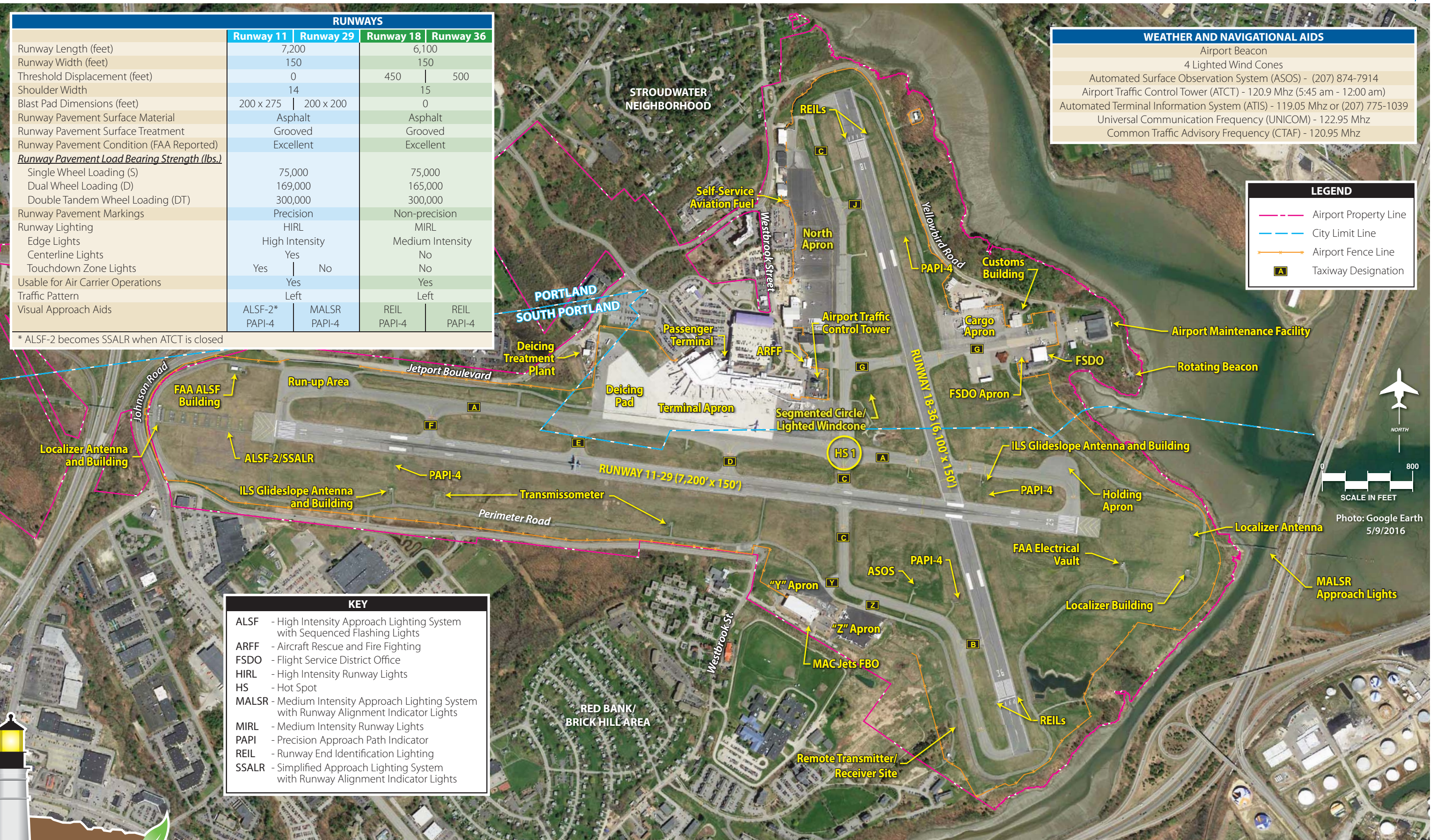
² A snow shoulder is a paved surface beyond the edge of the runway or taxiway which provides support for snow removal equipment to keep snow clear of the runway and taxiway edge lights.

RUNWAYS				
	Runway 11	Runway 29	Runway 18	Runway 36
Runway Length (feet)	7,200		6,100	
Runway Width (feet)	150		150	
Threshold Displacement (feet)	0		450	500
Shoulder Width	14		15	
Blast Pad Dimensions (feet)	200 x 275 200 x 200		0	
Runway Pavement Surface Material	Asphalt		Asphalt	
Runway Pavement Surface Treatment	Grooved		Grooved	
Runway Pavement Condition (FAA Reported)	Excellent		Excellent	
Runway Pavement Load Bearing Strength (lbs.)				
Single Wheel Loading (S)	75,000		75,000	
Dual Wheel Loading (D)	169,000		165,000	
Double Tandem Wheel Loading (DT)	300,000		300,000	
Runway Pavement Markings	Precision		Non-precision	
Runway Lighting	HIRL		MIRL	
Edge Lights	High Intensity		Medium Intensity	
Centerline Lights	Yes		No	
Touchdown Zone Lights	Yes	No	No	
Usable for Air Carrier Operations	Yes		Yes	
Traffic Pattern	Left		Left	
Visual Approach Aids	ALSF-2*	MALSR	REIL	REIL
	PAPI-4	PAPI-4	PAPI-4	PAPI-4

* ALSF-2 becomes SSALR when ATCT is closed

WEATHER AND NAVIGATIONAL AIDS	
	Airport Beacon
	4 Lighted Wind Cones
	Automated Surface Observation System (ASOS) - (207) 874-7914
	Airport Traffic Control Tower (ATCT) - 120.9 Mhz (5:45 am - 12:00 am)
	Automated Terminal Information System (ATIS) - 119.05 Mhz or (207) 775-1039
	Universal Communication Frequency (UNICOM) - 122.95 Mhz
	Common Traffic Advisory Frequency (CTAF) - 120.95 Mhz

LEGEND	
	Airport Property Line
	City Limit Line
	Airport Fence Line
	Taxiway Designation



KEY	
ALSF	- High Intensity Approach Lighting System with Sequenced Flashing Lights
ARFF	- Aircraft Rescue and Fire Fighting
FSDO	- Flight Service District Office
HIRL	- High Intensity Runway Lights
HS	- Hot Spot
MALSR	- Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
MIRL	- Medium Intensity Runway Lights
PAPI	- Precision Approach Path Indicator
REIL	- Runway End Identification Lighting
SSALR	- Simplified Approach Lighting System with Runway Alignment Indicator Lights



Photo: Google Earth 5/9/2016



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Jetport facilities also include a commercial passenger terminal, cargo facilities, GA facilities, fixed base operators (FBOs), and support facilities, such as fuel storage, automobile parking, roadway access, an aircraft rescue and firefighting (ARFF) building, and a deicing pad. The ARFF facility is located west of the intersection of Taxiways C and G, with convenient access to both the main commercial passenger terminal and the north GA apron. The deicing pad is located immediately west of the apron at the commercial passenger terminal and is capable of deicing two aircraft simultaneously. A deicing fluid treatment facility is located immediately west/northwest of the terminal apron and is certified to recycle propylene glycol from Jetport operations, as well as from other sources as long as the chemicals are not contaminated.

The Jetport has three areas for GA aircraft apron space: a northern GA apron, the eastern cargo apron, and the south GA apron. The Jetport has two FBOs, Northeast Air Motive (Northeast Air) and Maine Aviation Corporation and Sales (Maine Aviation), which provide GA terminal facilities and manage fuel sales and delivery to aircraft. Jetport personnel handle most Jetport maintenance and all snow removal operations. Jetport maintenance facilities are located at the east end of Taxiway G near the Jetport's eastern border with Fore River, across from the cargo apron.

1.2.2 Aviation Forecasts

The Jetport's SAMP was adopted by the City of Portland in 2016 and is available at: <https://www.portlandjetport.org/>. One purpose of the SAMP study effort was to review forecasts of future aviation demand and to plan for the timely improvement of facilities that may best meet demand and maintain compatibility with the environs. The SAMP planning process was guided by FAA Advisory Circular (AC) 150/5070-6B, *Airport Master Plans* (FAA 2015a).

FAA is responsible for reviewing and approving aviation forecasts developed in conjunction with airport master plans. **Table 1B** summarizes the key forecast milestones of the SAMP in terms of enplanements, overall operations, and based aircraft for each of three planning horizons: short term (2020); intermediate term (2025); and long term (2035).

As can be seen in **Table 1B**, enplanements³ at the Jetport in 2016 were 876,965 and are expected to grow to 1,187,969 by 2035. Overall Jetport operations, which include use of the Jetport by commercial flights, GA activity, and military usage, are forecast to grow from 50,993 annual operations in 2015 to 69,300 by 2035. Based aircraft at the Jetport are anticipated to increase from 45 based aircraft in 2015 to 76 by 2035 (City of Portland 2018a). These forecasts should be considered a range of potential growth that could be experienced by the Jetport over the next 20 years, and are not due to changes in airfield capacity, but regional and national growth, primarily in commercial aviation demand.

³ Enplanements refer to the total number of revenue passengers boarding aircraft, including originating, stop-over, and transfer passengers, in both scheduled and non-scheduled services.

TABLE 1B
Planning Horizon Projected Annual Activity Levels
Portland International Jetport

	EXISTING ¹	PLANNING HORIZONS ²		
	2016	2020	2025	2035
Enplaned Passengers	876,965	971,324	1,010,139	1,187,969
Commercial Operations				
Air Carrier	17,516	16,700	26,800	32,000
Air Cargo/Other Air Taxi	14,655	9,200	10,300	12,700
<i>Total</i>	32,171	25,900	37,100	44,700
General Aviation Operations,				
Itinerant ³	15,070	17,400	18,400	20,500
Local ⁴	3,264	3,400	3,400	3,500
<i>Total</i>	18,334	20,800	21,800	24,000
Military Operations				
Itinerant ³	466	500	500	500
Local ⁴	22	100	100	100
<i>Total</i>	488	600	600	600
Total Jetport Operations	50,993	47,300	59,500	69,300
Based Aircraft	45	56	62	76

Sources:

¹ FAA 2017a, Air Traffic Activity Data System (ATADS): Airport Operations: Standard Report; FAA 2017b, Passenger Boarding (Enplanement) and All-Cargo Data for U.S. Airports; and GCR, Inc. 2017, Airport Master Record, Form 5010-1.

² City of Portland 2018a. *Portland International Jetport Sustainable Airport Master Plan*.

³ Itinerant operations are all operations other than local operations.

⁴ Local operations are those that operate in the local traffic pattern or within sight of the Jetport; are known to be departing for, or arriving from, flights in the local traffic practice areas located within a 20-mile radius of the Jetport; or execute simulated instrument approaches or low passes at the Jetport (14 CFR 170.3 - Definitions).

The forecasts anticipate interim fluctuations in the market. Therefore, the SAMP uses short-, intermediate-, and long-term planning milestones to allow Jetport management the flexibility to make decisions and develop facilities according to the actual demand levels that occur. It should also be noted that safety projects are not necessarily demand-based, but are sometimes required by FAA due to existing conditions that may not meet current design and safety standards.

1.3 DESCRIPTION OF THE PROPOSED ACTION

Projects addressed in this EA are primarily related to enhancing safety, efficiency, and sustainability at the Jetport. They are identified on **Exhibit 1D** and are collectively referred to as the Proposed Action within the EA (Items 2, 3, 4, 5, 6B, 7, 8, 9, 10, and 11). Other projects shown on **Exhibit 1D** (Items 1 & 6A) have already been evaluated by FAA under NEPA. These projects will be included in the cumulative analysis of this EA, as will other projects at the Jetport that have been constructed within the past five years or are currently underway (refer to Section 3.4). Each of the project components within the Proposed Action are discussed in more detail in the following subsections.

FUTURE PROJECTS REQUIRING ENVIRONMENTAL CONSIDERATIONS

- 1 Terminal Apron Expansion Northwest End - Phase 2 (cumulative project)
- 2 Long Term Hold/Deicing/RON Apron - Phase 1
- 3 Long Term Hold/Deicing/RON Apron - Phase 2
- 4 Runway 11 Taxiway Bypass and Perimeter Service Road Realignment
- 5 Tree Removal for GQS on Runway 36 End
- 6A Construct Air Cargo Taxiway - Phase 1 (cumulative project)
- 6B Construct Air Cargo Taxiway - Phase 2
- 7 Construct Taxiway C Realignment - Phase 1
- 8 Relocate Taxiway A East of Runway 18-36
- 9 Construct Taxiway C Realignment - Phase 2
- 10 Relocate Service Access Road East of Cargo
- 11 Construct Taxiway B Runway 36 to 29

LEGEND

- Airport Property Line
- City Limit Line
- Airport Fence Line
- Runway Protection Zone (RPZ)
- Projects Under this EA
- Projects with Existing Environmental Approval
- Pavement to be Removed
- Proposed Tree Removal
- Sustainable Projects
- Safety-Related Projects

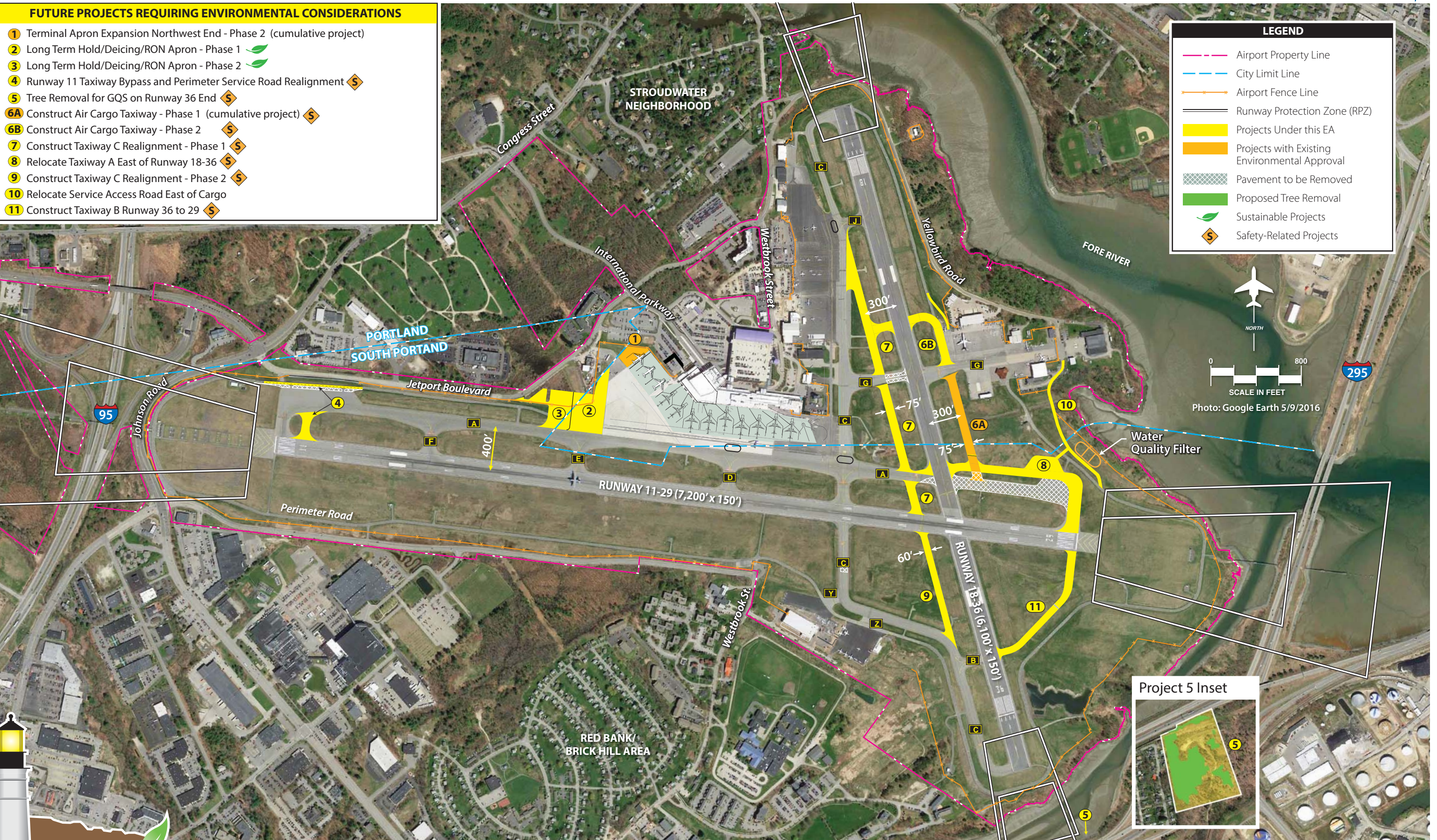


Photo: Google Earth 5/9/2016



Source: City of Portland 2018.

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1.3.1 Long-term Hold/Deicing/Remain Overnight Apron (Phases 1 and 2) (Project Items 2 and 3)

This project component would include construction of 3.47 acres of new concrete and bituminous aircraft and snow storage apron, a transition of 1.7 acres of existing bituminous snow shoulder to concrete aircraft apron, 0.44 acre of access and project laydown area, 1.7 acres of grassed side slope and vegetated water quality filter areas, and 1.2 acres of wetland impact. The overall work limit associated with this project component, including project staging, would be approximately 7.3 acres, with maximum earthwork cuts of six feet and maximum earthwork fills of three feet.

The water quality filter (WQF #1) would meet the Maine Department of Environmental Protection (MDEP) Chapter 500 Stormwater Management Rules and would utilize MDEP Best Management Practices (BMPs) Volume III, BMP Technical Design for Grassed Underdrained Soil Filter for its design guidelines. Vegetated underdrained soil filters (or water quality filters) capture and retain runoff and pass it through a soil filter media consisting of a silty sand and organic matter mixture to remove pollutants. The runoff is collected below the soil filter media in underdrain pipe and discharged downstream.

The existing 500,000-gallon underground spent deicing fluid storage tank along the northern limits of this project component would remain and be protected during construction of this project component.



Figure 1. Long-term Hold/Deicing/Remain Overnight Apron (Phases 1 and 2) (Project Items 2 and 3)

1.3.2 Runway 11 End Taxiway Bypass and Realignment of Perimeter Service Road (Project Item 4)

This project component would include construction of 245 linear feet (lf) of new taxiway comprised of 1.2 acres of new bituminous aircraft taxiway and snow shoulder pavement, and 2.2 acres of grassed side slope area associated with site fills and additional disturbance associated with storm drain installation. This project component would also include realignment of 928 lf of perimeter service road. Due to the proposed location of the road, only 0.1 acre of new bituminous pavement would be required to realign the road and 0.4 acre of bituminous pavement would be eliminated. The overall work limit associated with this project component, including project staging, would be approximately 5.6 acres, with maximum earthwork cuts of three feet and maximum earthwork fills of three feet.

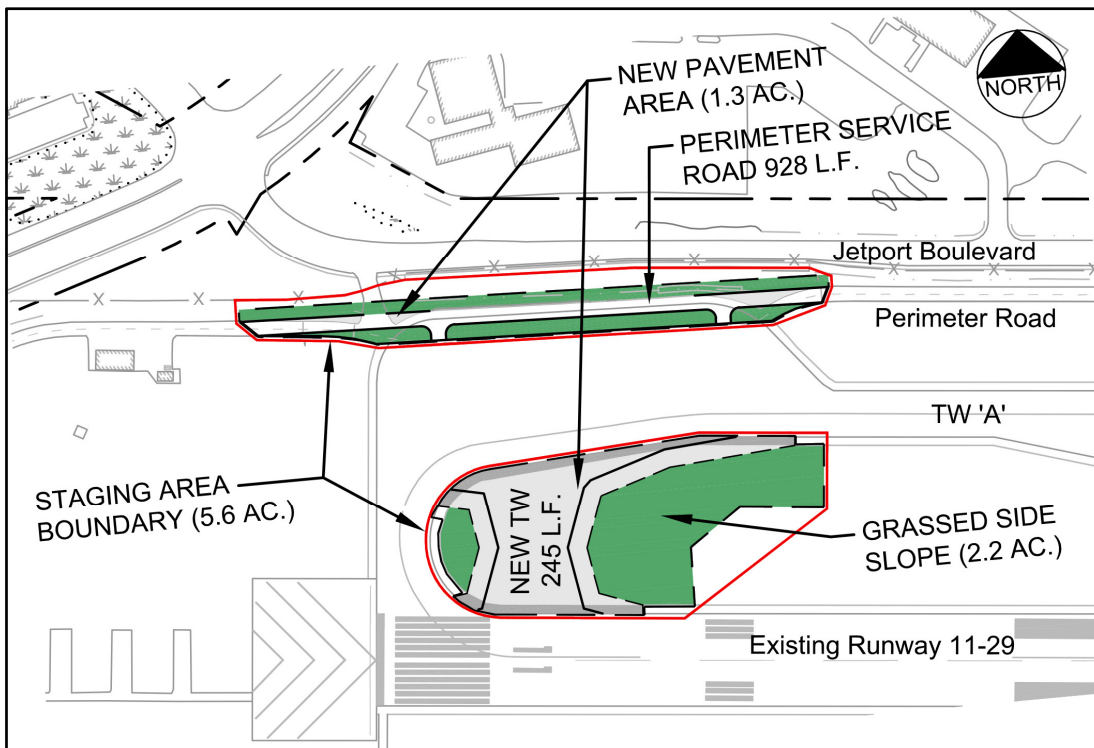


Figure 2. Runway 11 End Taxiway Bypass and Realignment of Perimeter Service Road (Project Item 4)

1.3.3 Tree Removal to Clear the Glideslope Qualification Surface (GQS)⁴ for the Runway 36 End (Project Item 5)

This project component would include select tree removal within approximately six acres of off-Jetport property. Only those trees that are obstructions to or within 10 vertical feet of the 30 horizontal to 1 vertical GQS would be removed. Tree removal would be performed on a tree-by-tree basis and would treat and leave all stumps in place. Approximately 0.5 acre of this select tree removal would be within areas delineated as wetlands.

⁴ The GQS (glideslope qualification surface) extends from the runway threshold along the runway centerline extended to the departure altitude (DA) point. It limits the height of obstructions between the DA and the runway threshold. When obstructions exceed the height of the GQS, an approach procedure with positive vertical guidance (for example, an ILS) is not authorized.

**1.3.4 Air Cargo Taxiway (Phase 2)
(Project Item 6B)**

This project component would include construction of 663 lf of taxiway comprised of 1.1 acres of new bituminous aircraft taxiway and snow shoulder pavement and 1.0 acre of grassed side slope area associated with site fills and additional disturbance associated with utility installation. Approximately 0.9 acre of existing aircraft apron pavement would be replaced to become part of the new taxiway. This project component would also include realignment of 373 lf of perimeter service road. The overall disturbance area associated with this project component, including project staging, would be approximately 3.7 acres with maximum earthwork cuts of four feet and maximum earthwork fills of two feet.

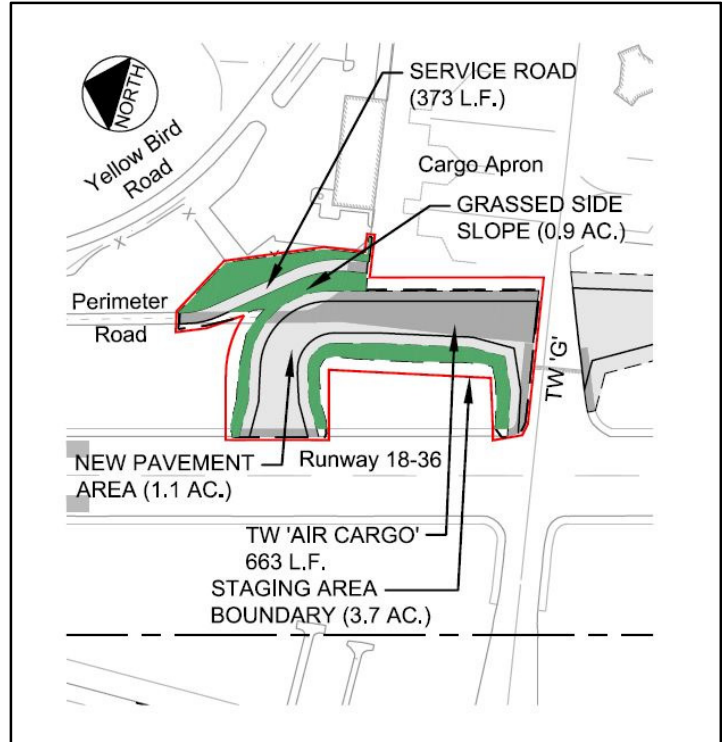


Figure 3. Air Cargo Taxiway (Phase 2) (Project Item 6B)

1.3.5 Taxiway C Realignment (Phases 1 and 2) (Project Items 7 and 9)

This project component would include construction of 3,363 lf of new taxiway comprised of 8.8 acres of new bituminous aircraft taxiway and snow shoulder pavement and 12.0 acres of grassed side slope area associated with site fills and additional disturbance associated with utility installation. The overall work limit associated with this project component, including project staging, would be approximately 22 acres with maximum earthwork cuts of eight feet and maximum earthwork fills of 20 feet.

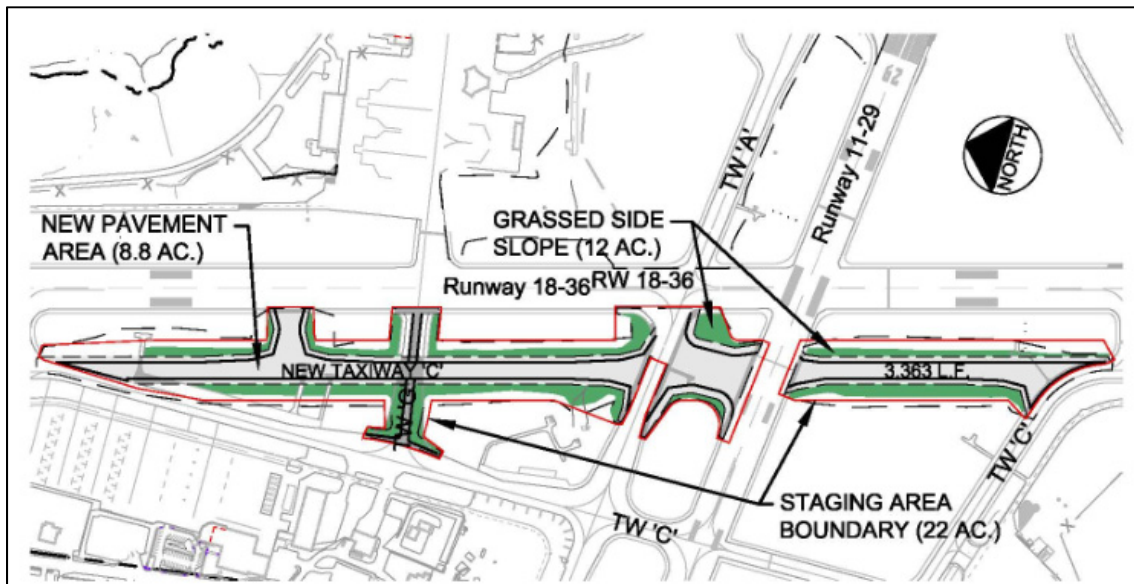


Figure 4. Taxiway C Realignment (Phases 1 and 2) (Project Items 7 and 9)

1.3.6 Taxiway A Relocation East of Runway 18-36 (Project Item 8)

The eastern end of Taxiway A currently encroaches within the glideslope critical area located east of Runway 18-36. Therefore, a 1,776-lf section of Taxiway A would be relocated approximately 180 feet to the north to remove Taxiway A from the glideslope critical area. This project component would include construction of 1,776 lf of relocated taxiway comprised of 4.7 acres of new bituminous aircraft taxiway and snow shoulder pavement, 8.0 acres of grassed side slope area associated with site fills and disturbance associated with utility installation, and 0.1 acre of wetland impact. Approximately 2.9 acres of existing taxiway pavement would be removed to become a grassed infield area. The overall work limit associated with this project component, including project staging, would be approximately 20 acres with maximum earthwork cuts of four feet and maximum earthwork fills of 14 feet.

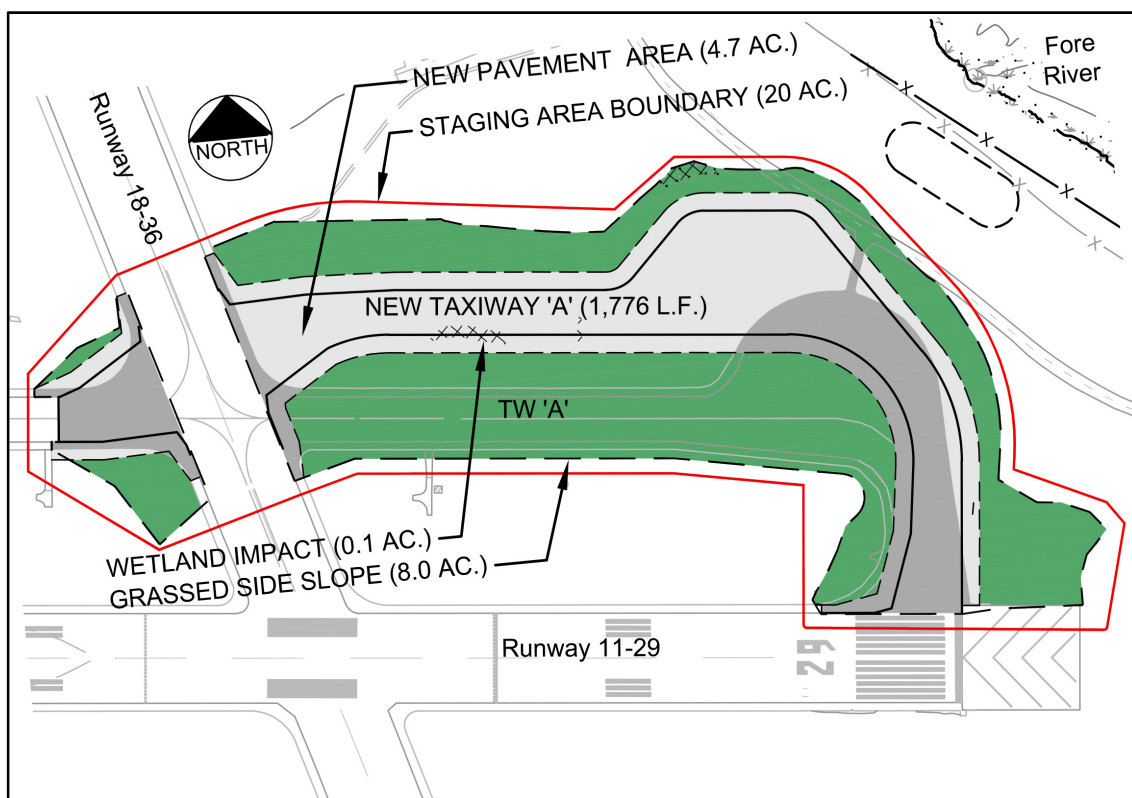


Figure 5. Taxiway A Relocation East of Runway 18-36 (Project Item 8)

1.3.7 Service Access Road Relocation East of Cargo Area (Project Item 10)

This project component would include realignment of 1,300 lf of perimeter service road comprised of 0.5 acre of new bituminous service access road and 9.8 acres of grassed side slope area associated with site fills and additional disturbance associated with storm drain installation and water quality filters adjacent to the service road. Approximately 350 lf of perimeter fence in this area would also be relocated

to accommodate the realigned road. The overall disturbance area associated with this project component, including project staging, would be approximately 12 acres with maximum earthwork cuts of six feet and maximum earthwork fills of six feet.

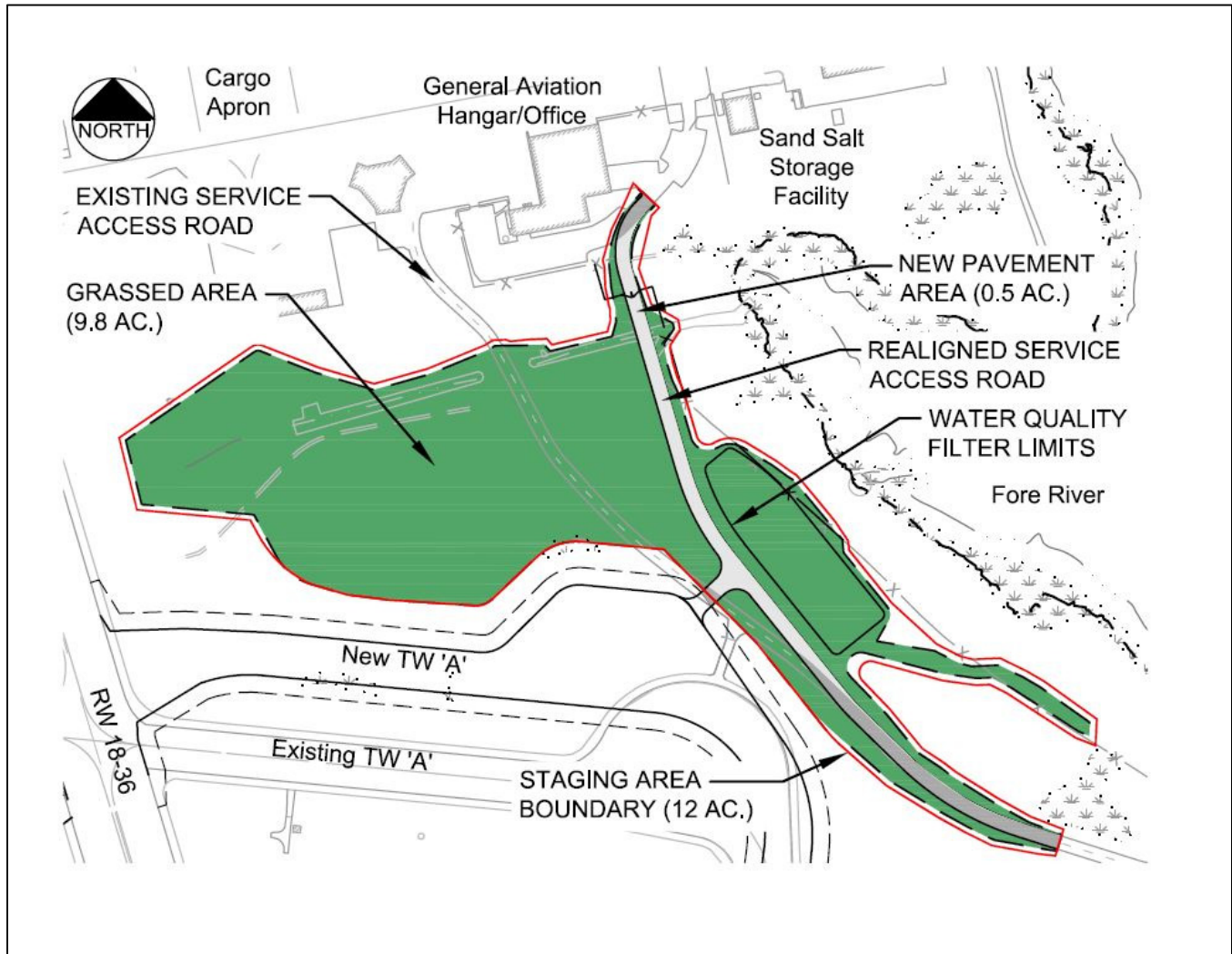


Figure 6. Service Access Road Relocation East of Cargo Area (Project Item 10)

This project component also includes a water quality filter (WQF #2), which would be required to meet MDEP Chapter 500 rules for water quality treatment of a redevelopment project. WQF #2 would be located east of Project Item 10. This location would allow for future expansion of the cargo apron and would allow the filter to be located topographically downgradient of existing and proposed development to capture runoff in order to meet MDEP redevelopment standards. The water quality filter would follow guidelines for MDEP Best Management Practices for a Grassed Underdrained Soil Filter (see also Section 1.3.1).

1.3.8 Taxiway B Construction from Runway 36 End to Runway 29 End (Project Item 11)

This project component would include construction of 1,226 lf of new taxiway comprised of 2.9 acres of new bituminous aircraft taxiway and snow shoulder pavement and 2.3 acres of grassed side slope area associated with site fills and additional disturbance associated with storm drain installation to discharge stormwater to the existing water quality pond to the south. The overall work limit associated with this project component, including project staging, would be approximately 7.5 acres with maximum earthwork cuts of four feet and maximum earthwork fills of four feet.

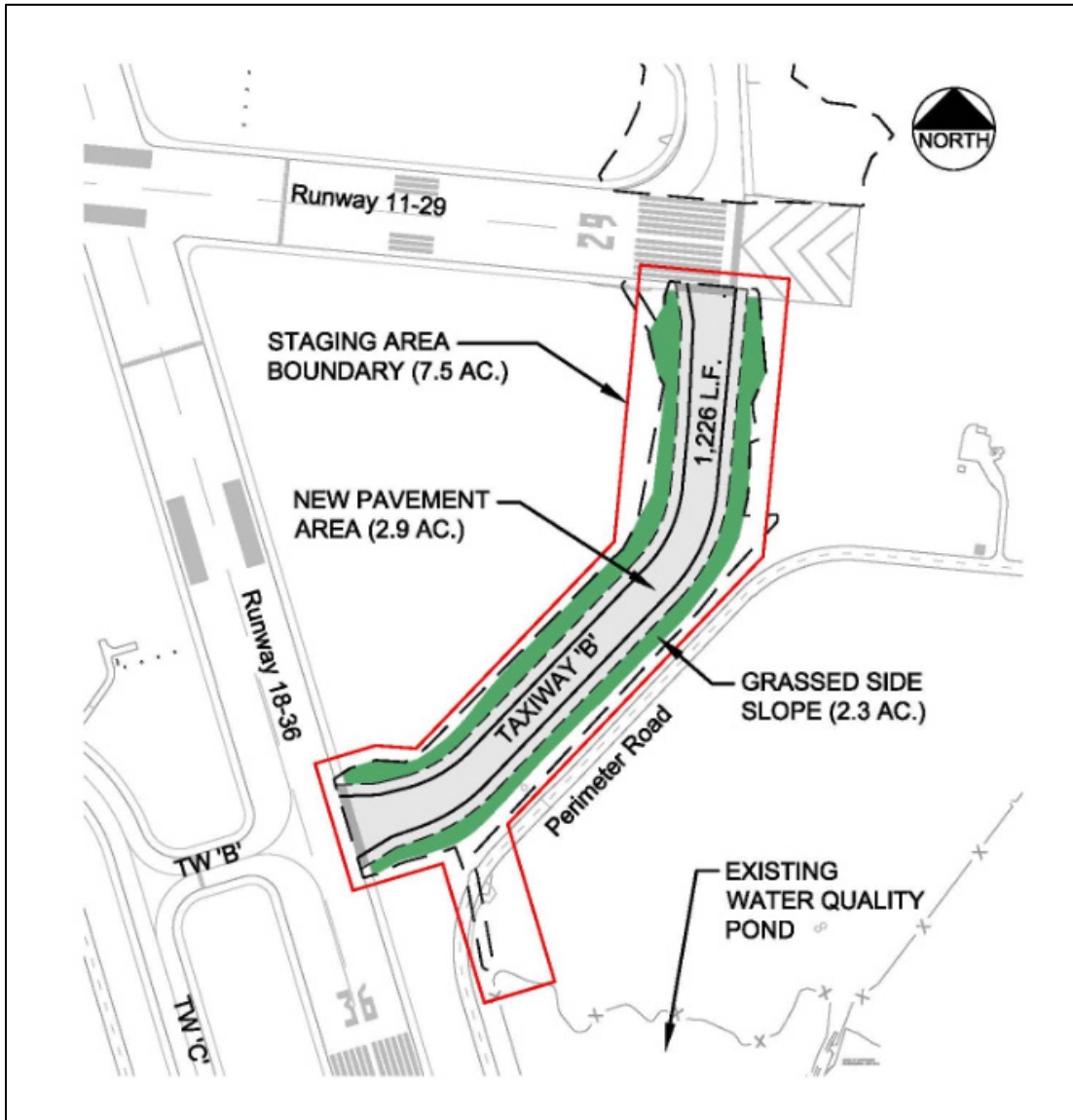


Figure 7. Taxiway B Construction from Runway 36 End to Runway 29 End (Project Item 11)

1.3.9 Proposed Action Phasing and Implementation Schedule

The Proposed Action components would be constructed in phases according to the Jetport's airport capital improvement program (ACIP) and the availability of federal funds as follows:

2019

- Long-term hold/deicing/remain overnight apron (Phase 1) (Project Item 2): anticipated duration of construction - 180 days
- Tree removal to clear the GQS for Runway 36 end (Project Item 5): anticipated duration of construction - 20 days
- Taxiway B construction from Runway 36 end to Runway 29 end (Project Item 11): anticipated duration of construction - 120 days;

2020

- Long-term hold/deicing/remain overnight apron (Phase 2) (Project Item 3): anticipated duration of construction - 120 days
- Runway 11 end taxiway bypass and realignment of perimeter service road (Project Item 4): anticipated duration of construction - 100 days

2022

- Air cargo taxiway (Phase 2) (Project Item 6B): anticipated duration of construction - 100 days

2023

- Taxiway A relocation east of Runway 18-36 (Project Item 8): anticipated duration of construction - 180 days
- Service access road relocation east of cargo area (Project Item 10): anticipated duration of construction - 60 days

2024

- Taxiway C realignment (Project Items 7 and 9): anticipated duration of construction - 270 days

1.4 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purposes for the Proposed Action addressed in this EA are listed below:

1. To improve the operational safety of the airfield system consistent with applicable FAA design and safety standards (Grant Assurance 19);
2. To protect the instrument approaches to the runway system (Grant Assurance 20);
3. To improve the Jetport's operational efficiency; and
4. To implement the Jetport's sustainability goals and objectives⁵ at a project-specific level.

Grant assurances are specific conditions required by FAA to be submitted as part of a project application by sponsors requesting funds under the provisions of Title 49 USC, subtitle VII, as amended. The terms, conditions, and assurances of any associated grant agreement remain in full force through the useful life of the facilities developed or equipment acquired for airport development, or through the useful life of the project items installed, but in any event not to exceed 20 years from the date of acceptance of a grant offer of federal funds for the project (FAA 2014c).

The Jetport's recently adopted SAMP identified several areas within the Air Operations Area (AOA)⁶ that pose potential safety risks due to the crossing of taxiways in the "high energy"⁷ areas of the runways or that are "hot spots"⁸ because the taxiway leads directly from the apron to the runway (**Exhibit 1E**). These existing conditions could lead to runway incursions.⁹ The hot spot at the Jetport (HS-1) was identified as Action Item PWM-2013-002 in the Jetport's 2013 Runway Safety Action Plan and has been published on Jetport diagrams and charts as HS-1 since June 23, 2013. Therefore, there is a need at the Jetport to make changes in the layout of the taxiway system to improve the safety of the Jetport and to better meet FAA's taxiway geometric design standards (FAA AC 150/5300-13A, *Airport Design*, as amended [2014a]).

Another need for the Proposed Action is to protect the Jetport's instrument landing system (ILS) glideslope critical area and the GQS. The glideslope is located on the eastern end of the Jetport in an area bounded by Taxiway A and the two runways. The glideslope critical area is traversed by a portion of the taxiway and results in aircraft congestion and backups due to the proximity of several different

⁵ Jetport sustainability objectives include reducing greenhouse gas (GHG) emissions associated with mobile and stationary sources, employees, tenants, and customers. By improving the efficiency of Jetport operations, specifically taxiing and idling times, the Jetport is also implementing these sustainability objectives.

⁶ The AOA (Air Operations Area) is defined by FAA (2009) as, "All airport areas where aircraft can operate, either under their own power or while in tow. The AOA includes runways, taxiways, and apron areas."

⁷ A "high energy" area is defined by FAA as the middle third of a runway.

⁸ A "hot spot" is defined as a location on an aerodrome movement area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary. Typically, a hot spot is a complex or confusing taxiway/taxiway or taxiway/runway intersection.

⁹ A runway incursion is defined as any occurrence at an airport involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing of an aircraft.



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holding positions. There is a need to eliminate the potential for runway incursions associated with two existing holding positions on the portion of the taxiway located east of Runway 18-36 that are too close together to hold a large commercial airline aircraft between the two positions. In addition, there is not currently enough room to remove snow from the critical area without encroaching into Taxiway A's object free area (TOFA). The GQS for the Runway 36 glideslope extends over the U.S. 295 right-of-way and a private cemetery located south of the highway. Currently, there are trees that are obstacles within the GQS.

In addition, the Jetport has a need to improve the efficiency of its airfield to allow it to plan for future demand as identified in the SAMP forecasts (Section 1.2.2), as well as to meet the Jetport's sustainability goals and objectives. **Exhibit 1F** shows the recommended development concept contained in the SAMP, which includes several new taxiways, taxiway connections, and reconfigured taxiways to provide additional room for future commercial apron east of the commercial passenger terminal and allow the Jetport's taxiway system to operate in a more efficient manner.

The specific purposes and needs for each of the project components within the Proposed Action are summarized below as well as discussed in Chapter Two, Alternatives.

- Long-term Hold/Deicing/Remain Overnight (RON) Apron (Project Items 2 and 3). This project component would provide more locations for deicing aircraft, as well as additional parking for aircraft that remain overnight. The Jetport can currently host up to three RON aircraft in the RON designated spaces (**Exhibit 1G**). If more than three RON aircraft are present, the Jetport's 14 departure gates are also used for RON parking. To provide less congestion at the gates, additional RON apron is needed.

The Jetport has a need for additional deicing pads to avoid a waiting period for aircraft during significant winter weather. The current pad can deice two aircraft at the same time. This causes a waiting period during winter months due to the typical morning push-back of five aircraft.

Not only would the Proposed Action provide room for the deicing of aircraft and for RON aircraft, it would benefit from the proposed bypass taxiway at the western end of Runway 11-29. Without the bypass taxiway at the western end of Runway 11-29, aircraft may not be able to move from being deiced to takeoff quickly enough without a hold apron located at the western end of the runway.

- Runway 11 End Taxiway Bypass and Realignment of Perimeter Service Road (Project Item 4). This safety project component would better separate ground vehicles on the perimeter service road from aircraft waiting to depart on Runway 11 and allow aircraft to bypass each other.
- Tree Removal to Clear the GQS for the Runway 36 End (Project Item 5). This safety project component would provide the required clearance of an instrument approach to Runway 36.
- Air Cargo Taxiway (Phase 2) (Project Item 6B). This safety project component would reduce the potential for runway incursions by removing a "high energy" runway crossing for aircraft to and

from the Jetport's northeast quadrant. By limiting runway crossings to the outer thirds of a runway, the portion of the runway where a pilot can least maneuver to avoid a collision is kept clear (FAA 2014). This project component, therefore, would allow the relocation of Taxiway G crossing of Runway 18-36 outside of its high energy area.¹⁰

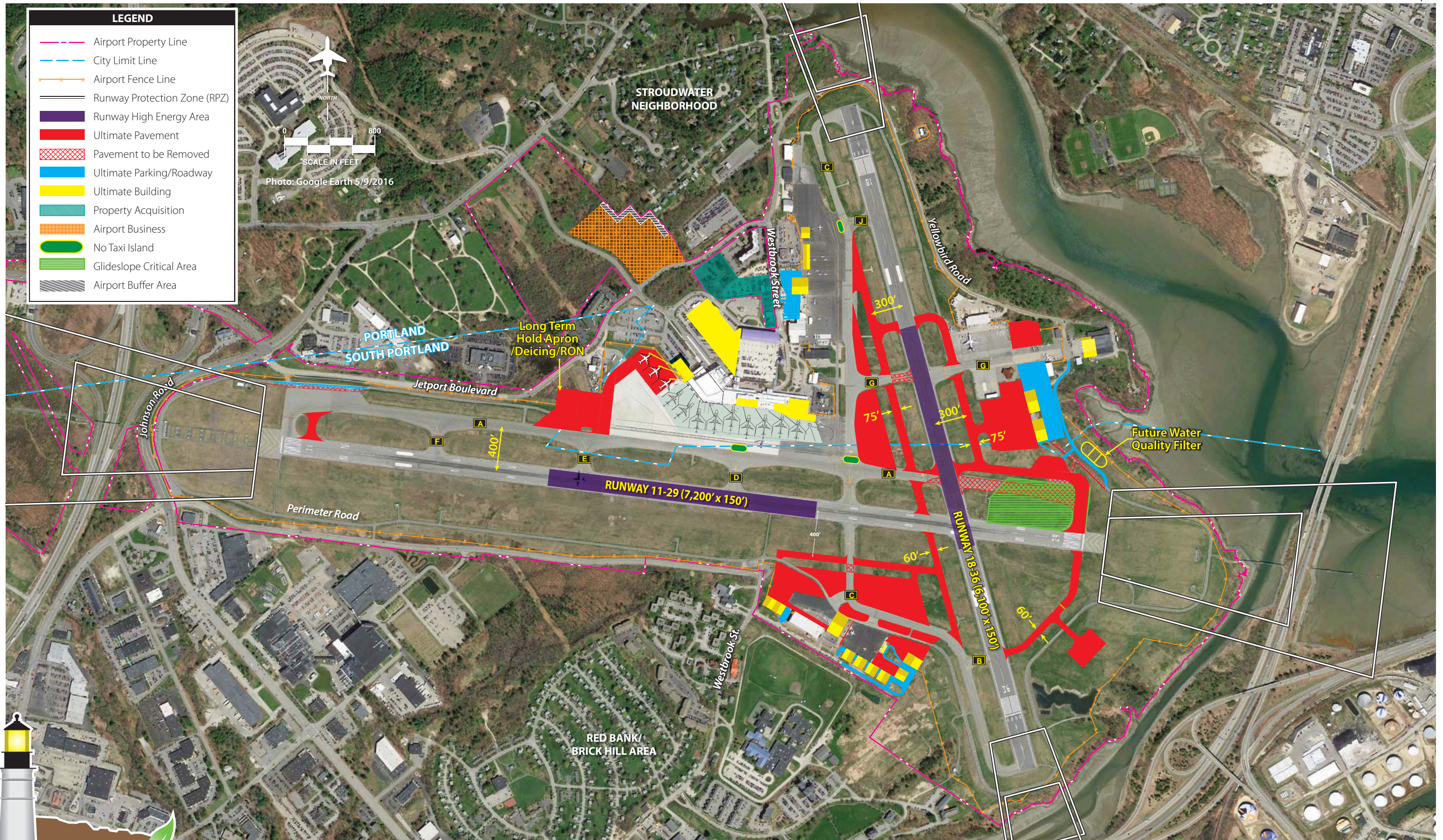
- Taxiway C Realignment (Project Items 7 and 9). This safety project component would reduce the potential for runway incursions by removing direct access from Runway 11-29 to the main terminal apron via Taxiway C. It would also improve airfield efficiency by providing a more standardized layout that would minimize the potential for ground movement incidents. It would improve taxiway circulation and provide room for additional parking apron and for building space flexibility. For example, reconfiguring Taxiway C to parallel Runway 18-36 would allow for larger aircraft to utilize Gate 1 at the commercial terminal and, ultimately, would make room to extend the full upper-level terminal building concourse to the east. An island would be added at the former Taxiway C connection with the terminal apron to eliminate direct access.
- Taxiway A Relocation East of Runway 18-36 (Project Item 8). This safety project component would reduce the potential for runway incursions associated with two existing holding positions located east of Runway 18-36 that are too close together to hold a large commercial airline aircraft between the two positions. The glideslope for the ILS serving Runway 29 is located between Taxiway A and the runway to the east of Runway 18-36. Taxiway A, in its current standard position of 400 feet centerline to centerline from Runway 11-29, encroaches upon the glideslope's critical area. This critical area holding position is only 140 feet east of the Runway 18-36 holding position, which does not readily allow larger aircraft, such as the Airbus A321 and Boeing 757, to fully position between the lines (**Exhibit 1H**). In addition, there is not currently enough room to remove snow from the critical area without encroaching into Taxiway A's TOFA.
- Service Access Road Relocation East of Cargo Area (Project Item 10). This road would be relocated to allow room for the proposed Taxiway A relocation discussed above, as well as for future apron and building development in the northeast quadrant of the Jetport.
- Taxiway B Construction from Runway 36 End to Runway 29 End (Project Item 11). This safety project component is identified as a priority project by FAA's Runway Safety Action Team (RSAT) to reduce runway crossings.

1.5 REQUESTED FEDERAL ACTIONS

The specific federal actions that are requested include:

- Unconditional approval of that portion of the ALP that depicts the Proposed Action pursuant to 49 USC Sections 40103(b), 44718, and 47107(a)(16) and 14 CFR 77.

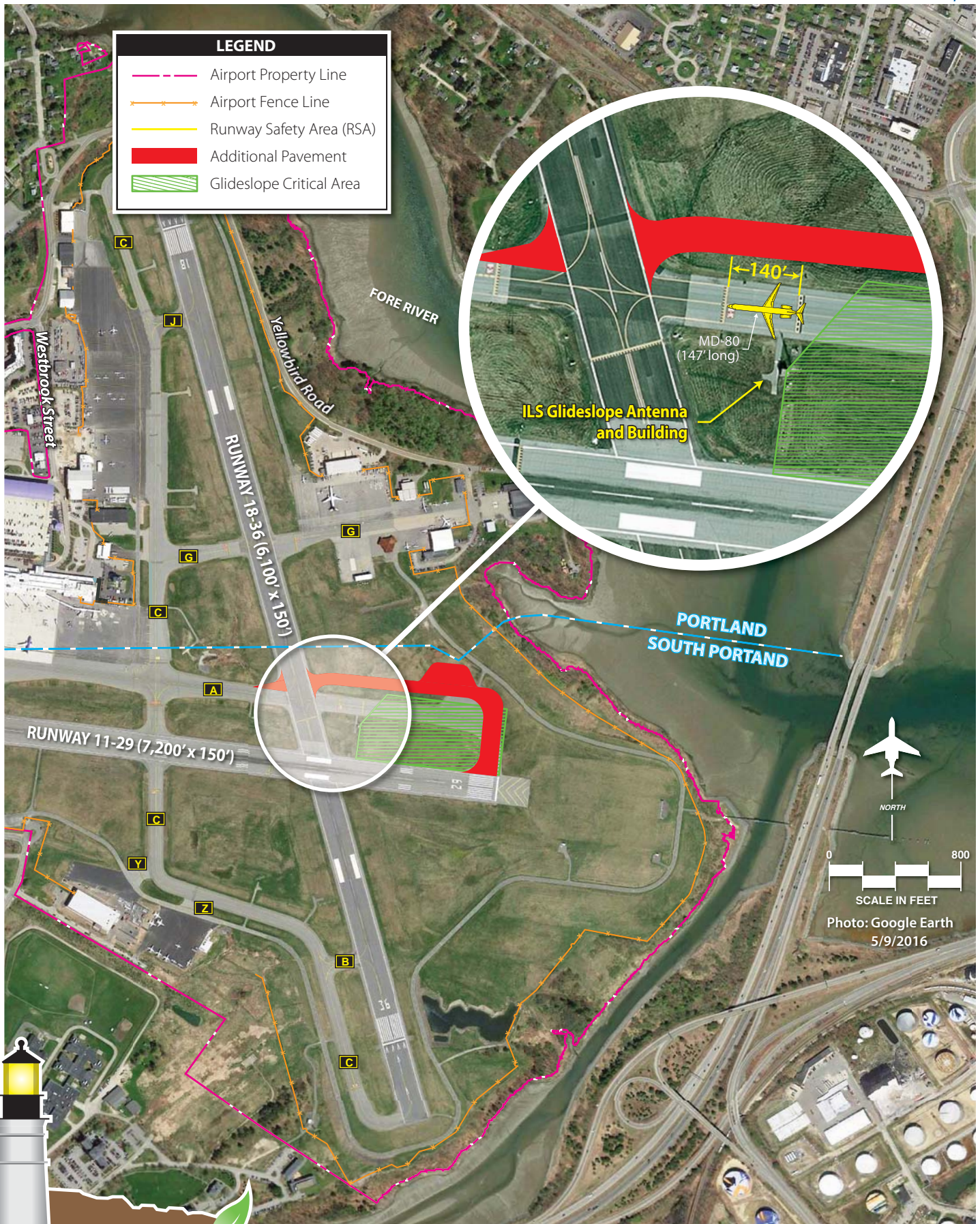
¹⁰ An air cargo taxiway (Phase 1) between Taxiways A and G was previously permitted and approved as part of the last EA. It has not yet been constructed.



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- Approval of project design.
- Determination under 49 USC Sections 47106 and 107 related to eligibility of the Proposed Action for federal funding under the Airport Improvement Program (AIP).

1.6 DOCUMENT ORGANIZATION

This EA evaluates the Proposed Action by organizing the information as follows:

- Chapter One describes the Proposed Action and outlines the purpose and need for the project;
- Chapter Two identifies alternatives to the Proposed Action and applies screening criteria to determine which alternatives should be carried forward for further environmental review;
- Chapter Three provides a discussion of existing land uses and environmental conditions and resources related to the Jetport, and more specifically, the project study area;
- Chapter Four analyzes potential environmental impacts of the Proposed Action and the No Action alternative and identifies avoidance, minimization, and/or mitigation measures, where applicable;
- Chapter Five summarizes the scoping, agency coordination, and public participation for the Proposed Action;
- Chapter Six contains a list of EA preparers; and
- Chapter Seven provides the names of persons consulted, references, and websites used.

Documentation related to EA scoping, agency coordination, and FAA consultation processes is appended to the EA.



Chapter Two

ALTERNATIVES

Chapter Two ALTERNATIVES

2.1 INTRODUCTION

This chapter identifies reasonable alternatives for evaluation in this Environmental Assessment (EA) based on the purpose and need for the project identified in Chapter One. Council on Environmental Quality (CEQ) regulations (Title 40 Code of Federal Regulations [CFR] Section 1502.14) regarding implementation of the *National Environmental Policy Act (NEPA) of 1969* require that federal agencies perform the following tasks:

- Rigorously explore and objectively evaluate all reasonable alternatives and, for alternatives which were eliminated from detailed study, briefly discuss the reasons for having been eliminated;
- Devote substantial treatment to each alternative considered in detail, including the Proposed Action, so that reviewers may evaluate their comparative merits;
- Include reasonable alternatives not within the jurisdiction of the lead agency; and
- Include the alternative of No Action.

As stated in Federal Aviation Administration (FAA) Order 1050.1F, *Environmental Impacts: Policies and Procedures*, an alternative can be eliminated from further consideration when the alternative does not “meet the basic criteria of any alternative: it must be reasonable, feasible, and achieve the project’s purpose” (Sections 6-2.1.d and 7-1.1.e) (FAA 2015d). As discussed above, 40 CFR 1502.14(c) requires the evaluation of the No Action alternative regardless of whether it meets the purpose and need for the action or is reasonable to implement.

2.2 ALTERNATIVES SCREENING CRITERIA

The alternatives evaluation provided below involves a two-step screening process. The first step addresses whether an alternative meets the purpose and need for the Proposed Action as identified in

Section 1.4 and is, therefore, “reasonable” (Section 2.2.1). The second step is to determine if an alternative is “feasible.” The feasibility of an alternative is established by analyzing other important factors, such as logistical, technical, economic, and environmental considerations (Section 2.2.2).

2.2.1 Step 1 Criteria: Reasonable

The purposes for the Proposed Action are listed below:

1. To enhance the safety of the airfield system consistent with applicable FAA design and safety standards (Grant Assurance 19);
2. To protect the instrument approaches to the runway system (Grant Assurance 20);
3. To improve the Jetport’s operational efficiency; and
4. To implement the Jetport’s sustainability goals and objectives¹ at a project-specific level.

2.2.2 Step 2 Criteria: Feasible

The second phase of this evaluation focuses on which project alternatives are considered feasible for the Proposed Action based on the following logistical, technical, economic, and environmental factors. If the answer to any of these questions is “Yes,” the alternative is not considered feasible.

Would the alternative:

1. Have a substantial adverse impact on Jetport operations?
2. Require substantial amounts of earthwork or other increased construction impacts and costs, when compared to other alternatives?
3. Have unreasonable increased impacts to known sensitive environmental resources (such as wetlands) when compared to other alternatives?

2.3 ALTERNATIVES

2.3.1 No Action Alternative

Although the No Action alternative does not meet the purpose and need considerations for the project, it is retained per 40 CFR 1502.14(c) to provide a reference point upon which the impacts of the Proposed

¹ Jetport sustainability objectives include reducing greenhouse gas (GHG) emissions associated with mobile and stationary sources, employees, tenants, and customers. By improving the efficiency of Jetport operations, specifically taxiing and idling times, the Jetport is also implementing these sustainability objectives.

Action alternative can be compared. A No Action alternative is not required for individual project components.

2.3.2 Proposed Action Alternative

Project components addressed in this EA are primarily related to enhancing safety, efficiency, and sustainability at the Jetport. They are identified on Exhibit 1D (Chapter One) and are collectively referred to as the Proposed Action within the EA (Project Items 2, 3, 4, 5, 6B, 7, 8, 9, 10, and 11). Each of the project components within the Proposed Action are discussed in more detail in Section 1.3 and include the following:

- Long-term hold/deicing/remain overnight (RON) apron (Phases 1 and 2) (Project Items 2 and 3);
- Runway 11 end taxiway bypass and realignment of perimeter service road (Project Item 4);
- Tree removal to clear the glideslope qualification surface (GQS) for the Runway 36 end (Project Item 5);
- Air cargo taxiway (Phase 2) (Project Item 6B);
- Taxiway C realignment (Phases 1 and 2) (Project Items 7 and 9);
- Taxiway A relocation east of Runway 18-36 (Project Item 8);
- Service access road relocation east of cargo area (Project Item 10); and
- Taxiway B construction from Runway 36 end to Runway 29 end (Project Item 11).

2.3.3 Proposed Action Component Alternatives

Many of the project components are fixed by function within the Air Operations Area (AOA) and are proposed in accordance with FAA design guidance set forth in FAA Advisory Circular (AC) 150/5300-13A, *Airport Design*, as amended (FAA 2014a). With these components, for example taxiways, there may not be an alternative available to provide better operational safety and efficiency than what is incorporated into the Proposed Action alternative. Other project components, such as deicing pads, may have more flexibility in design. Therefore, each project component is discussed more fully in the following sections to identify alternatives to individual project components that may be available.

2.3.3.1 Long-term Hold/Deicing/Remain Overnight Apron (Phases 1 and 2) (Project Items 2 and 3)

Exhibit 2A identifies three alternate locations for additional deicing/RON pads, including the Proposed Action alternative. The two other locations are described below:

- Expand the terminal apron to the northwest. This area would likely be incorporated into future terminal building gate expansion.
- Recondition the existing east end apron in the area of Gate 1 to include deicing fluid reclamation activities. This alternative would have ready access to parallel Taxiway C as well as Taxiway A.

In addition to the above design alternatives, two operational alternatives are provided for this project component.

- Moderate morning departure times so that no more than two early morning flights potentially requiring deicing occur during the same time. (Currently, there is a morning push-back of approximately five aircraft. The existing deicing pad is only capable of deicing two aircraft simultaneously.)
- Deice aircraft at the departure gates.

A final alternative would be to design a smaller deicing/RON pad in the location of the Proposed Action in conjunction with some deicing at the departure gates.

2.3.3.2 Runway 11 End Taxiway Bypass and Realignment of Perimeter Service Road (Project Item 4)

The existing configuration of the Runway 11 holding apron includes a perimeter service road, which requires airside vehicles to contact air traffic control for clearance to enter the movement area when transitioning between the perimeter road along Jetport Boulevard and areas west of the Runway 11 end (**Exhibit 2B**). This includes fuel trucks stationed at the new south general aviation (GA) area that need to access the main terminal apron for airline fueling. When these trucks cross the movement area at the hold apron at the Runway 11 end, they must be escorted. In addition, the hold apron follows a design that is no longer recommended by FAA, according to FAA AC 150/5300-13A. The current design creates a “large expanse of pavement that can be confusing to pilots.”

Under an ideal layout, a perimeter service road would remain outside the AOA’s protected surfaces. For example, FAA AC 150/5210-20A, *Ground Vehicle Operations to include Taxiing or Towing an Aircraft on Airports*, paragraph 3.1 states, “Airport operators should keep vehicular and pedestrian activity on the airside of the airport to the minimum... Vehicles should use service or public roads in lieu of crossing movement areas whenever possible.” (FAA 2015b). FAA Order 5190.6B, *Airport Compliance Manual*, Appendix R, paragraph VII(I)(1) states that an airport should “Look for opportunities to enhance safety, such as reducing runway crossings (ex., adding perimeter service roads, etc.).” (FAA 2009).

To enhance the safety of the Jetport and increase operational efficiency, two design alternatives have been considered as they relate to the perimeter service road at the Runway 11 end. These are shown in **Exhibit 2B**.

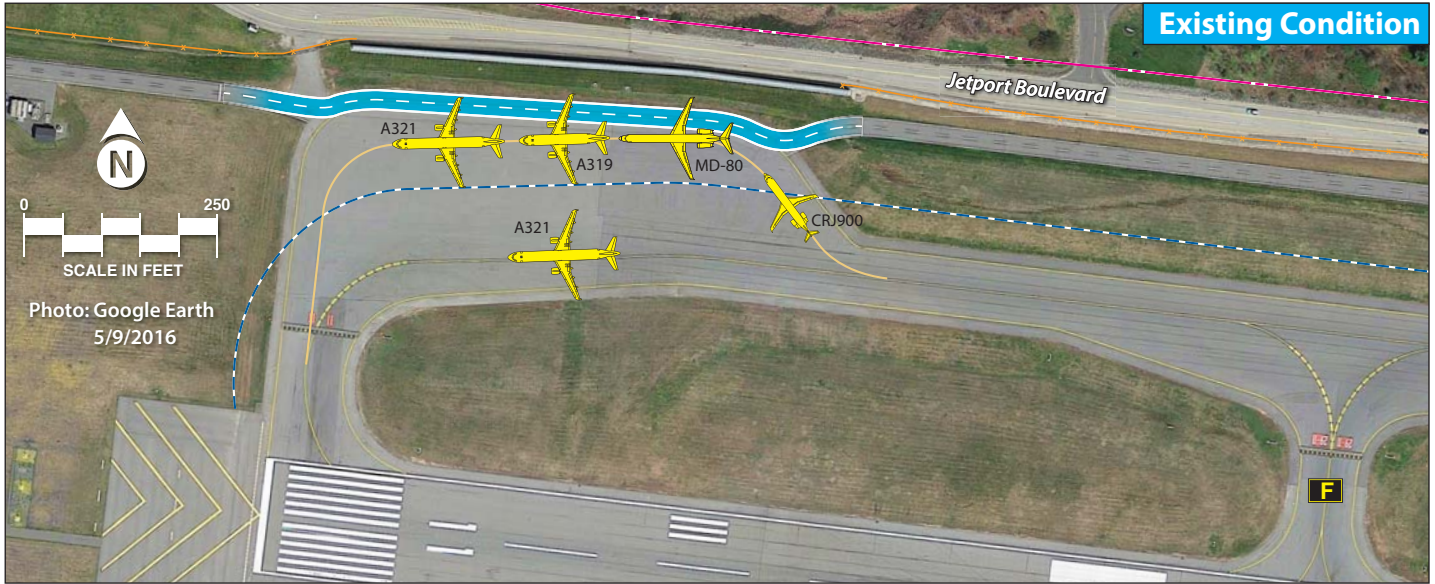
The first would realign the perimeter service road off the hold apron between an existing blast wall and the current apron. Due to the lack of distance between the edge of the apron and the wall, the southern lane of the perimeter road would remain within the wingspan of Airport Design Group (ADG) III² aircraft.

² An ADG (Airplane Design Group) is used to describe the physical characteristics of the airplanes intended to operate at an airport. Depicted by a Roman numeral I through VI, ADG is a classification of aircraft which relates to aircraft wingspan or tail height. The ADG influences design standards for taxiway safety area, taxiway object free area, apron wingtip clearance, and various separation distances. ADG III aircraft at the Jetport include the Airbus A320 (maximum [max.] wingspan 111.88 feet [ft]), Airbus A321 (max. wingspan 112.04 ft), Boeing 737 800W (max. wingspan 117.42 ft), Boeing 737 900 (max. wingspan 112.60 ft), and Bombardier Q-400 (max. wingspan 93.50 ft) (City of Portland 2018a, Exhibit 1P).

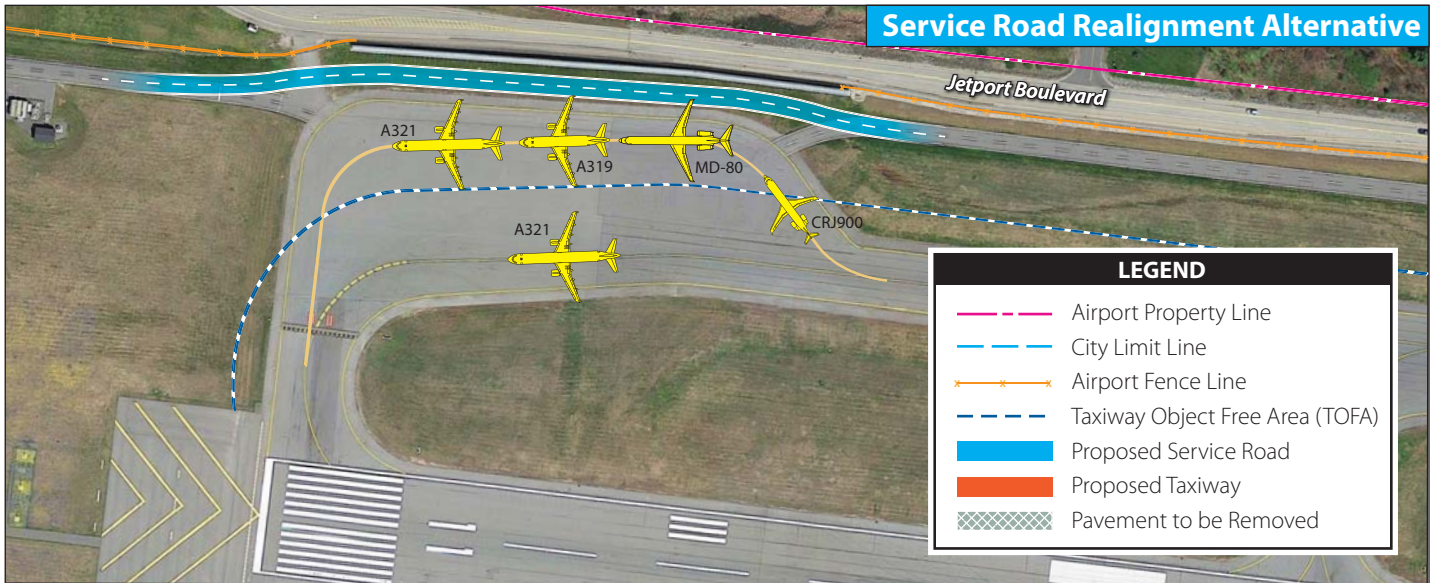


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Existing Condition



Service Road Realignment Alternative



Proposed Action Alternative

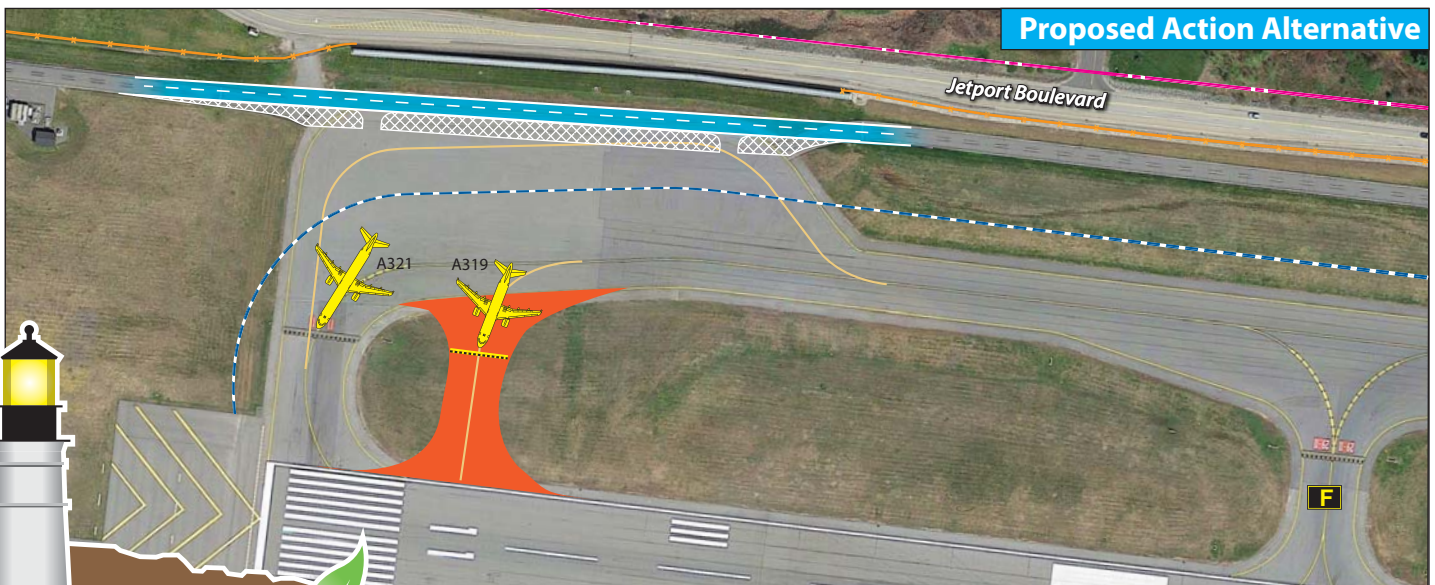


Exhibit 2B also shows the Proposed Action alternative. This alternative would construct a bypass taxiway just east of the taxiway terminus at Runway 11. The taxiway would allow aircraft to “bypass” holding for another aircraft waiting to depart at the end of the runway. A portion of the existing holding apron would be abandoned, and the back side converted to the perimeter service road connection. This alternative would better conform to standard hold apron layout design per FAA AC 150/5300-13A standards.

2.3.3.3 Tree Removal to Clear the Glideslope Qualification Surface for the Runway 36 End (Project Item 5)

There are no alternatives to selective tree removal per Project Item 5. Only those trees that are or would soon become obstructions to the 30 horizontal to 1 vertical GQS would be removed. Tree removal would be performed on a tree-by-tree basis and would treat and leave all stumps in place.

2.3.3.4 Air Cargo Taxiway (Phase 2) (Project Item 6B)

The purpose of Phase 2 of an air cargo taxiway east of Runway 18-36 is to remove a taxiway crossing that exists within the high energy area of Runway 18-36 (i.e., Taxiway G). This taxiway provides runway ingress/egress as well as a route for aircraft to cross between west side facilities and the cargo apron to the east. The Proposed Action alternative is to construct a partial parallel taxiway north along the cargo apron with a Runway 18-36 crossing just north of the high energy area of the runway. This location eliminates the need for aircraft to cross the high energy area, while minimizing the amount of additional taxiing required to get from the cargo apron to the west side facilities.

Multiple alternative crossing points are also available farther north of the proposed crossing (as far north as Taxiway J).

2.3.3.5 Taxiway C Realignment (Phases 1 and 2) (Project Items 7 and 9)

As previously discussed, the Jetport does not have a true full-length parallel taxiway for its crosswind runway (Runway 18-36). Project Items 7 and 9 (the relocation of Taxiway C - Phases 1 and 2) would meet applicable FAA design standards for a parallel taxiway’s centerline-to-centerline distance from Runway 18-36, which is 300 feet. The current alignment of Taxiway C does not fully conform to FAA standards for a parallel runway and creates a hot spot where it crosses Taxiway A. By making the entire taxiway truly parallel to Runway 18-36, the taxiway would fully conform to FAA design standards, while providing additional development flexibility for the west side of Runway 18-36. It would create a safer AOA environment as the existing Taxiway C/terminal apron connection to Runway 11-29 would be closed. Because Taxiway C is “fixed by function,”³ there are no design alternatives to be considered in this EA.

³ “Fixed by function” means that an airport fixture or facility is purposely located to meet a specific function that cannot be fulfilled if placed in a different location.

2.3.3.6 Taxiway A Relocation East of Runway 18-36 (Project Item 8) and Service Access Road Relocation East of Cargo Area (Project Item 10)

The purpose for the relocation of Taxiway A between Runway 18-36 and the eastern end of Runway 11-29 is to solve existing issues with the taxiway and the instrument landing system (ILS) glideslope. On the eastern portion of Taxiway A are two separate holding positions (refer to Exhibit 1H, Chapter One). The first holding position is situated 200 feet east of Runway 18-36 to hold westerly-bound aircraft from crossing Runway 18-36 until approved by ground control. The second position is a hold line to prevent easterly-bound aircraft from impacting the ILS glideslope signal during instrument approach landings. These two hold positions are within 140 feet of one another, which is not enough room for longer aircraft, such as the Boeing 737-800, Airbus A321, and Boeing 757.

A second issue with the location of the ILS glideslope with respect to Taxiway A is that there is not enough spacing to allow for adequate snow removal from the ILS critical area. Currently, snow must be moved north across Taxiway A so that it is not piled near the glideslope antenna. In addition, there is not enough room for a quick turnaround of the snow removal equipment to minimize the snow removal operation impacts on use of the ILS operations.

There are two alternatives to rectify this situation as presented in **Exhibit 2C**. One is the Proposed Action alternative, which relocates the easternmost section of Taxiway A north so that it is out of the ILS glideslope critical area. This proposed layout not only provides enough space for removed snow to remain between the taxiway and the glideslope, but it would allow for aircraft to hold closer to the runway threshold, thereby reducing delay for taxiing into position when cleared for departure and/or for instrument flight rule approaches (i.e., approaches when the pilot is unable to navigate using visual references). Under the Proposed Action, the service access road east of the cargo area would need to be relocated to provide additional separation between the relocated Taxiway A, its hold apron, and the service road (Project Item 10).

A second alternative would be to relocate the ILS glideslope antenna to the south side of Runway 11-29. Per FAA siting criteria, the ideal location is between 800 to 1,200 feet from the landing threshold, and outside any runway safety areas. However, due to the proximity of Runway 18-36 to the Runway 29 landing threshold, there is not room south of Runway 11-29 to meet these siting standards. A solution to this issue would be to extend the Runway 29 threshold 400 feet to the east. This would involve shifting a medium intensity approach lighting system with runway alignment lights (MALSR) 400 feet farther into the Fore River, extending Taxiway A to the new Runway 29 end, and imposing declared distances⁴ for landing and takeoffs on Runway 11 (to meet its runway safety area requirements). This alternative would preclude the construction of Project Item 11 (see below).

2.3.3.7 Taxiway B Construction from Runway 36 to Runway 29 End (Project Item 11)

The purpose for constructing a Taxiway B connection from Runway 36 east to the end of Runway 29 is to improve taxiing efficiency for the new south GA development area. Function does not completely

⁴ Declared distances represent the maximum distances available and suitable for meeting takeoff, rejected takeoff, and landing distances performance requirements for turbine-powered aircraft (FAA AC 150/5300-13A, Section 322).

PROPOSED ACTION ALTERNATIVE



RELOCATE RUNWAY 29 GLIDE SLOPE ALTERNATIVE



LEGEND	
	Airport Property Line
	Airport Fence Line
	Runway Safety Area (RSA)
	Additional Pavement
	Pavement to be Removed
	Glideslope Critical Area



Exhibit 2C

dictate this taxiway alignment. However, no wetlands have been noted within this area. Therefore, no alternatives are deemed necessary, although as a result of the environmental analysis conducted for this EA, the proposed alignment may be refined.

2.4 SUMMARY COMPARISON OF ALTERNATIVES

Table 2A provides a summary comparison of alternatives to the specific project components of the Proposed Action discussed in Section 2.3.3. These potential alternatives are evaluated against the proposed project's purpose and need (i.e., the Step 1 "reasonable" criteria listed in Section 2.2.1.). The rationale for the results shown in **Table 2A** are discussed further in Sections 2.5 and 2.6.

2.5 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

The following specific project component alternatives have been eliminated from further consideration because they do not meet the stated purpose and need for the Proposed Action:

Long-term Hold/Deicing/RON Apron (Project Items 2 and 3)

- Provide a long-term hold/deicing/RON apron by expanding the terminal apron to the northwest. This alternative has the benefit of being located near the deicing fluid treatment plant but is inefficient for ground movement since most aircraft would have to leave their assigned gate, move to the deicing area, and then move back across the apron to Taxiway A and other areas of the Jetport. Operational flow in the terminal apron area would be congested and problematic, especially during peak morning push-backs. Thus, this alternative does not meet the stated purposes of the project to improve Jetport operational efficiency and implement the Jetport's sustainability goals. Eventually, the area is planned to accommodate future terminal expansion. At that point, the hold/deicing/RON apron would be needed for aircraft gate parking and the additional deicing operations would be limited to aircraft located at those gates.
- Provide a long-term hold/deicing/RON apron by reconditioning the east apron in the area of Gate 1. This alternative would require the installation of pipes under the terminal apron rigid pavement to convey deicing fluid to the deicing fluid treatment plant located along the western edge of the terminal apron area. Operational flow in the terminal apron area would be congested and problematic, especially during peak morning push-backs, as aircraft would have to leave their assigned gate, move to the deicing area, and then move back along Taxiway A to take off from the western end of Runway 11-29. This would reduce operational efficiency and would not implement the Jetport's sustainability goals of decreasing emissions and greenhouse gases (GHGs). It would also increase operational costs for the Jetport and reduce the number of available gates during deicing activities.

TABLE 2A
Project Component Alternatives - Criteria 1
Portland International Jetport

PROJECT COMPONENT ALTERNATIVES	STEP 1 CRITERIA: REASONABLE				PROCEED TO STEP 2?
	Enhance Airfield Safety (per FAA Standards)	Protect Instrument Approaches	Improve Jetport Operational Efficiency	Implement Sustainability Goals	
Long-term Hold/Deicing/Remain Overnight (RON) Apron (Phases 1 and 2) (Project Items 2 and 3)					
- Proposed Action alternative	Yes	n/a	Yes	Yes	Yes
- Expand Terminal Apron (northwest)	Yes	n/a	No	No	No
- Recondition Apron East of Gate 1	Yes	n/a	No	No	No
- Alternative Morning Departure Schedules	No	n/a	No	No	No
- Deicing Aircraft at the Gate	Yes	n/a	No	No	No
- Smaller Deicing/RON Area	Yes	n/a	Yes	Yes	Yes
Runway 11 End Bypass and Perimeter Road Realignment (Project Item 4)					
- Proposed Action alternative	Yes	n/a	Yes	Yes	Yes
- Service Road Realignment	No	n/a	Yes	Yes	No
Select Tree Removal (Project Item 5)					
- Proposed Action alternative	Yes	Yes	Yes	Yes	Yes
Air Cargo Taxiway (Phase 2) (Project Item 6B)					
- Proposed Action alternative	Yes	n/a	Yes	Yes	Yes
- North alternative locations (multiple choices)	Yes	n/a	No	No	No
Taxiway C Realignment (Phases 1 and 2) (Project Items 7 and 9)					
- Proposed Action alternative	Yes	n/a	Yes	Yes	Yes
Taxiway A Relocation East of Runway 18-26 (Project Item 8)					
- Proposed Action alternative	Yes	Yes	Yes	Yes	Yes
- Relocate Glideslope	Yes	Yes	No	No	No
Service Access Road Relocation East of Cargo Area (Project Item 10)					
- Proposed Action alternative	Yes	Yes	Yes	Yes	Yes
Taxiway B Between Runway 36 and Runway 29 End (Project Item 11)					
- Proposed Action alternative	Yes	n/a	Yes	Yes	Yes

n/a = This criteria does not apply to the subject project component.

In contrast, the Proposed Action would provide room for the deicing of aircraft and for RON aircraft, and would support the proposed bypass taxiway at the western end of Runway 11-29. Without this additional room, aircraft may not be able to move from being deiced to takeoff quickly enough without a hold apron located at the western end of the runway. This purpose of the Proposed Action would not be met by a hold/deicing/RON at the apron area east of Gate 1.

- Moderate morning departure times so that no more than two early morning flights potentially requiring deicing occur during the same time period. Since commercial airlines set their schedules to meet their system needs, reducing early morning departures from the Jetport would reduce the marketability of the Jetport and could have a direct and adverse effect on the Jetport's revenues and operations. This, in turn, could have an indirect adverse effect on the Jetport's ability to finance its airfield safety projects and sustainability measures. Because aircraft from the Jetport fly to major hubs, including some of the nation's busiest airports, adjusting the scheduling of morning flights may not be feasible for the Jetport to implement. For example, a delay in Portland could force a flight to miss its slot at one of the larger, busier hubs.
- Deicing at the gates. Although deicing aircraft at multiple gates previously occurred at the Jetport, it is not a viable alternative to the project as proposed. As previously discussed under the alternative location east of Gate 1, not only would the Proposed Action provide room for the deicing of aircraft and for the parking of RON aircraft, but it also would support the proposed bypass taxiway at the western end of Runway 11-29. Without the bypass taxiway at the western end of Runway 11-29, aircraft may not be able to move from being deiced to takeoff quickly enough.

Deicing at the gates would require substantial infrastructure related to the installation of piping for environmental controls to convey the deicing fluid from the gates to the deicing fluid treatment facility. Unless the infrastructure improvements are completed in phases as the terminal apron is due for reconstruction or rehabilitation, this alternative would require a major construction project to complete the piping installation and would require a major disruption of gate operations.

Runway 11 End Taxiway Bypass and Realignment of Perimeter Service Road (Project Item 4)

- Locate a realigned perimeter service road between the edge of the existing hold apron and the blast wall. Although this alternative would improve Jetport operational efficiency by allowing more vehicles to move around the western end of Runway 11-29 without crossing an AOA movement area, the service road would still be penetrated by the wingtips of the larger aircraft present at the Jetport. Thus, this alternative does not meet FAA guidelines to provide perimeter roads that are separate from the AOA movement areas without the inclusion of the bypass taxiway.

Air Cargo Taxiway (Phase 2) (Project Item 6B)

- Extend a partial parallel air cargo taxiway farther north from the air cargo apron. This alternative would provide a similar benefit to Jetport safety as the Proposed Action alternative but would be

less efficient in terms of aircraft movement. By requiring additional taxiing to cross Runway 18-36, this alternative would not implement the Jetport’s sustainability goals.

Taxiway A Relocation East of Runway 18-26 (Project Item 8)

- Relocate the ILS glideslope south of Runway 11-29. This alternative would address the issue of aircraft movement through the ILS glideslope critical area by moving the glideslope away from Taxiway A. To do so, the Runway 29 threshold would need to be extended 400 feet to allow enough room for the glideslope to be located outside the runway safety area for Runway 18-36. This runway extension would have multiple implications, including the need to extend the MALSR 400 feet farther into the Fore River, potential impacts to wetlands and coastal resources if Taxiway A were also extended to the new runway end, and implementation of declared distances for Runway 11. In addition, this alternative would preclude Project Item 11, a proposed Taxiway B extension between Runway 36 and the Runway 29 end. This alternative does not meet the stated purposes of the project to improve Jetport operational efficiency and implement the Jetport’s sustainability goals. In addition, it would incur increased construction costs and potential environmental impacts.

2.6 ALTERNATIVES CARRIED FORWARD FOR FURTHER ANALYSIS

In contrast to the alternatives identified in Section 2.5, there are alternative project components that may be included for further analysis within this EA. These alternatives would be developed as part of the ongoing environmental analysis and would be assessed using the Step 2 “feasible” criteria set forth in Section 2.2.2 (**Table 2B**).

TABLE 2B
Project Component Alternatives - Criteria 2
Portland International Jetport

PROJECT COMPONENT ALTERNATIVES	STEP 2 CRITERIA: FEASIBLE ¹			RETAIN FOR ENVIRONMENTAL ANALYSIS?
	Substantial Impact on Jetport Operations Compared to Proposed Action Alternative?	Increased Construction Impacts or Costs Compared to Proposed Action Alternative?	Unreasonable Increased Environmental Impacts Compared to Proposed Action Alternative?	
Long-term Hold/Deicing/RON Apron (Phases 1 and 2) (Project Items 2 and 3)				
- Smaller Hold/Deicing/RON Area	Yes	No	No	No

¹ If the answer to any of the following questions is “Yes,” the alternative is not considered feasible.

Long-term Hold/Deicing/RON Apron (Project Items 2 and 3)

If needed, based on the environmental analysis, revisions to the boundaries of the proposed hold/de-icing/RON apron (as shown in the Proposed Action alternative) may be necessary to minimize or avoid impacts to sensitive environmental resources, such as wetlands. An operational alternative that may be useful in conjunction with a scaled-back version of the Proposed Action alternative is to deice some aircraft at the departure gates. This alternative was previously addressed under Section 2.5.

As previously discussed, if this alternative is implemented, additional capital improvements would be necessary to recapture the deicing fluids at the gate apron area. In addition, deicing at the gate prevents the gate from being used by another aircraft. Also, deicing in more than one area is inefficient. When multiple deicing operations are ongoing, it is more efficient to have all the deicing equipment in a central location so that each crew can deice more aircraft. Because this alternative could have substantial impacts on Jetport operations compared to the Proposed Action, it is not considered a feasible alternative and has not been retained for further environmental analysis.

2.7 SPONSOR'S PREFERRED ALTERNATIVE

The preferred alternative is the Proposed Action alternative as detailed in Section 1.3 of this EA.

2.8 PERMITS REQUIRED

The following permits would be required to implement the Proposed Action alternative:

- *Clean Water Act (CWA) Maine Pollutant Discharge Elimination Permit (MEPDES);*
- *CWA Individual United States Army Corp of Engineers permit (Section 404);*
- *Amendment to the Jetport's Site Location Development Act permit (Title 38 Maine Revised Statutes [MRS] 481-490);*
- *Stormwater Management Law permit (38 MRS 420-D) for an additional onsite vegetated water quality basin; and.*
- *Natural Resources Protection Act (NRPA) permit (38 MRS 480 A-BB).*

2.9 FEDERAL LAWS AND REGULATIONS CONSIDERED

Table 2C includes a list of federal statutes, executive orders, regulations, FAA and federal Department of Transportation (DOT) orders, and FAA advisory circulars considered in the development of the alternatives evaluation and the preparation of this EA.

TABLE 2C
List of Applicable Federal Laws and Regulations
Portland International Jetport

Federal Laws and Statutes	
Airport and Airway Improvement Act of 1982, as amended (P.L. 97-248; 43 CFR §2640)	
Airport and Airway Revenue Act of 1987 (P.L. 100-223, Title IV)	
Archaeological and Historic Data Preservation Act of 1974 (P.L. 86-253, as amended by P.L. 93-291, 16 USC §469)	
Aviation Safety and Capacity Expansion Act of 1990 (P.L. 101-508, as amended)	
Aviation Safety and Noise Abatement Act of 1979 (P.L. 96-193; 49 USC App. 2101)	
Clean Air Act of 1977 (as amended) (42 USC §§7409 et seq.)	
Comprehensive Environmental Response, Compensation, and Liability Act (42 USC §9601; P.L. 96-510)	
Endangered Species Act of 1973 (P.L. 85-624; 16 USC §§661, 664 note, 1008 note)	
FAA Modernization and Reform Act of 2012 (P.L. 112-95)	
Farmland Protection Policy Act (P.L. 97-98; 7 CFR Part 658)	
Federal Water Pollution Control Act Amendments for 1972, Section 404 (33 USC §1344; P.L. 92-500), as amended by the Clean Water Act of 1977 (33 USC §1251; P.L. 95-217)	
National Environmental Policy Act of 1969 (NEPA) (P.L. 91-190; 42 USC §§4321 et seq.)	
National Historic Preservation Act of 1966, Section 106, (16 USC §470[f]; P.L. 89-665)	
Noise Control Act of 1972 (P.L. 92-574; 42 USC §4901)	
Policy on lands, wildlife and waterfowl refuges, and historic sites (49 USC §303 [formerly known as Section 4(f) of the Department of Transportation Act of 1966])	
Resource Conservation and Recovery Act of 1976 (42 USC §§6901, et seq.; P.L. 94-580, as amended by the Solid Waste Disposal Act of 1980 [P.L. 96-482]; and the 1984 Hazardous and Solid Waste Amendments [P.L. 98-616]	
Subtitle VII, Title 49, USC – “Aviation Programs” (§§40101 et seq.) recodified from, and formerly known as, the “Federal Aviation Act of 1958” as amended (P.L. 85-726)	
Transportation, Treasury, Housing and Urban Development, The Judiciary, The District of Columbia, and Independent Agencies Appropriations Act of 2006 (P.L. 109-115)	
Executive Orders	
Executive Order 11514, <i>Protection and Enhancement of Environmental Quality</i> (dated March 4, 1970)	
Executive Order 11593, <i>Protection and Enhancement of the Cultural Environment</i> (dated May 13, 1971)	
Executive Order 12898, <i>Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations</i>	
Executive Order 13045, <i>Protection of Children from Environmental Health Risks and Safety Risks</i> (62 FR 19883)	
Executive Order 13112, <i>Invasive Species</i>	
Federal Regulations	
7 CFR Part 657 (43 FR 4030, January 31, 1978), <i>Prime and Unique Farmlands</i>	
14 CFR Part 150, <i>Airport Noise Compatibility Planning</i>	
14 CFR Part 151, <i>Federal Aid to Airport</i>	
14 CFR Part 152, <i>Airport Aid Program</i>	
36 CFR Part 800 (39 FR 3365, January 25, 1974, and 51 FR 31115, September 2, 1986), <i>Protection of Historic Properties</i>	
40 CFR Parts 1500-1508, <i>CEQ implementation of NEPA procedural provisions, establishes uniform procedures, terminology, and standards for implementing the procedural requirements of NEPA’s section 102(2)</i>	
49 CFR Part 24 (March 2, 1989), <i>Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally Assisted Programs</i>	
DOT Order 5610.2A, <i>Environmental Justice</i> (77 FR 27534)	
FAA Order 1050.1F, <i>Environmental Impacts: Policies and Procedures</i>	
FAA Order 5050.4B, <i>National Environmental Policy Act Implementing Instructions for Airport Actions</i>	
FAA Order 5100.38D, <i>Airport Improvement Program (AIP) Handbook</i>	
FAA Advisory Circulars	
AC 150/5200-33B, <i>Hazardous Wildlife Attractants On or Near Airports</i>	
AC 150/5300-13A, Change 1, <i>Airport Design</i>	
AC 150-5320-5D, <i>Airport Drainage Design</i>	
AC 150/5320-6F, <i>Airport Pavement Design and Evaluation</i>	
AC 150/5370-10G, <i>Standards for Specifying Construction of Airports</i>	
§ - Section	FAA - Federal Aviation Administration
AC - Advisory Circular	FR - Federal Register
CEQ - Council on Environmental Quality	NEPA - <i>National Environmental Policy Act</i>
CFR - Code of Federal Regulations	P.L. - Public Law
DOT - U.S. Department of Transportation	USC - United States Code



Chapter Three

AFFECTED ENVIRONMENT

Chapter Three

AFFECTED ENVIRONMENT

3.1 INTRODUCTION

The purpose of this chapter is to describe the existing environment at the Portland International Jetport (Jetport) and its environs as it relates to the Proposed Action. The baseline year for identifying existing conditions in this chapter is 2017, which is when the study commenced. Updated information from 2018 has also been incorporated, where appropriate. The project study area for this Environmental Assessment (EA) includes the portions of the Jetport that would be either permanently or temporarily affected by the project. The project study area includes the areas of actual construction, haul roads, and staging areas (shown on **Exhibit 3A**).

The study area used to assess cumulative impacts is an approximately 0.5-square-mile area surrounding the Jetport, shown on **Exhibit 3B**. This cumulative study area is located partly within the City of Portland and partly within the City of South Portland. However, some resource categories, such as water and air quality, are broader in scope. For example, climate impacts related to greenhouse gas (GHG) emissions are not contained by boundaries. When the study area for cumulative impacts is larger than the study area defined in this paragraph, the cumulative study area is specified within the analysis contained in Chapter Four. The affected environment related to Federal Aviation Administration (FAA) Order 1050.1F, *Environmental Impacts: Policies and Procedures* impact categories are presented in the order they are listed within Section 4-1 of the order (FAA 2015d).

3.2 AIR QUALITY

Based on both federal and state air quality standards, a specific geographic area can be classified as either an “attainment,” “maintenance,” or “nonattainment” area for each pollutant. The threshold for nonattainment designation varies by pollutant. Cumberland County, where the Jetport is located, is an attainment area for all criteria pollutants (United States Environmental Protection Agency [U.S. EPA] website 2018).

3.3 BIOLOGICAL RESOURCES

The land cover types at the Jetport consist of human-altered grasslands, scrub-shrub regeneration areas, human-altered wetlands and ditches, a few small patches of upland forest, and impervious surfaces (i.e., runways, taxiways, and aprons) (**Exhibit 3C**). The Jetport's *2014-2015 Wildlife Hazard Assessment* (WHA) (Wood and Vashon 2015), *2016 Wildlife Hazard Management Plan* (WHMP) (Portland International Jetport [PWM] and United States Department of Agriculture [USDA] 2016), *2017 WHMP Airport Certification Manual* (PWM 2017), and *2008 Biological Resources Inventory and Wetland Resources* reports (TRC Companies, Inc. [TRC] 2008a and 2008b) describe the current habitat conditions and biological resources. A biological evaluation (BE) prepared for this EA describes the biological resources in greater detail (**Appendix B**).

Aside from impervious surfaces, grasses, clover, and weeds are the primary cover type at the Jetport; these disturbed grassland habitats are regularly mowed or brush-hogged. The wetlands within the Jetport consist of freshwater emergent and freshwater scrub-shrub. Tree species in the patches of upland forest that occur at the borders of the Jetport are primarily deciduous (i.e., oak, maple, aspen); scrub-shrub species consist of red-osier dogwood, staghorn sumac, speckled alder, arrowwood and other deciduous species (Wood and Vashon 2015, TRC 2008a). The land cover types in the offsite tree removal project area south of the Jetport (Project Item 5) include mixed northern hardwood forest, forested wetlands, and areas of scrub-shrub regeneration.

The Jetport is adjacent to Long Creek and the Fore River. These water bodies are mapped by the Maine Department of Inland Fisheries and Wildlife (MDIFW) as Significant Wildlife Habitat for Coastal Waterfowl and Wading Birds and Shorebird Areas (TRC 2008a). The habitats and food sources at the Jetport and its proximity to Long Creek and the Fore River inadvertently attract a variety of wildlife species throughout the year. MDIFW indicated that there are currently no endangered, threatened, special concern species, or designated Essential and Significant Wildlife Habitats, or fisheries habitats known to occur within the Jetport project area (Perry, J., Environmental Review Coordinator, MDIFW 2017). Further, there are no areas designated as high value for plants or animals as classified by Maine's Beginning with Habitat Program, and there are no deer wintering areas or nesting sites for bird colonies (TRC 2008a). However, the National Marine Fisheries Service (NMFS) has indicated that federally listed shortnose and Atlantic sturgeon are known to occur in the Fore River, and while unlikely, they could possibly occur in the part of the river near the Jetport (Tritt, H. M., Fishery Biologist, NMFS 2017).

A variety of bird species occur across different seasonal periods of the year at the Jetport, while some species occur year-round. Frequently detected bird groups during point count surveys included gulls, blackbirds, corvids, and, to a lesser extent, other songbirds and raptors.¹ During nocturnal mammal spotlight surveys, there were several species detected, with gray fox and striped skunk most commonly observed. New England cottontail (NEC), a state-endangered species, was not detected during these

¹ For the preparation of the Jetport's 2014-2015 WHA, three-minute bird point count surveys were conducted six times per month at locations within the Jetport, as well as reference locations in the surrounding area. Nocturnal mammal spotlight surveys were conducted along the perimeter of the Jetport twice per month, and spring and fall four-day small mammal trapping surveys were also conducted.



- LEGEND**
- Airport Property Line
 - City Limit Line
 - █ Future Pavement
 - █ Project Study Area
 - █ Proposed Tree Removal

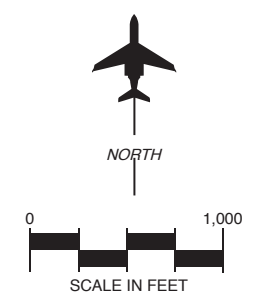
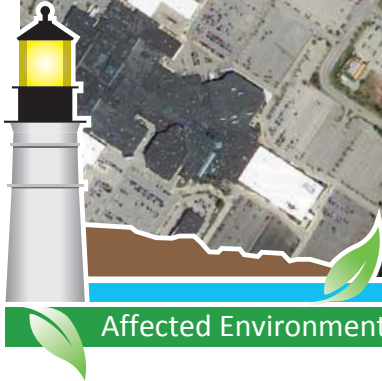


Photo: Google Earth, May 9, 2016
 Source: Stantec, September 15, 2017

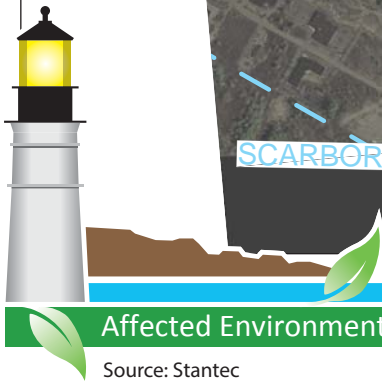


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LEGEND

- Airport Property Boundary
- Half Mile Limit Line from Airport Property Boundary
- City/Town Line

SCALE IN FEET



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surveys.² During the small mammal trapping surveys, rodents were captured during the fall only and consisted of two species: deer mice and meadow voles. **Appendix B** includes a list of birds and mammals documented during the WHA surveys at both the Jetport and surrounding reference points.

Table 3A lists the federally or state-protected species, or BGEPA-protected species that have an historical presence at the Jetport. Of these eight species, one is federally threatened (northern long-eared bat), five are state-endangered (grasshopper sparrow, black-crowned night heron, New England cottontail, northern long-eared bat, and little brown bat), and two are state-threatened (upland sandpiper and short-eared owl). **Table 3A** also outlines the likelihood of occurrence at the Jetport and applicable wild-life hazard management activities.³ State special concern species that have been documented at the Jetport or adjacent areas include the barn owl, great blue heron, northern harrier, bald eagle, eastern kingbird, tree swallow, barn swallow, common tern, greater scaup, American coot, and eastern meadowlark (PWM and USDA 2016). Except for non-native species, such as rock doves, house sparrows, European starlings, and resident game species, such as wild turkey, essentially all the bird species that may occur within the Jetport environs are protected by the *Migratory Bird Treaty Act of 1918* (MBTA) (16 United States Code [USC] 703–712). Eagles are afforded further protection by the *Bald and Golden Eagle Protection Act of 1940* (BGEPA) (16 USC 668-668c).

A biologist conducted a site visit to the project study area on September 25, 2017. There were no listed species observed (**Appendix B**). The biologist conducted a site visit to the Project Item 5 tree removal area on July 27, 2018 to assess the current habitat conditions for NEC. There were no listed species observed, and no preferred habitat (i.e., extensive, dense thickets) or other evidence of New England cottontail. There was evidence of white-tailed deer and coyote (tracks), as well as striped skunk and gray squirrel. Avian species observed included: blue jay, American crow, common grackle, cedar wax-wing, American goldfinch, mourning dove, osprey, rock dove, ring-billed gull, song sparrow, northern cardinal, purple finch, and gray catbird.

The United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) online resource indicated the potential for one federally listed species near the Jetport: the northern long-eared bat (USFWS 2017). While no surveys have been conducted at the Jetport to target the occurrence of bat species, several species of bats likely use the airspace to forage on insect prey and may also roost in the patches of forest habitat in the surrounding area. Species that may be present include the federally threatened and state-endangered northern long-eared bat and the state-endangered little

² Field efforts conducted in 2007 and early 2008 documented the occurrence of New England cottontail at the Jetport (TRC 2008a). The Jetport developed an Incidental Take Plan (ITP) in 2009 (TRC 2009), which included the removal of the shrub-cover habitat and relocation of the cottontails from the Jetport.

³ Title 14 Code of Federal Regulations (CFR) for airport passenger traffic (14 CFR 139.337) and FAA’s Memorandum of Understanding (MOU) with the USDA Animal and Plant Health Inspection Service Wildlife Services (USDA WS) specify that hazards posed by wildlife at airports must be mitigated. The 2006 Certalert 06-07 advisory specifies that airports are not required to manage habitat for listed species; rather, airports should not specifically maintain these species’ habitats for safety reasons (FAA 2006a). However, for species that are protected, the harassment, take, or take of habitat of listed species is prohibited under the federal *Endangered Species Act* (ESA) of 1973 (Sec. 2, 16 USC 1531) and/or the *Maine Endangered Species Act of 1975* (12 MRSA Part 10 Subsection 7753). Reptiles and amphibians in Maine are also protected, but these species currently do not pose a risk to safety due to their limited presence on the Jetport (PWM and USDA 2016). Additional regulations and harassment or depredation permits retained by the Jetport are described in more detail in the BE (**Appendix B**).

brown bat. However, during follow-up correspondence with USFWS, they indicated the Jetport and proposed project areas are not within 1/4 mile of any known bat hibernacula or 150 feet of any known bat roosting sites (Dockens, P., Wildlife Biologist, USFWS 2017; 2018).

TABLE 3A
Listed or Protected Species
Portland International Jetport

Species	Status ¹	History at PWM
Bald eagle (<i>Haliaeetus leucocephalus</i>)	State and federally delisted; BGEPA-protected; state special concern	Identified as hazard; PWM retains harassment permit for species
Black-crowned night heron (<i>Nycticorax nycticorax</i>)	State-endangered	Observed during TRC’s 2008 wetland surveys (segments W and X at the existing water quality pond)
Upland sandpiper (<i>Bartramia longicauda</i>)	State-threatened	Observed up to eight adults in summer 2007 near Taxiway C; mowing maintains preferred habitat; PWM continues to consult with MDIFW
Short-eared owl (<i>Asio flammeus</i>)	State-threatened (breeding population only)	Historical occurrence; captured and relocated in fall 2015
Grasshopper sparrow (<i>Ammodramus savaannarum</i>)	State-endangered	Not observed during WHA surveys
New England cottontail (NEC) (<i>Sylvilagus transitionalis</i>)	State-endangered	USFWS provided record of NEC from 2001, 0.75-mile northwest of PWM; potential NEC tracks observed in 2008; active burrows, tracks, and droppings documented in 2009 in 13-acre shrub thicket by Runway 29; PWM received ITP to remove shrub-cover habitat and relocate NEC; not currently believed to be present at PWM. Similarly, no preferred habitat, such as extensive, dense thickets, are present at the site of proposed tree removal project (Project Item 5).
Northern long-eared bat (<i>Myotis septentrionalis</i>)	Federally threatened and state-endangered	Proposed tree removal project (Project Item 5) may occur in suitable habitat. The Jetport consulted with USFWS in September 2017 and 2018. No project areas are within 1.4 mile of any known bat hibernacula or 150 feet from any known bat roosting sites.
Little brown bat (<i>Myotis lucifugus</i>)	State-endangered	Proposed tree removal project (Project Item 5) may occur in suitable habitat.

¹ MDIFW 2015; Dockens, P. Wildlife Biologist, USFWS, 2017; 2018

PWM: Portland International Jetport

BGEPA: Bald and Gold Eagle Protection Act of 1940

TRC: TRC Companies, Inc.

MDIFW: Maine Department of Inland Fisheries and Wildlife

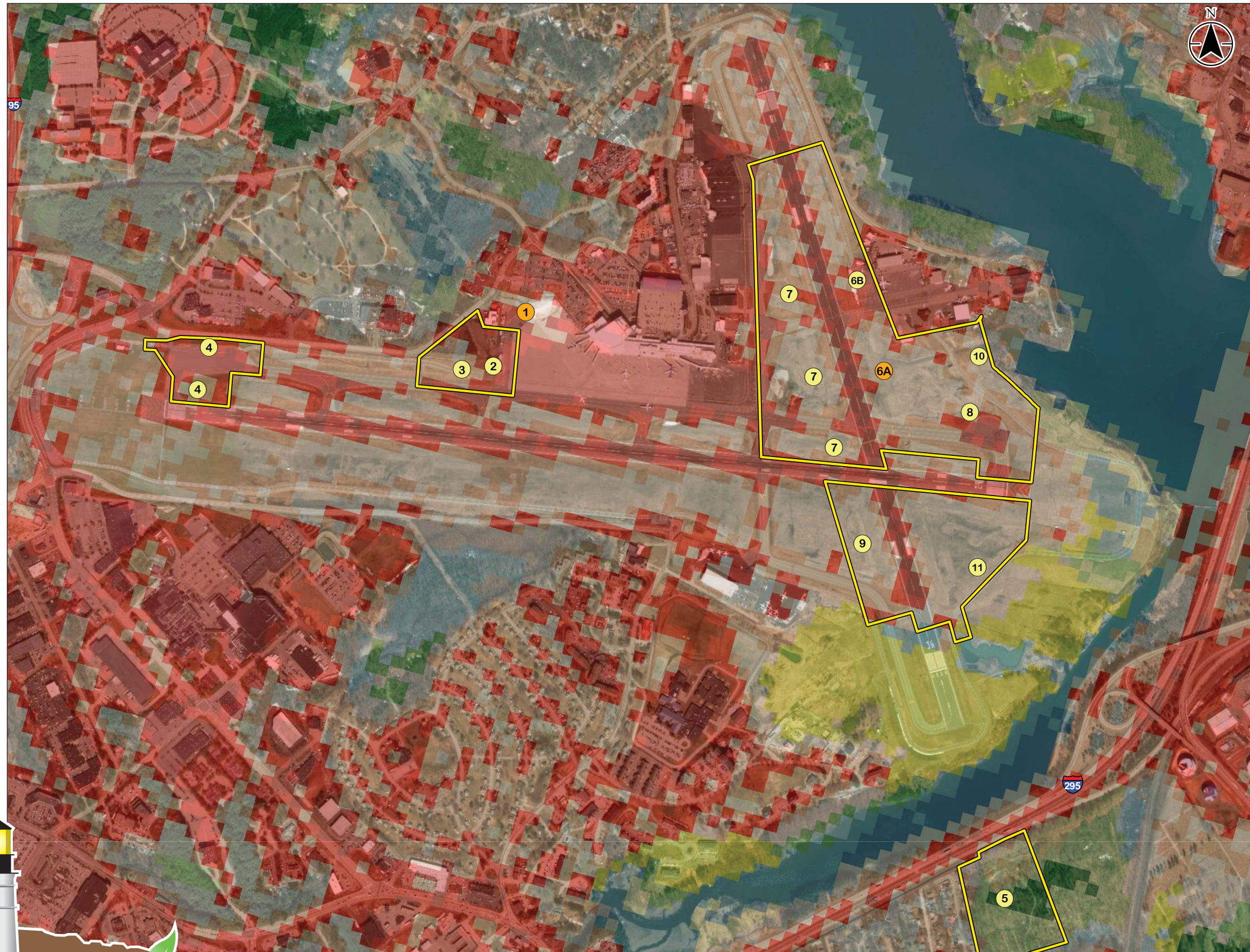
WHA: Wildlife Hazard Assessment

USFWS: U.S. Fish and Wildlife Service

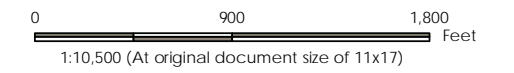
NEC: New England Cottontail

ITP: Incidental Take Permit

Sources: Wood and Vashon 2015, PWM and USDA 2016, TRC 2008a and 2008b, Stantec 2018a.

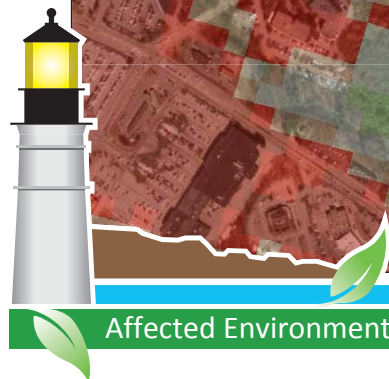


- Legend**
- Future Project Area
 - Approximate Project Location
 - # Projects with Existing Environmental Approval
 - # Projects Seeking Approval
 - 2011 National Land Cover Database
 - Open Water
 - Developed, Open Space
 - Developed, Low Intensity
 - Developed, Medium Intensity
 - Developed High Intensity
 - Barren Land (Rock/Sand/Clay)
 - Deciduous Forest
 - Evergreen Forest
 - Mixed Forest
 - Shrub/Scrub
 - Grassland/Herbaceous
 - Pasture/Hay
 - Woody Wetlands
 - Emergent Herbaceous Wetlands



- Notes**
1. Coordinate System: NAD 1983 StatePlane Maine West FIPS 1802 Feet
 2. The 2011 National Land Cover Data Base provided by the Multi-Resolution Land Characteristics (MRLC) Consortium.
 3. Aerial Imagery provided by ArcGIS Online World Imagery Mapping Service.

Source: Stantec 2018; National Land Cover Database 2011.



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3.4 CLIMATE

Scientific measurements show that Earth's climate is warming, with concurrent impacts including warmer air temperatures, increased sea level rise, increased storm activity, and an increased intensity in precipitation events. Research has also shown that there is a direct correlation between fuel combustion and GHG emissions. GHGs from anthropogenic (man-made) sources include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). CO₂ is the most important anthropogenic GHG because it is a long-lived gas that remains in the atmosphere for up to 100 years. Increasing concentrations of GHGs in the atmosphere affect the global climate (Intergovernmental Panel on Climate Change [IPCC] 2014; U.S. Global Change Research Program 2009).

From 2015 to 2016, CO₂ emissions from the transportation end-use sector rose by 2.7 percent, largely due to increased vehicle miles traveled and motor gasoline consumption by various vehicles. During this same time, there were also increases in residual fuel oil consumption by ships and boats, as well as jet fuel use in general aviation (GA) aircraft. Commercial aircraft emissions were similar between 2015 and 2016; however, they have decreased 14 percent since 2007. Decreases in jet fuel emissions (excluding bunkers) since 2007 are due in part to improved operational efficiency that results in more direct flight routing, improvements in aircraft and engine technologies to reduce fuel burn and emissions, and the accelerated retirement of older, less fuel-efficient aircraft (U.S. EPA 2016). Scientific research is ongoing to better understand climate change, including any incremental atmospheric impacts that may be caused by aviation.

Climate change due to GHG emissions, while a global phenomenon, can also have local impacts.⁴ In 2008, the City of Portland adopted the *Municipal Climate Action Plan* to address the city's role in responding to climate change impacts. One of the recommendations from this plan was to update the city's emissions inventory. As a result, the City of Portland conducted the *Community Inventory of Greenhouse Gas Emissions* (2010) to quantify emissions for the Portland community using the geographic boundaries of the Portland city limits.⁵ The study found that from January – December 2010 the City of Portland's total community GHG emissions were 1,142,797 metric tons of CO₂ equivalent⁶ (CO_{2e}). Approximately 525,403 tons of CO_{2e} were emitted from mobile combustion of gasoline, diesel fuel, heavy fuel oil, and jet fuel. The *Municipal Climate Action Plan* (2008) set the target to reduce CO₂ emissions related to its operations to 10 percent below 1990 levels by 2020. The city established this target in association with the Cities for Climate Protection (CCP) Campaign. The State of Maine shares this GHG reduction goal of 10 percent below 1990 levels by 2020. In the long term, the state aims for reduction sufficient to eliminate any dangerous threat to the climate. To accomplish this goal, reduction to 75-80 percent below 2003 levels may be required (38 Maine Revised Statutes [MRS] Section 576).

⁴ As explained by the U.S. EPA, "greenhouse gases, once emitted, become well-mixed in the atmosphere, meaning U.S. emissions can affect not only the U.S. population and environment but other regions of the world as well; likewise, emissions in other countries can affect the United States." (U.S. EPA 2009).

⁵ The City of South Portland also conducted a *Greenhouse Gas Emissions Inventory*; however, it only addressed GHG emissions for municipal operations (City of South Portland 2016).

⁶ CO_{2e} is a term used for describing different GHGs in a common unit. For any quantity and type of GHG, CO_{2e} represents the amount of CO₂ that would have the equivalent global warming impact (expressed as global warming potential).

The Jetport has also prioritized the reduction of GHG emissions. As described in the *Sustainable Airport Master Plan (SAMP)* (City of Portland 2018a), the Jetport seeks to: “Become a national airport leader in climate change mitigation by supporting the reduction of greenhouse gas emissions generated from Jetport-controlled and influenced sources.” To accomplish this goal, the Jetport seeks to reduce GHG emissions associated with Jetport-operated mobile and stationary sources on a per enplanement basis and encourage employees, tenants, and customers to implement GHG-reducing strategies.

Sea level rise is another component of climate change that could impact the Jetport given its proximity to water bodies, namely the Fore River (east side of Jetport) and Long Creek (south side of Jetport). The Fore River and Long Creek are both hydrologically connected to the Atlantic Ocean. According to the National Oceanic and Atmospheric Administration (NOAA) Sea Level Rise Viewer, the Jetport is not currently impacted by sea level rise, considering the existing water level (relative to the local Mean Higher High Water [MHHW] datum) (NOAA 2018). **Exhibit 3D** illustrates the current MHHW, as well as the potential changes in Long Creek and the Fore River that could occur if the sea level rises six feet.

3.5 COASTAL RESOURCES

Under the *Coastal Zone Management Act of 1972*, states with coastal lands may prepare and submit a Coastal Zone Management (CZM) Plan for approval with NOAA. These plans/programs are intended to preserve, protect, and enhance designated coastal areas. In 1978, the State of Maine initiated a coastal management program in accordance with the *Coastal Zone Management Act of 1972*. Coastal management policies establish that shoreland areas in the State of Maine should be subject to zoning and land use controls, as well as compel municipalities to adopt zoning and land use controls for shoreland protection.⁷ Both the City of South Portland and the City of Portland have zoning to protect these coastal resources. See Section 3.10.2.

3.6 DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(f) RESOURCES

Section 4(f) of the *Department of Transportation Act of 1966* (49 USC 303) protects against the physical or constructive use of publicly owned parks and recreation areas, publicly owned wildlife and waterfowl refuges, and significant historic sites and districts because of federally funded transportation projects.

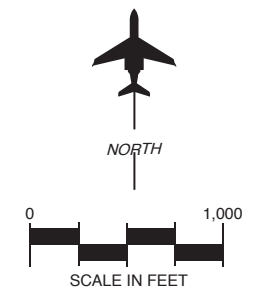
Significant Historic Sites. Within the cumulative study area (i.e., 0.5 square mile surrounding the Jetport, refer to **Exhibit 3B**), there are four sites protected by the *National Historic Preservation Act*, including: Tate House (within Stroudwater District); Stroudwater Historic District (adjacent to the north); Leonard Bond Chapman House (less than one mile to the northwest); and State Reform School/Brick Hill Historic District (less than one mile to the south).

The Stroudwater Historic District contains approximately 30 residences, as well as the village burying ground, and sites associated with collecting and exporting of masts, mills, tanneries, and shipyards,

⁷ Coastal management policies are found in 18 MRS Chapter 3, Protection and Improvement of Waters, Subchapter 1, Environmental Protection Board, Section 438-A, Municipal Authority; State Oversight.



- LEGEND**
- Airport Property Line
 - - - City Limit Line
 - Existing Sea Level
 - 6-foot Sea Level Rise
 - Project Study Area



Source: National Oceanic and Atmospheric Administration, Sea Level Rise Viewer



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which supported the inhabitants. Although comprised of these many historic uses, the Stroudwater Historic District is a primarily residential area at the confluence of the Stroudwater and Fore Rivers (City of Portland 2018b).

The State Reform School/Brick Hill Historic District contains seven 19th and early 20th century institutional buildings situated on high, open ground. This district incorporates all surviving historic structures within the grounds of what is currently the Long Creek Youth Development Center (National Park Service 1985).

Publicly Owned Parks and Recreation Areas. There are several land uses within the cumulative study area that fall within this category. There are five parks: Jordan Park (0.10 mile west of Runway 36 end); Brooklawn Memorial Park (adjacent northwest); Capisic Pond Park (0.50 mile north of Runway 18 end); an unnamed park with baseball fields, soccer fields, and tennis courts (0.20 mile east); and South Portland Municipal Golf Course (0.50 mile south of Runway 36 end).

Besides the publicly owned parks, another recreation area is the Fore River trail, which is a 5.6-mile trail that runs approximately 0.30 mile east of the Jetport, along the Fore River.

Publicly Owned Wildlife and Waterfowl Refuges. There are no wildlife or waterfowl refuges in the cumulative study area.

Section 6(f). There are no lands within Jetport property bounds that were acquired by the City of Portland or City of South Portland under Section 6(f) of the *Land and Water Conservation Fund Act of 1965*, which provides federal funds for buying or developing public use recreational lands.

3.7 FARMLANDS

The *Farmland Protection Policy Act* authorized USDA to develop criteria for identifying effects of federal programs on the conversion of farmland to non-agricultural uses. The guidelines developed by USDA became effective on August 6, 1984, and apply to federal activities involving the undertaking, financing, or assisting in the construction of improvement projects or acquiring, managing, or disposing of land that is deemed to have prime or unique farmland qualities. Soils on the Jetport property are primarily rated as “not prime farmland” by the USDA’s Natural Resources Conservation District (USDA NRCS) web soil survey (USDA NRCS website 2018). However, some soils on the east side of the Jetport are rated as “farmland of statewide importance” and two small areas of Paxton fine sandy loam or Woodbridge fine sandy loam are rated as “prime farmland.” None of the Jetport is within agricultural production and the actions presented in this EA would occur within areas on Jetport property currently designated for aviation use or within a private cemetery.

3.8 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

The cities of Portland and South Portland were consulted regarding solid waste service for the Jetport. According to the Maine Department of Environmental Protection (MDEP) “Active/Licensed Landfills” list,

the only active solid waste disposal site near the Jetport is EcoMaine Ash Landfill, which is located approximately 8,400 feet west of the Runway 11 end on County Road (Route 22) in South Portland and Scarborough. There are no new solid waste disposal sites proposed near the Jetport.

The Jetport's current recycling program consists of recycling cardboard, all paper products, glass, metal, plastics numbered 1-7, and used cooking oil. The Jetport's solid waste (both recyclables and non-recyclables) are brought to the EcoMaine waste-to-energy plant, located approximately 3,000 feet northwest of the Runway 11 end on Blueberry Road. The general waste is incinerated at the EcoMaine waste-to-energy plant to produce electricity. The recyclables, also brought to the EcoMaine plant, are baled by type, and the various bales are then sold at market value. Used cooking oil (generated by the tenant HOST) is brought to Maine Standard Biofuels, where it is recycled into biodiesel and a cleaning product. As part of the SAMP, a waste management baseline was completed (Appendix E of the SAMP), which included a thorough investigation of recycling rates and inventory of solid waste.

A review of the U.S. EPA Environmental Justice Screening (EJSCREEN) and Mapping Tool (2017) was conducted to identify any sites reporting to U.S. EPA on the use or release of hazardous materials or emissions, as well as the presence of brownfields or Superfund sites at or near the Jetport. In addition to the Jetport, Fairchild Semiconductor, Texas Instruments, The Maine Youth Center, Coca Cola (all facilities located in the City of South Portland), and Brooklawn Memorial Park (located in the City of Portland) release source emissions currently regulated by the U.S. EPA and MDEP. These facilities are licensed and are monitored by MDEP as part of the Maine State Implementation Plan (SIP), the vehicle by which MDEP attains and/or maintains compliance with the National Ambient Air Quality Standards (NAAQS). These facilities are illustrated in **Figure 1**.

Additionally, several enterprises on Jetport property that currently maintain U.S. EPA National Pollutant Discharge Elimination System (NPDES) permits for the discharge of stormwater and/or wastewater associated with industrial activities, include:

- Portland International Jetport
- Aircraft Maintenance of Maine
- Federal Express (FedEx)
- Maine Aviation Corporation
- Southwest Airlines
- JetBlue Airways
- AirTrans Airways Inc.

The U.S. EPA's NPDES permit program addresses water pollution by regulating point sources that discharge pollutants (including stormwater) to the Waters of the U.S. (WOTUS). Maine is a NPDES-delegated state and MDEP administers the permit requirements allied with this program. Detailed information on the Jetport's current pollutant prevention programs and permits are provided in Section 3.15.3, Surface Waters.

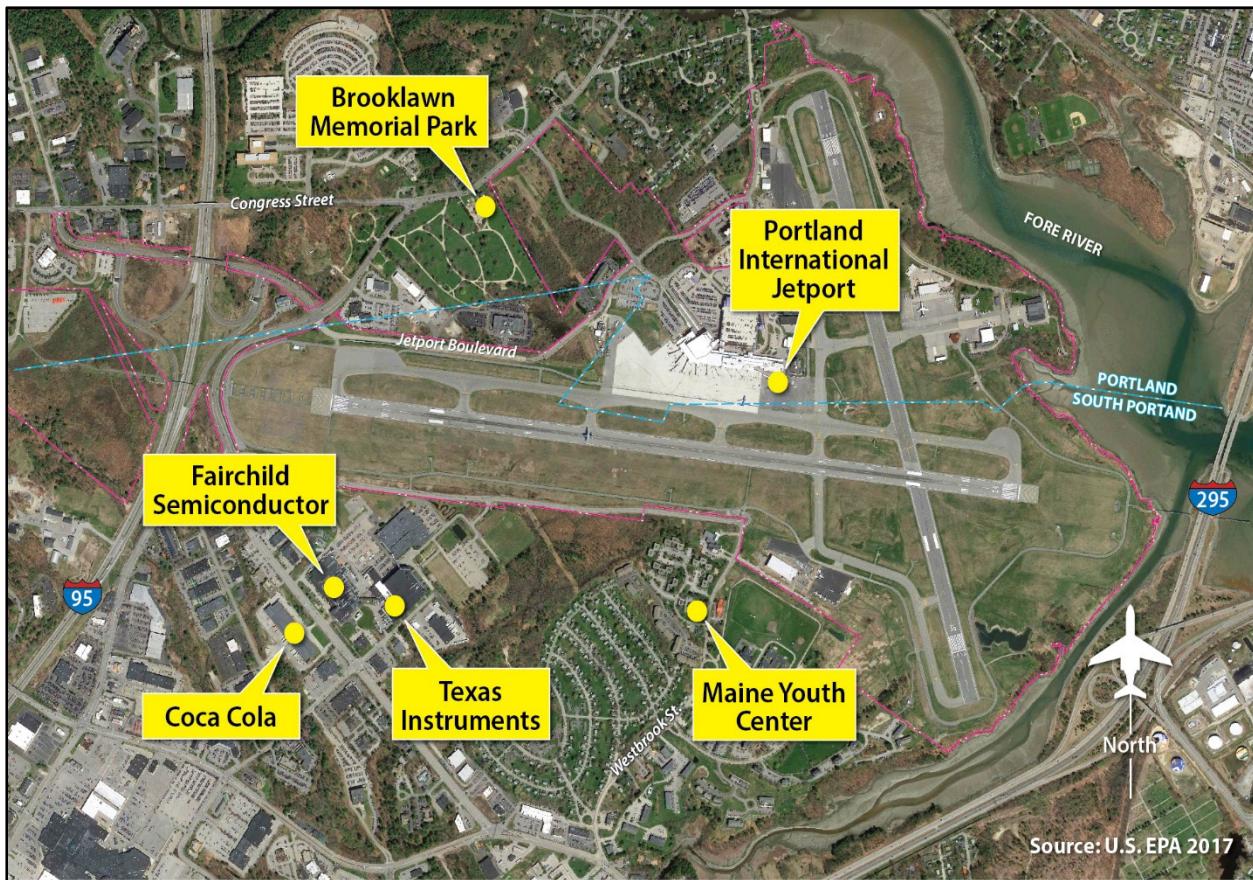


Figure 1. U.S. EPA Air Quality Regulated Facilities

3.9 HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Independent Archaeological Consulting, LLC (IAC) completed a Phase 0 Archaeological Survey (Phase 0 Survey) for the project study area in November 2017 to identify archaeologically sensitive areas and used this data to determine which areas have Pre-Contact or Post-Contact archaeological sensitivity (**Appendix C**).

To evaluate the potential for ancient Native American cultural deposits, IAC used a combination of soil information, topography, proximity to water (or other natural resources), data from the current distribution of known Pre-Contact sites, background research, and a walkover inspection of the project area that included limited subsurface testing to determine soil integrity. The Euro-American sensitivity assessment involved these same steps, but also included a detailed review of historic maps to identify documented Post-Contact residential or commercial sites within the project study area.

The Jetport is in the Seaboard Lowlands physiographic region that extends along Maine's eastern coastline. The Seaboard Lowlands, characterized by gently rolling terrain with isolated elevated landforms, varies in width from approximately 20 miles near the New Hampshire border to 60 miles near New Brunswick.

The project study area encompasses 11 soil types. Poorly drained silt loams are the most dominant soil types (USDA NRCS 2018). Pockets of well-drained sandy loam or loamy sand present in isolated sections of the project study area offer environmental conditions conducive to Pre-Contact human habitation, as reflected by current site distribution models that show a preference for occupation or activity sites situated atop sand-rich landforms.

The distribution of known Pre-Contact sites in Maine indicates that level terrain, well-drained soils, and access to natural resources are primary variables in observed patterns of ancient Native American land use. The Jetport is along the Fore River, which would have provided Pre-Contact Native Americans with a wealth of floral and faunal consumables, as well as convenient access to a water-based transportation corridor leading from the Fore River headwaters to the Atlantic Ocean. Based on the proximity of the project study area to the Fore River and other hydrologic features, the initial stages of the sensitivity assessment suggested a high potential for Pre-Contact archaeological deposits within the project study area.

For the Pre-Contact site file search, IAC submitted the project location to Dr. Arthur Spiess, a Senior Archaeologist for the Maine Historic Preservation Commission (MHPC), who provided data about all archaeological surveys and known Pre-Contact sites in proximity to the project study area. The Post-Contact background research included a cartographic resource study, as well as a review of the MHPC Historic Site Inventory files to identify known archaeological sites in the vicinity of the project study area, both of which suggest no archaeological sensitivity.

IAC also performed a walkover of the site on November 1, 2017. Archaeologists documented the inspection results with photographs, detailed notes, and GPS (global positioning system) points. The survey crew hand-excavated 16 soil tests atop potentially archaeologically sensitive landforms within the project study area to identify subsurface soil conditions and generate a more accurate assessment of archaeological sensitivity based on the degree of disturbance to the natural soil strata. The Phase 0 survey resulted in the identification of two areas of Pre-Contact Native American archaeological sensitivity, designated as Sensitive Areas 1-2 (SA-1 and SA-2) (IAC 2017). Archaeologists found that the project study area is not archaeologically sensitive for Post-Contact archaeological resources but recommended a further Phase I Reconnaissance Survey to confirm the presence or absence of ancient Native American archaeological resources within the two sensitive areas. A Phase 1B study of SA-2 was conducted in September 2018 (**Appendix C**). Based on the additional survey, shovel test pits, and machine test pits, no cultural resources were discovered. (No soil disturbance will occur as part of this project in SA-1 as tree stumps will be left in place.)

3.10 LAND USE

3.10.1 Existing Land Use

The Jetport lies within two cities, the City of Portland and the City of South Portland. The Jetport is bordered on the east by the Fore River and Interstate 295 (I-295). Along the northwest property boundary, the Jetport abuts residential land uses, some of which are associated with the Stroudwater Historic

District. The Brooklawn Memorial Cemetery is southwest of these residential areas, but also abuts the Jetport on its northwest side. North of Congress Street are mixed uses, including commercial buildings, residences, industrial areas, and some land reserved for resource protection. Immediately north of the passenger terminal building parking garage, there is a hotel site and rental car ready/return area located along Al McKay Avenue. There are commercial and industrial land uses at the intersection of Jetport Boulevard and Johnson Road, with a hotel situated in the northwest corner of the intersection of International Parkway and Jetport Boulevard. There is a golf course and commercial and industrial land uses adjacent to the Jetport property west of Interstate 95 (I-95). The State Reform School/Brick Hill Historic District and Long Creek are along the Jetport's southern property boundary. East of Western Avenue to the State Reform School/Brick Hill Historic District are commercial, industrial, and mixed uses. Existing generalized land uses are shown on **Exhibit 3E**.

3.10.2 General Plan and Zoning

As previously stated, the Jetport is within two cities, and thus the Jetport property has two different zoning designations. The Jetport is zoned Airport Business (AB) on the City of Portland side and Light Industrial (IL) on the City of South Portland side. Because of the proximity of the Fore River, development in the area north and east of the Runway 18 end, east and south of the cargo apron/maintenance area, and east and south of the Runway 36 end may be subject to the City of Portland's Shoreland Overlay Zone and the City of South Portland's Shoreland Resource Protection Overlay Subdistrict and Shoreland Overlay District zoning requirements.

City of Portland. Along the north to northwestern property boundary, the area around the Jetport is zoned for varying densities of residential land uses (R1, R2), as well as Office Park (OP). West of the Jetport along Congress Street the area is zoned for Industrial – Moderate Impact (IM) and Urban Commercial Business (B5). **Figure 2** illustrates zoning in the City of Portland on and around the Jetport (City of Portland 2018c).

There are both a Shoreland Overlay Zone and Resource Protection Zone along the Jetport's eastern property line and the Fore River. In the Shoreland Overlay Zone, development is intended to preserve the natural features of the shoreland areas by minimizing the disturbance of existing vegetation and slopes, avoiding building in areas subject to erosion and sedimentation, and conserving scenic views and vistas to and from the site. The City of Portland's Shoreland Overlay Zone consists of the land area within 250 feet, horizontal distance, of the normal high-water line of any river; within 250 feet, horizontal distance, of the upland edge of any wetland, including all areas affected by tidal action; within 250 feet of the upland edge of freshwater wetland; or within 75 feet, horizontal distance, of the normal high-water line of a stream.

In the Resource Protection Zone, no buildings can be erected, altered, enlarged, rebuilt, or used, except for the following uses: non-intensive recreation; vehicular traffic on existing roadways; fire prevention activities; wildlife management; soil and water conservation; surveying and natural resource analysis; emergency operations; harvesting of wild crops; non-residential structures for educational, scientific, or

nature interpretation purposes; and many other non-invasive activities that would not negatively impact the sensitive resources protected by this zone (City of Portland 2014).

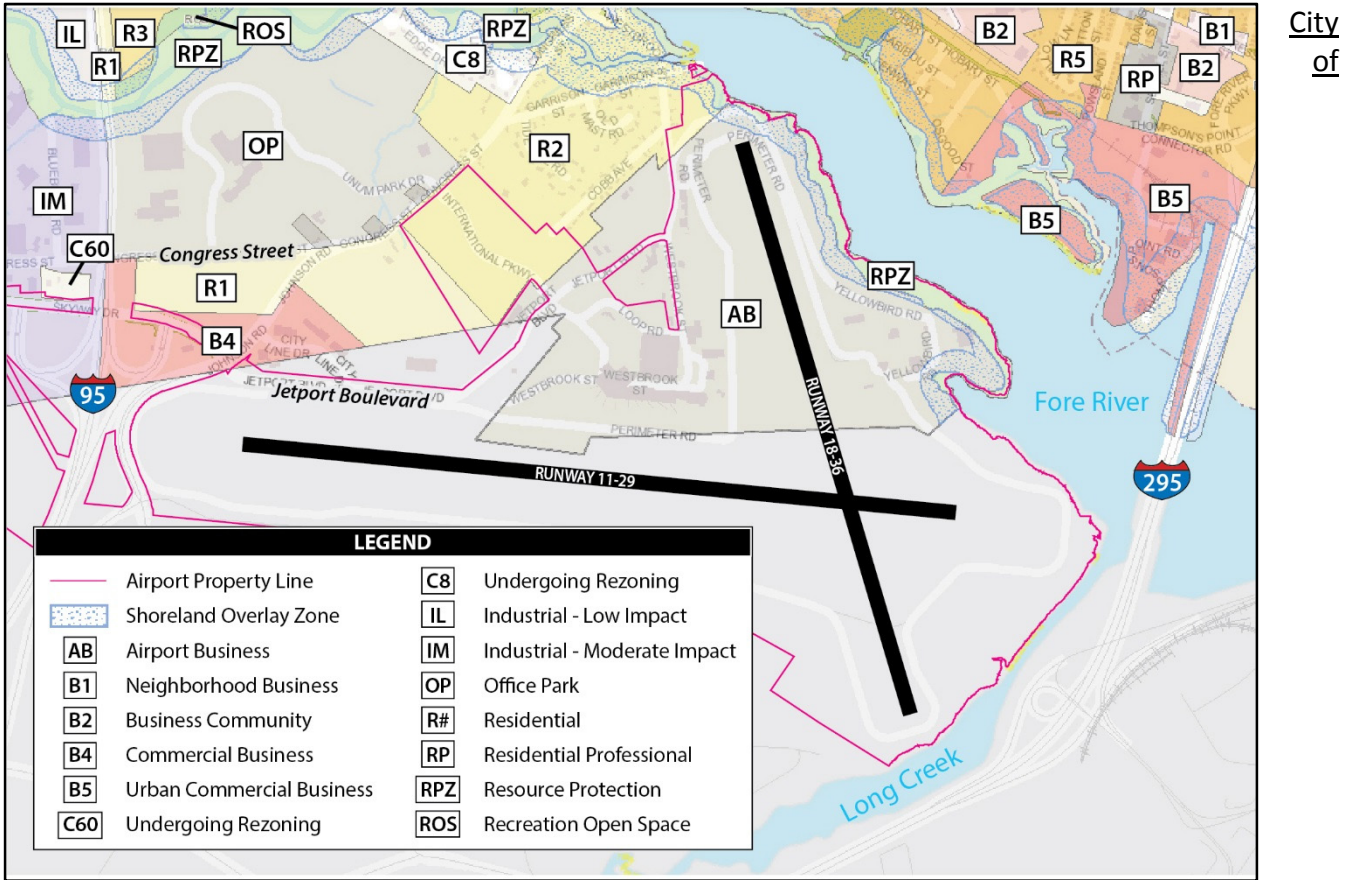
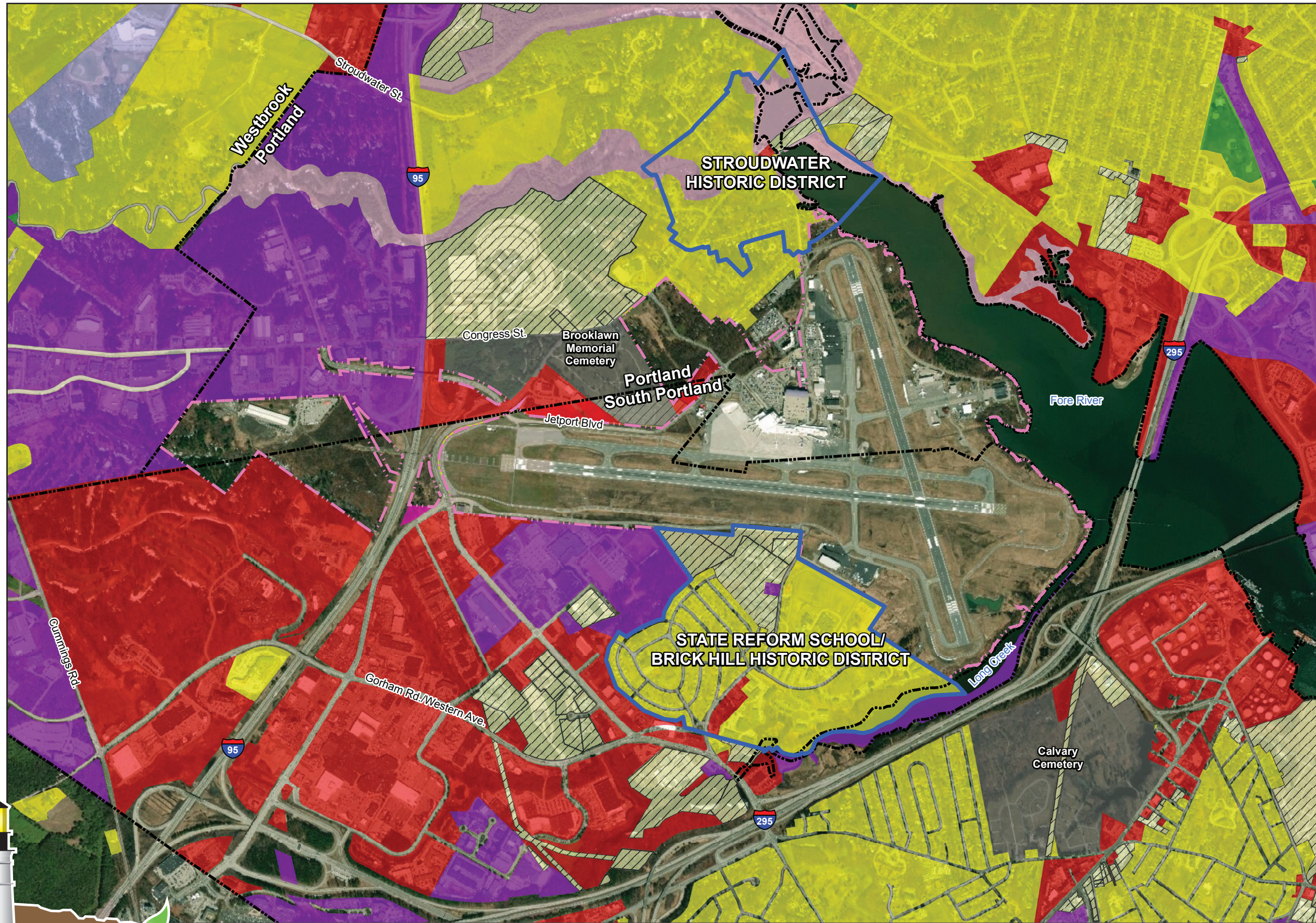


Figure 2. Zoning in the City of Portland, ME

South Portland. Along Jetport Boulevard within the City of South Portland, there are two parcels of land zoned as General Commercial (CG). West of I-95, the area is zoned for Rural Residential (RF). Southwest of the Jetport, the area is zoned for CG and Central and Regional Commercial District (CCR). Directly south are additional areas zoned for Light Industrial (IL), as well as the State Reform School/Brick Hill Historic District, which is zoned Westend Residential District (WR). South of the State Reform School/Brick Hill Historic District are zones for more residential uses. East of I-295 is a commercial zone. **Figure 3** illustrates zoning in the City of South Portland on and around the Jetport (City of South Portland 2018b).

The City of South Portland has a Shoreland Overlay Zone along the Fore River. In the City of South Portland, the Shoreland Overlay Zone intends to maintain the safe and beautiful conditions of shoreland, including: to prevent and control water pollution; to protect aquatic life and habitat; to safeguard buildings and lands from flooding and accelerated erosion; to preserve cultural resources; to protect commercial fishing and maritime industries; to protect wetlands; to conserve shore cover; to anticipate and respond to the impacts of development in shoreland areas; and to conserve and maintain the enjoyable quality of existing shoreland areas as places where people and nature can exist in productive harmony (City of South Portland 2018a). This Shoreland Overlay Zone encompasses Long Creek to the south of



Legend

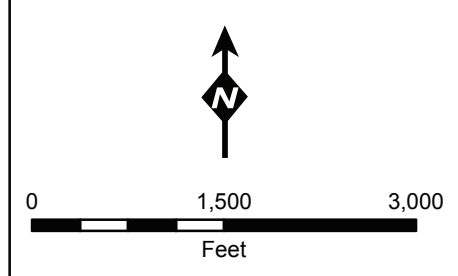
- Airport Property Boundary
- Municipal Boundary
- ▭ Historic District

Portland Land Use

- Commercial
- Industrial
- Municipal
- ▨ Mixed Use
- Cemetery
- Open Space
- Resource Protection
- Residential

Data for this exhibit provided by the City of Portland GIS department, the City of South Portland and the City of Westbrook. Coffman Associates analysis modified the data as needed to depict land use. Updated to reflect 2018 municipal data.

Stroudwater Historic District boundary provided by the City of Portland GIS Department. State Reform School/Brick Hill Historic District boundary from 2012 South Portland Comprehensive Plan Update.



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the Jetport. More specifically, the Shoreland Area Overlay Zone includes: areas within 250 feet, horizontal distance, of the upland edge of a coastal wetland, including all areas affected by tidal action; all land areas within 250 feet, horizontal distance, of the upland edge of a shoreland freshwater wetland; and all land areas within the Stream Protection Overlay Subdistricts (SP-1, SP-2, and SP-3).⁸

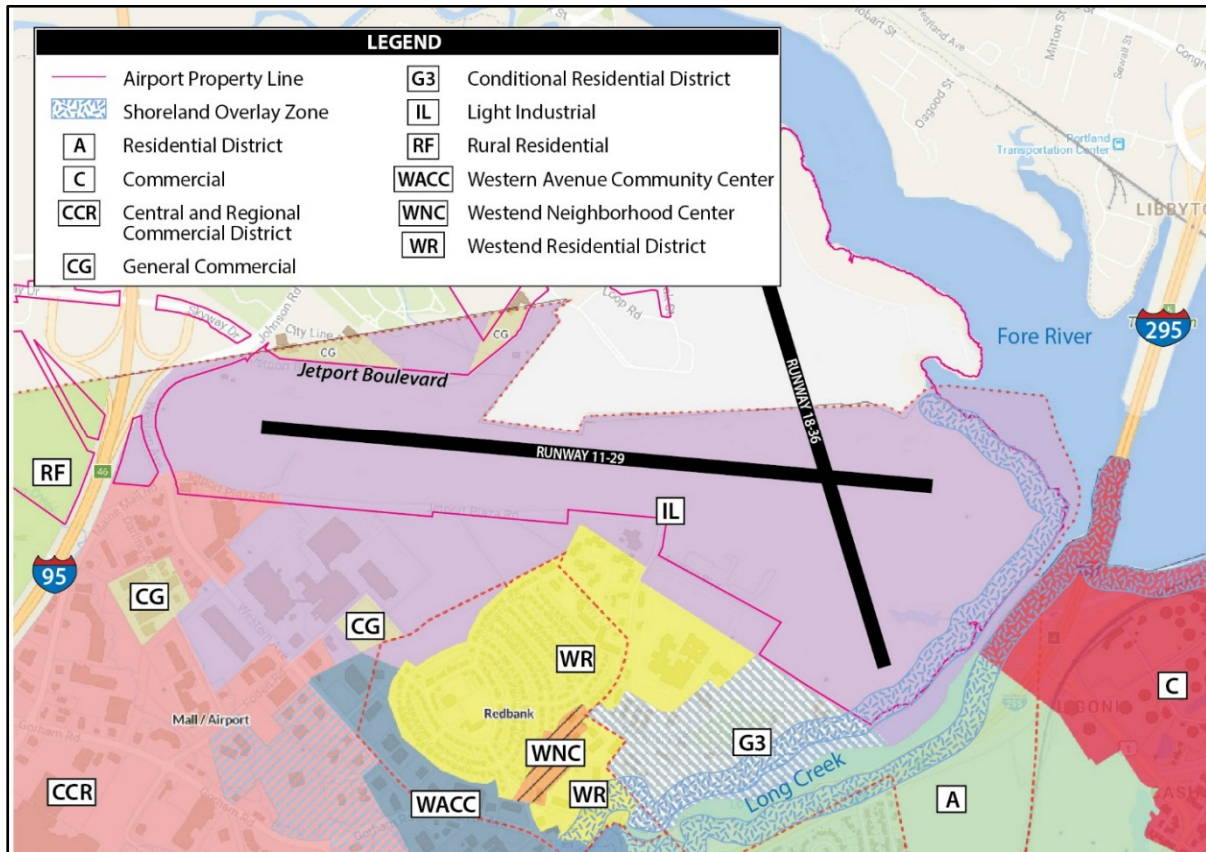


Figure 3. Zoning in the City of South Portland, ME

The Shoreland Overlay Zone also includes the Shoreland Resource Protection Overlay Subdistrict. The Shoreland Resource Protection Overlay Subdistrict includes: areas within 250 feet, horizontal distance, of the upland edge of shoreland freshwater wetlands, salt marshes and salt meadows, and wetlands associated with great ponds and rivers, which are rated “moderate” or “high” value waterfowl and wading bird habitat, including nesting and feeding areas, by the MDIFW that are depicted on a GIS data layer maintained by either MDIFW or MDEP; floodplains along rivers and floodplains along artificially formed great ponds along rivers, defined by the 100-year floodplain as designated on the Federal Emergency Management Agency’s (FEMA) Flood Insurance Rate Maps or Flood Hazard Boundary Maps; areas of two

⁸ The Stream Protection Overlay Subdistricts include: SP-1 - all land within 75 feet, horizontal distance, of the normal high-water line of the following streams – Mill Creek, Kimball Brook, Trout Brook, Anthoine Creek, Barberry Creek, and Gambler’s Arm Brook – or within the 100-year floodplain associated with these streams (whichever is greater); SP-2 - all land areas within 100 feet, horizontal distance, of the normal high-water line of the following streams or within the 100-year floodplain associated with these streams, whichever is greater – Long Creek upstream of the dam at Westbrook Street and its major tributaries, Red Brook, and Jackson Brook; and SP-3 - all land areas within 50 feet, horizontal distance of the normal high-water line of the minor tributaries of Long Creek.

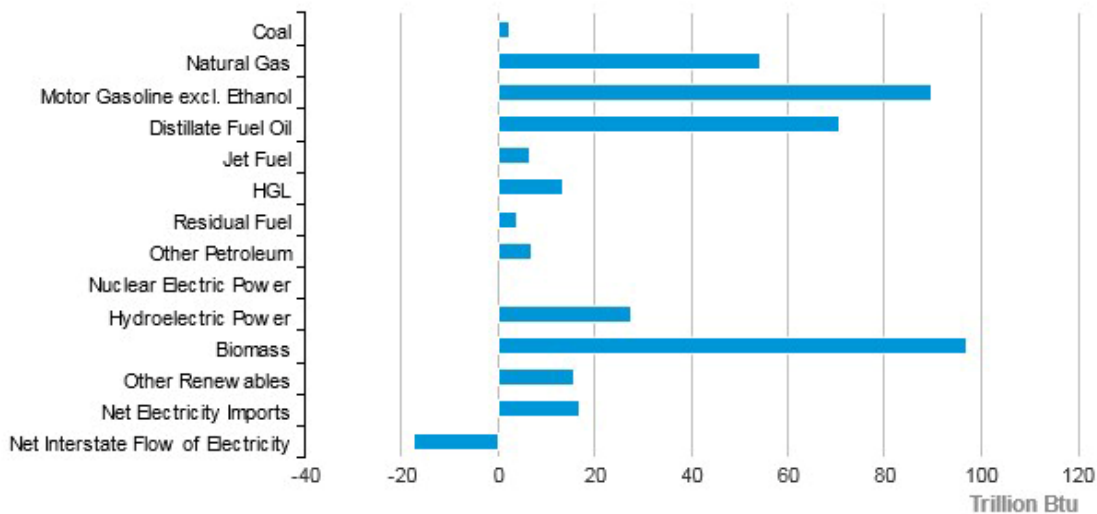
or more contiguous acres with sustained slopes of 20 percent or greater; areas of two or more contiguous acres supporting wetland vegetation and hydric soils, which are not part of a shoreland freshwater or coastal wetland as defined, and which are not surficially connected to a water body during the period of normal high water; and land areas along rivers subject to severe bank erosion, undercutting, or river bed movement, and lands adjacent to tidal waters, which are subject to severe erosion or mass movement, such as certain steep coastal bluffs (City of South Portland 2018a).

3.11 NATURAL RESOURCES AND ENERGY SUPPLY

Stone, sand, and gravel natural resources in the nearby towns of Dayton, Gorham, Windham, and Standish have historically provided stone aggregate for bituminous pavement and concrete, sand and gravel for subbase and base course pavement sections, and common borrow materials to fill depressions at the Jetport for apron, taxiway, and runway projects. These sources of natural materials have supported large-scale improvements at the Jetport over the past several decades. Shaw Brothers Construction, who owns several of these nearby gravel pits, was contacted in July 2018 and indicated that these sources would be able to support continued large-scale site improvement projects at the Jetport in the future (Shaw, J., Owner, Shaw Brothers 2018).

Energy is supplied to the Jetport by Central Maine Power. Quick Facts from the website of the U.S. Energy Information Administration (2018) indicate that in 2017, about three-quarters of Maine's net electricity generation came from renewable energy resources, with 30 percent from hydroelectricity, 26 percent from biomass (mainly wood products), and 20 percent from wind. This same source reports the following consumption of energy in Maine for 2016 (Figure 4):

Maine Energy Consumption Estimates, 2016



 Source: Energy Information Administration, State Energy Data System

Figure 4. Maine Energy Consumption Estimates (2016)

The Jetport historically uses approximately 8,000,000 kilowatt hours (kWh) of electricity, based on information gathered as part of the SAMP, which indicated that the amount of electricity consumption at the Jetport totaled 8,416,789 kWh and 7,587,698 kWh in 2013 and 2014, respectively. In recent years, although the Jetport has been expanding, many sustainable energy practices have been implemented to help reduce energy consumption.

Highlights include 400-hertz (Hz) ground power units and associated geothermal heating and cooling, which is beneficial in summer months when run with the appropriate sequence of equipment installed. This geothermal project (the largest geothermal project in Maine) was funded through FAA’s Voluntary Airport Low Emissions (VALE) program and consists of 120 wells. The Jetport’s radiant heating utilizing high efficiency condensing boilers are also successful in both energy consumption savings and occupant comfort. The Jetport also has a new terminal building that is LEED Gold-certified. (Gold is the second highest ranked certification within the Leadership in Energy and Environmental Design or LEED certification program).

The Jetport now has a project underway, to be completed in 2018, which will provide approximately seven percent of the Jetport’s electrical energy demand from an onsite solar photovoltaic system mounted on the canopy roof of the parking garage.

3.12 NOISE AND NOISE-COMPATIBLE LAND USE

The Jetport has a 14 CFR Part 150 *Noise Compatibility Plan* (Part 150) (City of Portland 2005). However, the most recent aircraft noise exposure contours for the Jetport were prepared for the *Final Environmental Assessment for Proposed Airfield and Terminal Area Improvements* (FAA and City of Portland 2009), which included improvements to Runway 18-36, Runway 11-29, and the passenger terminal development. Those projects have been completed. Both the Part 150 study and the 2009 EA noise study indicated there were no noise-sensitive uses inside the 65 decibel (dB) Day-Night Average Sound Level (DNL or Ldn) contours. In addition, the future 2017 noise contours prepared for the 2009 EA did not contain any noise-sensitive uses within the 65 DNL contour. Currently, Jetport operations are significantly less than when either the Part 150 or the EA contours were prepared. Operations in the 2035 forecast of the SAMP are also less than the operational levels used to prepare the 2017 noise contours in the EA (**Table 3B**). In addition, all Stage 2 jets are now banned from operation in the U.S.⁹

TABLE 3B
Previous Study Annual Aircraft Operation Counts
Portland International Jetport

Part 150 Study		2009 Environmental Assessment		Sustainable Airport Master Plan
2002	2007	2007-2008 ¹	2017	2035
114,610	120,830	73,907	82,721	69,300

¹ August 2007 to July 2008

Sources: City of Portland 2005; FAA and City of Portland 2009; City of Portland 2018a.

⁹ In July 2013, FAA began implementing a congressional mandate to phase-out the loudest civil turbojet aircraft operating in the U.S. After December 31, 2015, operation of almost all jet aircraft weighing 75,000 pounds or less were banned from operating from the contiguous U.S. unless they met Stage 3 noise compliance requirements or higher (National Business Aviation Association [NBAA] 2013).

Since none of the projects in the Proposed Action of this EA would alter the current runway configuration or permit changes in the design category of aircraft serving the Jetport, and forecast operations for 2035 are lower than previously anticipated, new noise contours were not prepared as part of this EA. Rather, the 2017 noise exposure contours from the 2009 EA were superimposed on a current aerial to show any land use updates (**Exhibit 3F**).

Exhibit 3F illustrates the 2017 65, 70, 75 DNL noise contours, as well as some nearby noise-sensitive receptors, including the Stroudwater Historic District, State Reform School/Brick Hill Historic District, and several residential developments. There are several schools, religious institutions, and other properties on the National Register of Historic Places that are near the Jetport. As shown on **Exhibit 3F**, there is an area off the Runway 11 end that is zoned for residential land uses that is within the 65 DNL noise contour; however, there is currently no residential development in this area.

3.13 SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

3.13.1 Socioeconomic Impacts

FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, states that airport development actions may adversely affect the human environment, as well as the natural environment. The effects on the human environment are generally considered as social and economic impacts and encompass a wide range of variables. The principal social impacts considered with airport actions include:

- Relocation of residential housing and/or businesses;
- Disruption of established communities;
- Disruption of planned development; and
- An appreciable change in employment.

FAA policy is to ensure fair compensation in the event acquisition of housing and businesses prior to the construction of a project under the Airport Improvement Program (AIP). The *Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970* (the Uniform Act) and the implementing regulations (49 CFR Part 24), also provide for the fair relocation of homeowners and business owners impacted by an airport development project.

Businesses located within the Congress Street/Western Avenue corridor, two major roads outlying the western region of Jetport property, consist of service-related (hotels and restaurants), commercial, and light industrial enterprises. Commercial development is densest southwest of the Jetport, along Western Avenue and Maine Mall Road.

Residential development occurs within the Garrison Street/Cobb Avenue neighborhood, located approximately 500 feet north and west of the Runway 18 end. Dense residential development is also located approximately 800 feet to the south of Runway 11-29, between Westbrook Avenue and Powers Road. A review of EPA's EJSCREEN tool indicates that a number of public and subsidized housing developments are located in Portland and in South Portland. The nearest of these to the Jetport is a public housing facility located approximately 650 feet to the southwest of the Runway 36 end.



Legend

- Airport Property Boundary
- Runway Centerline
- Municipal Boundary
- DNL Noise Contours¹
- Historic Site
- Residential Land Use

Noise Sensitive Points

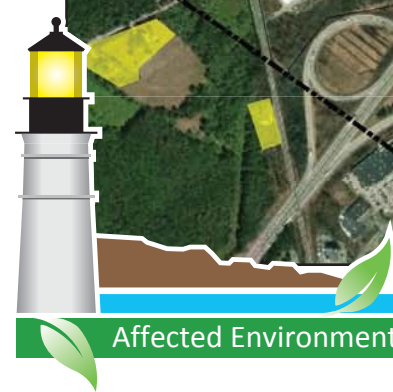
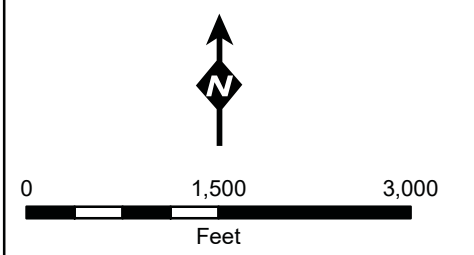
- Daycare
- Place of Worship
- Historic Building²
- School

¹DNL: Day-Night Average Noise Level. 2017 Forecast for 2009 EA Proposed Action.

²On the National Register of Historic Places.

Data for this exhibit provided by the City of Portland GIS department, the City of South Portland and the City of Westbrook. Coffman Associates analysis modified the data as needed to depict land use. Updated to reflect 2018 municipal data.

Stroudwater Historic District boundary provided by the City of Portland GIS Department. State Reform School/Brick Hill Historic District boundary from 2012 South Portland Comprehensive Plan Update.



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3.13.2 Environmental Justice

Executive Order (E.O.) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations*, was issued on February 11, 1994, to focus federal actions on the environmental and human health conditions in minority and low-income communities. E.O. 12898 requires, to the greatest extent practicable, that federal agencies strive to achieve environmental justice as part of their mission.

Minority population refers to any readily identifiable group of minority persons (Black, Hispanic, Asian or Pacific Islander, American Indian or Alaska Native, and other non-White populations). The environmental justice analysis for this EA uses the definitions from the 2012-2016 U.S. Census American Community Survey 5-Year Estimate as a comparison between minority and White (Caucasian) populations. The area examined includes four surrounding jurisdictions, including the cities of Portland, South Portland, and Westbrook, as well as the Town of Scarborough. These four municipalities include approximately 45 percent of the total population of Cumberland County.

As indicated in **Table 3C** below, minorities comprise approximately eight percent of the population in Cumberland County, while the minority population makes up approximately 12 percent of the population residing within the four surrounding jurisdictions. The percentages of individuals living below the poverty level in Cumberland County is approximately 11 percent, while approximately 16 percent of individuals in the four surrounding jurisdictions studied are living below the poverty level. The percentages given for individuals living below the poverty level include individuals of all races provided in the survey data.

TABLE 3C
Environmental Justice Demographics
Cumberland County and Surrounding Jurisdictions (City of South Portland; City of Portland; City of Westbrook; Town of Scarborough)

Population Category	Cumberland County		Surrounding Jurisdictions		
	Race	Number	Percent (%)	Number	Percent (%)
Black or African American		7,467	2.7	6,395	5.0
American Indian and Alaska Native		600	0.2	262	0.1
Asian		5,727	2.0	4,195	3.3
Native Hawaiian / Pacific Islander		0	0.0	0.0	0.0
Hispanic / Latino		5,222	1.9	3,672	2.9
Some other race		1,084	0.4	618	0.48
Two or more races (Non-Hispanic)		1,125	.04	343	0.27
White		259,274	92.4	111,985	87.85
Total Minority		21,405	7.6	15,485	12.15
Total Population¹		280,499	100.0	127,470	100.0
Individuals estimated to be living below the poverty level		31,192	11.1	19,843	15.6

¹ Population is for whom poverty status is determined.

Source: U.S. Census Bureau 2018. 2012-2016 American Community Survey 5-Year Estimates, Poverty Status in the Past 12 Months.

3.13.3 Children's Environmental Health and Safety Risks

Per E.O. 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, federal agencies must identify and assess environmental health and safety risks that may disproportionately affect children. As stated in Section 3.13.1 above, residential developments are present in proximity to the northern and southern boundaries of the Jetport. Several schools are located to the south of the Jetport, including the Long Creek Youth Development Center, a correctional facility located roughly 500 feet southwest of the Jetport. The North Atlantic Montessori School is in South Portland, on Western Avenue, approximately 0.5 miles south of Jetport property. As illustrated in **Exhibit 3F**, Bright Horizons, a daycare facility, is located on Congress Street in Portland, approximately 1,700 feet north of the Runway 11 end.

3.14 VISUAL EFFECTS

3.14.1 Light Emissions

The overall location of the Jetport is identified at night by a rotating beacon, which projects two beams of light, one white and one green, 180 degrees apart. The beacon is located on the east side of the Jetport near the shoreline. The airfield is equipped with high intensity runway lights on Runway 11-29 and medium intensity runway lights on Runway 18-36. All taxiways are equipped with medium intensity taxiway edge lighting. Four-box precision approach path indicators (PAPIs) are provided for each runway.

Runway 11 is equipped with an ALSF/SSALR system (see definitions below), which is a dual mode high intensity approach lighting system that provides lighting patterns for landing aircraft on Category 2 and 3 runways, such as Runway 11. The system operates in two modes: a high intensity system with sequenced flashing lights (ALSF-2) and a simplified short approach lighting system with runway alignment indicator lights (SSALR). The Runway 29 end has a medium intensity approach lighting system (MALSR), which is supplemented by runway alignment indicator lights. Combined, this system is referred to as a MALSR.

Both ends of Runway 18-36 are also equipped with runway end identifier lights (REILs). When the air traffic control tower is closed, pilots can activate airfield lights utilizing the pilot control lighting (PCL) system via a series of clicks with their microphone transponder on the common traffic advisory channel. The PCL will activate the MALSR on Runway 29 and the REIL units on Runway 18.

On the landside of the Jetport, the ground level vehicle parking lots, all levels of the parking garage, including the roof level, terminal aircraft apron, north GA apron and access roadways are well-lit with pole-mounted lights and lights mounted to buildings. The lights are as tall as 53 feet at the commercial terminal apron. **Figure 5** is a photo of the pole-mounted lights west of the terminal building.

3.14.2 Visual Resources and Visual Character

The Jetport is a public land use and is completely developed as an airport facility. Views of the Jetport from roads to the north, west, and south are generally obscured by the eight- to nine-foot-high perimeter security fence with barbed-wire at the top. However, this security fence is not high enough to obstruct views of the airfield from certain vantage points within the residential area to the south of Runway 11-29. **Figure 6** is a photo looking in a northerly direction from the residential units constructed in 2017, south of Runway 11-29 and west of Runway 18-36.



Figure 5: Pole-mounted parking lot and apron lights west of the terminal building

3.15 WATER RESOURCES

3.15.1 Wetlands

A wetland delineation of the project study area was conducted in 2017 (Stantec 2018c). Wetland boundaries were determined using technical criteria described in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (U.S. Army Corps of Engineers [USACE] 2012). Resources were flagged in the field with alphanumeric-coded flagging and located using a submeter GPS receiver. Wetland Determination Data forms were completed for wetlands within the study area. Wetland communities were classified according to the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, L.M., V. Carter, F.C. Golet, and E.T. Roe 1979). Wetlands of Special Significance (WSS) were identified using criteria described in the *Maine Natural Resource Protection Act*. Identification of WSS was limited to observable conditions within the project study area and available background information.



Figure 6. Looking northerly from residential units constructed south of Runway 11-29 and west of Runway 18-36

Concurrent with the wetland delineation, the area for streams and other potential WOTUS were evaluated. These resources were identified using the technical criteria established by MDEP and USACE, respectively. Data was recorded on evidence of hydrology, substrate, bank full widths, wetted widths, water depths, and presence of aquatic organisms and vegetation. Identification of potential vernal pools was limited to observable conditions within the project study area at the time of the field survey, as well as readily available background information. Features indicative of potential vernal pool habitat includes a sparsely vegetated basin, water marks or moss trim lines on adjacent boulders or tree trunks, and invertebrates observed on soil or leaf litter (i.e., fingernail clams).

A total of six wetlands were mapped within the project study area on Jetport property. Three additional wetlands were mapped within the tree clearing zone south of Runway 18-36 on a parcel owned by the Calvary Cemetery. The wetlands are characterized in **Table 3D**. For continuity, wetlands mapped in 2017 are identified by the same wetland IDs that were used in a 2008 wetland delineation survey (TRC 2008b). A total of three areas identified as wetlands in 2008 were not considered wetlands in the 2017 survey. Two of the former wetlands were determined to not be wetlands during the updated survey because they did not have the vegetative, hydrologic, or soil criteria necessary to be classified as wetland. The third former wetland was determined not to be wetland because it is presently a maintained drainage feature.

TABLE 3D
Wetland Delineation Summary
Portland International Jetport

Wetland ID	Wetland Description	Historical context
AC	Scrub-shrub wetland. Dominated by winterberry holly, speckled alder, long-beaked willow, white meadowsweet, purple loosestrife, broad-leaf cat-tail, and Canada reed grass. Hydric soils include depleted and disturbed silt loam with redoximorphic features.	This wetland is located northwest of the previously expanded deicing area outside the Jetport fence. This wetland was delineated in 2008 and is changed slightly from that survey.
A	Scrub-shrub freshwater wetland dominated by speckled alder, spotted touch-me-not, and sensitive fern. Tidal marsh estuarine wetland along the Fore River dominated by salt marsh club-rush. Hydric soils include organic material over a depleted silt loam with redoximorphic features.	This wetland is essentially unchanged from the 2008 survey.
D	Emergent wetlands, these features are mowed wet meadow wetlands within the airfield. Dominated by lamp rush, tall lettuce, purple loosestrife, an unidentifiable bulrush, an unidentifiable grass, nodding burr-marigold, broad-leaved cat-tail. Hydric soils include depleted loam with redoximorphic features.	Three small wetland features were mapped within this area. A slight change from the 2008 survey.

TABLE 3D (Continued)
Wetland Delineation Summary
Portland International Jetport

Wetland ID	Wetland Description	Historical context
E	Non-wetland	No wetland features were mapped within this project study area. No hydrophytic vegetation, hydrology, or hydric soils observed.
F	Non-wetland	No wetland features were mapped within this project study area. No hydrophytic vegetation, hydrology, or hydric soils observed.
N	Non-wetland	This feature is an armored drainage way. Soils were decomposing grasses and sedges, which are occupying the ditch and found between the rock placed in and adjacent to the channel. The area is maintained as a drainage area.
01DTG	Forested wetland, dominated by red maple, quaking aspen, winterberry holly, sensitive fern, fowl manna grass, and spotted touch-me-not. Hydric soils include depleted silt loam with redoximorphic concentrations.	Located outside the Jetport on an undeveloped parcel for proposed tree removal associated with Calvary Cemetery.
01DTH	Emergent wetland, dominated by blue flag iris, fowl manna grass, lamp rush, path rush, white meadowsweet, sensitive fern, and rattlesnake manna grass. Hydric soils include thick dark loam with redoximorphic concentrations and depletions.	Located outside the Jetport on an undeveloped parcel for proposed tree removal associated with Calvary Cemetery.
01DTI	Forested wetland, dominated by red maple, quaking aspen, winterberry holly, sensitive fern, fowl manna grass, and spotted touch-me-not. Hydric soils include depleted silt loam with redoximorphic concentrations.	Located outside the Jetport on an undeveloped parcel for proposed tree removal associated with Calvary Cemetery.

Source: Stantec 2018c.

Wetlands within the Jetport primarily serve the flood flow alteration and sediment/toxicant retention function within the developed landscape. Wetlands located within the parcel for proposed tree clearing are primarily providing the function of production export due to the size of the trees that are available for commercial harvesting, as evidenced by areas within the parcel that have been harvested for timber within the last five years. The location of the wetlands both at the Jetport and the tree clearing parcel, which are adjacent to Jetport development and residential and commercial development, limit the recreational and educational opportunities of the wetlands. **Table 3E** summarizes the functions and values for wetlands within the project study area.

TABLE 3E
Wetland Function and Value
Portland International Jetport

Wetland ID	AC	A	D	01DTG	01DTH	01DTI
<i>Wetland Functions and Values</i>						
Groundwater Interchange	X	X				
Floodwater Alteration	P	P	P	X	X	X
Fish and Shellfish Habitat		X				
Sediment/Toxicant Retention	P	P	P			
Nutrient Removal	X	P		X		
Production Export	X	X		P		P
Sediment/Shoreline Stabilization		P				
Wildlife Habitat	X	X		X	X	X
Recreation						
Educational/Scientific						
Uniqueness/Heritage						
Visual Quality/Aesthetics	X	X		X	X	X
Endangered Species						

X = Wetland Function/Value Present
P = Principal Wetland Function/Value
Source: Stantec 2018c.

The Jetport is a heavily managed area within the highly developed landscape of Portland and South Portland. Wetland and water resources mapped within the Jetport and in adjacent areas primarily function to store stormwater and retain sediment and toxicants from the surrounding developed areas.

3.15.2 Floodplains

Based on information from the FEMA Map Service Center, Community Panels Nos. 2300510012C, 2300510013B, 230050004C, and 230050005C, most of the Jetport property is designated Zone C, Areas of Minimal Flooding. However, edges of the Jetport property along the Fore River, east of the runway system, are encompassed by Zone AE, 100-year floodplain up to 10 feet above mean sea level (msl). These areas are located within the Shoreland Overlay Districts of the cities of Portland and South Portland as shown previously in **Figures 2** and **3**. No project components are located within the 100-year floodplain.

3.15.3 Surface Waters

Stormwater at the Jetport discharges to the Fore River and Long Creek via formal and extensive drainage systems, which ultimately discharge to Casco Bay. The watershed of the Casco Bay was identified as containing only three percent of the state's land mass, but a quarter of the state's population, and the water quality was identified as generally good with low dissolved oxygen in a few areas (U.S. EPA 2007).

The Fore River, to which Jetport stormwater discharges, is listed as a Category 5-A Estuarine and Marine Water Impaired by Pollutants (MDEP 2016). The Fore River Estuary is listed as DEP Waterbody ID 804-7, 768 acres, segment class (SC), last sampled in 2012. The impaired use is “Marine Life Use Support” caused by marine life and toxics. It is also listed in Category 4-A-9(b) and 5-B-1(a) for elevated fecals. The North Branch of Long Creek, to which the west end of Runway 11 discharges en route to the Fore River, is an impaired stream with retrofits and instream alterations being implemented to bring the stream into attainment. There are no known sole source aquifers near the project study area.

The State of Maine requires facilities discharging stormwater associated with industrial activity to obtain a Maine Pollutant Discharge Elimination System (MEPDES) permit. The Jetport is currently operating under Maine’s Multi-Sector General Permit for Stormwater Discharge Associated with Industrial Activity (MSGP) Permit Number MER05B425. This general permit provides authorization for point source discharges of stormwater in the state (including direct discharges to surface water in the state and discharges to municipal separate storm sewer systems). The Jetport has prepared a stormwater pollution prevention plan (SWPPP), addressing sources of potential pollution and describing practices to minimize and control pollutants. The current SWPPP was last updated in March 2017.

The Jetport is regulated by MDEP under the *Site Location of Development Act* (38 MRSA 481-490), and development projects at the Jetport require amendment to the facility’s existing MDEP permit. Water quality protection is a major element reviewed as part of development projects at the Jetport, and each project must comply with MDEP Chapter 500 Stormwater Regulations under general stormwater standards. MDEP requested the Jetport evaluate the potential to redirect stormwater from Outfall #10, which is directed to the North Branch of Long Creek, to Outfall #3 instead, which discharges to the Fore River (see **Exhibit 3G**) (Moody, A., Stormwater Inspector, MDEP 2017).

Presently, aircraft deicing takes place on the west portion of the terminal apron near Taxiway A. An aircraft deicing collection pad, deicing fluid recycling building, and 500,000-gallon underground storage tank were designed and constructed from 2009 to 2010. The deicing facility is managed by Inland Technologies, who is required to ensure that non-permitted levels of glycol do not enter the sanitary sewer via the Jetport wastewater flow. Most of the propylene glycol sprayed on aircraft is removed from the facility’s stormwater and recycled, helping to maintain dissolved oxygen levels in receiving waters otherwise reduced by degrading glycol. Prior to 2010, all propylene glycol aircraft deicing fluid sprayed at the Jetport discharged to the Fore River. U.S. EPA effluent guidelines related to deicing fluid application apply to the Jetport and are regulated by MDEP under the industrial activity program.

Development projects at the Jetport are also reviewed by either the City of Portland or City of South Portland (depending on location) under their respective site plan approval guidelines, which include stormwater control requirements. Additionally, the Jetport and other tenants with oil or fuel storage capacity exceeding certain levels must comply with 40 CFR 112, which relates to oil spill prevention control and countermeasure (SPCC) plans. Oil SPCC plans for the deicing facility must be prepared in accordance with good engineering practices, including applicable industry standards. Procedures must be established for required inspections and testing, and each plan must be adequate for the related facilities.

Since 2010, several water quality improvement features have been designed, permitted, and constructed or enhanced to support the prior terminal expansion and associated aircraft apron, vehicular parking and access roads, as well as airfield improvements. These features include a two-acre water quality pond with a wire grid to deter birds at the southeast end of Runway 18-36, a water quality filter east of the north end of Runway 18-36, three water quality filters at the perimeter of the parking area to the northwest of the terminal building, and a large water quality filter west of the main deicing area. These water quality features were all designed to meet MDEP Chapter 500 Stormwater Rules. Existing treatment areas are depicted on **Exhibit 3H**.

3.15.4 Groundwater

There are no known sole source aquifers or wellhead protection areas within the project study area as defined under the *Safe Drinking Water Act*. There are also no current and likely no potential future groundwater usages in proximity to the Jetport.

Potential sources of short-term groundwater contamination include the storage and use of several oil tanks and spent aircraft deicing fluid. The Jetport and tenants must comply with 40 CFR 112 (relating to oil spill prevention control and countermeasure plans) and maintain an Oil SPCC plan. The Jetport has also prepared a SWPPP addressing potential sources of pollution and describing practices to minimize and control pollutants.

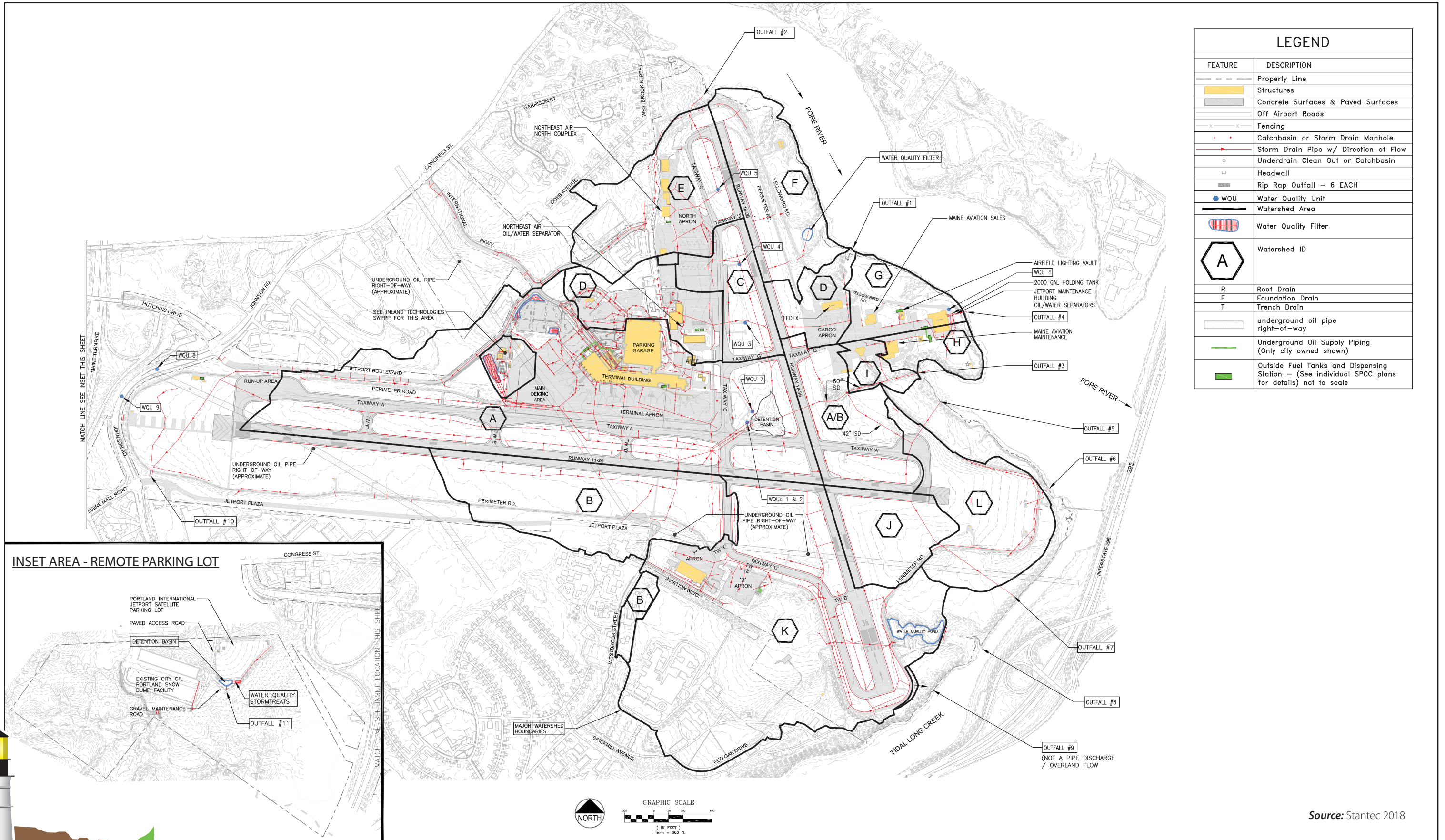
Long-term groundwater impacts from development are regulated by the MDEP Chapter 500 Stormwater Regulations under general stormwater standards which address the quantity and quality of stormwater runoff. As discussed above in the Surface Waters section, there are several existing water quality features at the Jetport in place to minimize the impacts from development. Increasing the impervious areas reduces the volume of recharge that reaches underlying aquifers but is not currently an issue within the project study area.

3.15.5 Wild and Scenic Rivers

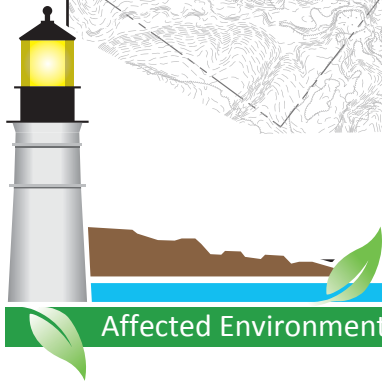
The nearest Wild or Scenic River, as designated by the *Wild and Scenic Rivers Act*, is the Lamprey River, located approximately 50 miles southwest of the Jetport in New Hampshire.

3.16 PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

Past, present, and future actions are addressed to establish the potential cumulative impact of the projects proposed in this EA. Title 40 CFR 1508.7 defines cumulative impact as the effect on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such actions. Past projects are defined as those which have been undertaken over the past five years. Foreseeable future actions are defined as those which are likely to become a reality over the next



Source: Stantec 2018



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GRAPHIC SCALE
(IN FEET)
1 inch = 400 ft

NORTH

Water Quality Project Summary for Areas Designed by DHAI

Impervious Area Treatment Summary by Percent - Overall Project Separated into Linear and Non-Linear - Areas Designed by DHAI			
Linear Project Areas	Impervious or Change in Use (Acres)	Required Impervious Treatment %	Proposed Impervious Treatment %
Wildfire Hazard Management Area - Untreated	1.33	75%	0%
Air Cargo Taxiway - Project Area Treated	3.78	75%	100%
Runway 18-36 Extension - Project Area Treated by Pond	11.95	75%	100%
Runway 18-36 Snow Shoulders - Treated by existing Water Quality Filter	0.10	75%	100%
Runway 18-36 Snow Shoulders - Untreated	2.39	75%	0%
Total Linear	19.75	Net Imp. Treatment %	80.1%
		Credit Available	1.02
Acres			
Non-Linear Project Areas - Treatment Reduction Allowed - Section 6.B.1(b)			
New Building Addition Floor - Change in Use / New Imp. Area	1.92	90%	0%
Existing Impervious Area at Air Cargo Taxiway Treated for Reduction	2.48	0%	100%
		Net Imp. Treatment %	100%
Acres			
Non-Linear Project Areas			
Terminal Area - Untreated	2.77	90%	0%
Terminal Area - Treated by Water Quality Filter*	4.21	90%	100%
Total Non-Linear	6.98	92%	60.3%
		Detrit	2.21
Acres			
Apply credit from Linear Projects Above			1.02
Apply Source Reduction for the Area of Existing Imp. Removal - Section 6.B.1(b)			1.32
Acres			
		Net Imp. Treatment % (with credits from Linear)	92%
		Net Overall Project Credit Available	0.13
Acres			

Developed Area Treatment Summary by Percent - Overall Project Separated into Linear and Non-Linear - Areas Designed by DHAI			
Linear Project Areas	Developed Area (Acres)	Required Developed Area Treatment %	Proposed Developed Area Treatment %
Wildfire Hazard Management Area and Runway 18-36 - Untreated	19.51	50%	0%
Air Cargo Taxiway - Project Area Treated	7.77	50%	100%
Air Cargo Taxiway - Project Area Untreated	2.79	50%	0%
Snow Shoulders	2.59	50%	0%
Runway 18-36 Extension - Project Area Treated by Pond	22.74	50%	100%
Total	55.40	Net Treatment %	55.1%
By applying a reduction credit of 15.95 acres of treated existing impervious area to the untreated 18.84 acres of pervious area the following % treatment is achieved:			
			84%
The above reduction credit is not needed because the Net Developed Area treatment % for combined Linear and Non-Linear Projects is greater than required.			
Non-Linear Project			
Terminal Area - Treated	6.80	80%	100%
Terminal Area - Untreated	4.69	80%	0%
Total	11.49	Net Treatment %	58.4%
Acres			
Net Developed Area Treatment % (Combined Linear and Non-Linear)	66.89	55%	58%

Water Quality Treatment Summary - Area Designed by OEST						
Area	Total Project Disturbance	Existing Pervious Areas to New Impervious Areas	Treated	Disturbed / New Landscaped Areas	Treated	Impervious Reuse / New Impervious Created Prior to Nov. 16, 2005
Terminal Expansion	7.85 Acres	2.75 Acres	2.4 Acres	0.99 Acres	0.60 Acres	4.21 Acres

Vegetated Underdrain Soil Filter Fields (VUSFF)				
Area	Treated Impervious >95%	Treated Developed/Landscaped >80%	Non-Treated Developed/Landscaped Area to Airfield System	Total Treated Developed/Landscaped
VUSFF #1	95.8%	85.7%	8.7%	85.3%
VUSFF #2	90.0%**	67.4%	15.9%*	82.9%

* Runoff flows from a portion of Landscaped Area at the Parking Lot Entrance along Jetport Blvd. to the Airfield System to receive Water Quality Treatment by DHAI.

** Since only 90% of the proposed impervious area is being treated, VUSFF #2 will detain a runoff volume equal to 1.25 times the subcatchment's impervious area plus 0.4 inch times the subcatchment's landscaped developed area to achieve 90% Treated Impervious Area.

Water Quality Treatment Areas - All Areas Designed by DHAI		
Area	Impervious or Change in Use	Landscaped
Wildfire Hazard Management Area - Untreated	1.33	17.52
Terminal Area - Untreated*	4.69	0.00
Terminal Area - Treated by Water Quality Filter	4.21	2.39
Air Cargo Taxiway - Project Area Treated	3.78	3.98
Air Cargo Taxiway - Existing Area Treated	2.48	0.00
Runway 18-36 Extension - Project Area Treated by Pond	11.95	10.79
Runway 18-36 Extension - Existing Area Treated by Pond**	15.86	19.97
Runway 18-36 Extension - Untreated	0.00	0.52
Brick Hill - Offsets***		
Runway 18-36 Snow Shoulders - Treated by existing Water Quality Filter	0.10	0.00
Runway 18-36 Snow Shoulders - Untreated	2.39	0.00
Existing Pavement Removed	1.32	
SUM EXISTING:	18.34	19.97
SUM PROPOSED:	28.85	35.20
SUM TOTAL:	46.99	54.25

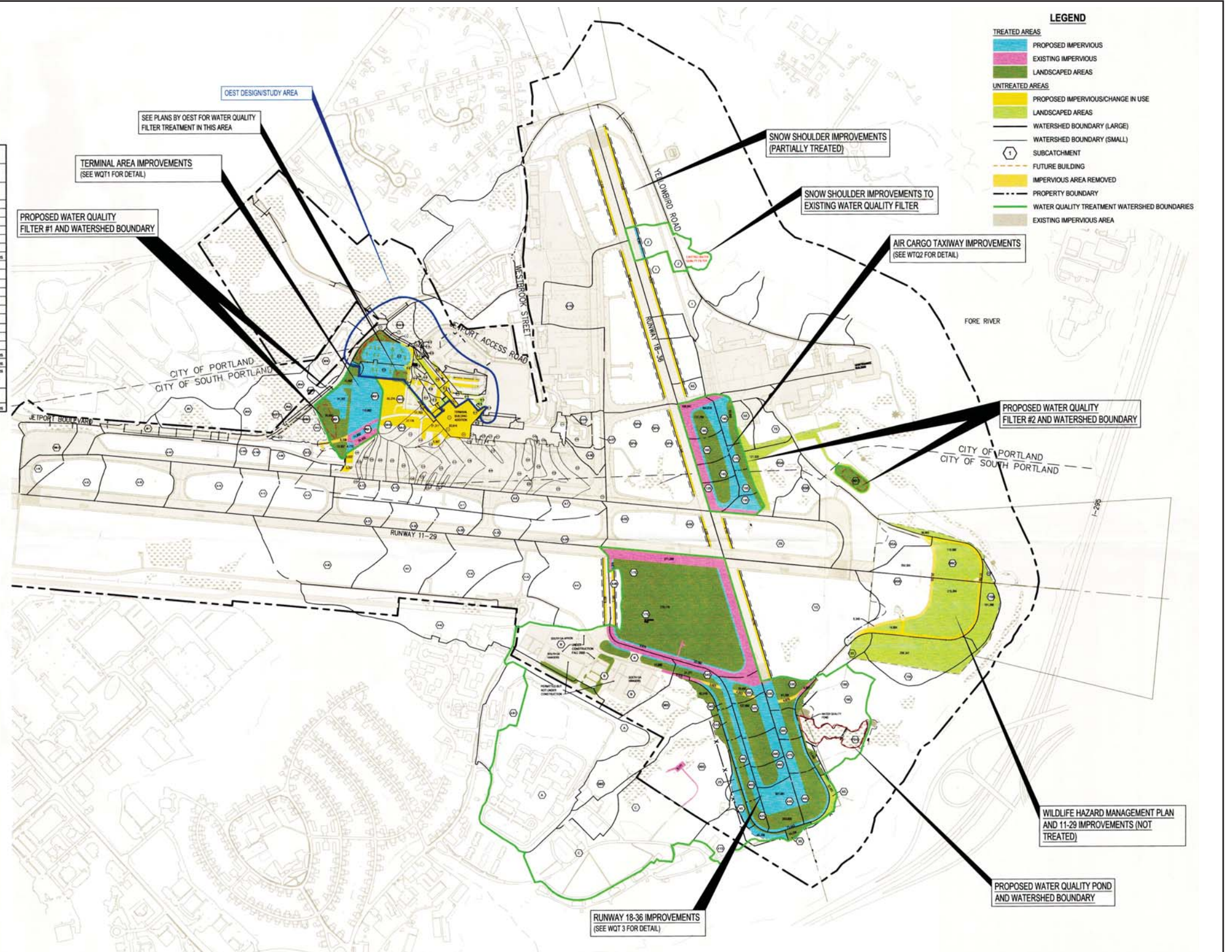
* Areas where the existing bituminous concrete apron is just being changed to portland cement concrete apron is considered maintenance and is not included in the above water quality calculations. The proposed parking lot north of the apron is addressed by OEST below.

** Of the 15.86 acres of impervious area, 9.1 acres are associated with the South General Aviation Project. The apron portion of the South GA project is now under construction and the entire development has been permitted by MACDP.

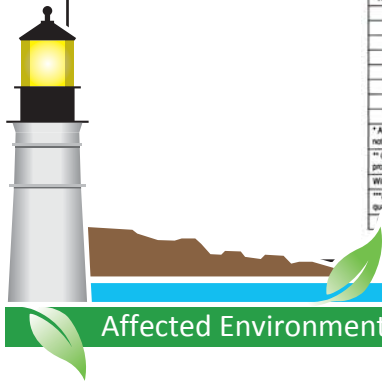
*** With a permitted net TSS removal of 46% proposed to be additionally treated by a 90% removal rate pond the new net removal rate will be 94.6%.

**** Approximately 16.77 acres of impervious area and 34.09 acres of landscaped area offsite at Brick Hill will benefit from the enhanced water quality pond. The impervious area includes areas which are permitted but not built.

***** landscaped area includes some pasture / wetland areas.



Source: FAA and City of Portland 2009



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five years and have begun the approval, design, or construction process. Projects which are conceptual in nature are not considered as they may or may not be undertaken. Cumulative impacts can result from individually minor, but collectively significant actions taking place over time.

3.16.1 On-Jetport Development

Recent past onsite Jetport development includes the following:

2014

- Pavement overlay of 5,000 linear feet (lf) of Runway 18-36

2015

- Rehabilitation of the 12-acre flexible pavement north apron west of Taxiway C
- Construction of the 36,000-square-foot (sf) MAC Air Hangar and aircraft apron south of Runway 11-29

2016

- 1.7-acre expansion of rigid pavement northwest terminal apron
- 4,200-sf expansion of the deicing fluid treatment building
- 3,800-sf expansion of Northeast Air's terminal building

2017

- Reconstruction of 1.5 acres of existing flexible pavement with rigid pavement at the east apron
- Construction of 2,000 lf of 15-foot-wide snow shoulder on Taxiways C and G

2018

- Addition of a fixed loading bridge at the east apron
- Reconstruction of an additional 1.9 acres of existing flexible pavement with rigid pavement at the east apron
- Construction of 1,800 lf of 15-foot-wide snow shoulder on Taxiways C and G
- Replacement of a 9,600-sf hangar at the north end of the north apron

Other current development projects underway, including those in preliminary design stages, include:

- Terminal apron expansion northwest end – Phase 2 - 2018 or 2019 (Phase 1 completed in 2016)
- Internal terminal building improvements (2019/2020)
- Equipment upgrades - loading bridges (2019/2020)
- Airport security fence and gate upgrades in northeast area (in-place) (2021)
- Rehabilitation of cargo apron (2021)
- Land acquisition for future parking (2022)
- Select on- and off-Jetport tree removal to provide a safer airfield environment (ongoing)

3.16.2 Off-Jetport Development

The cities of Portland, South Portland, and Westbrook were contacted, as well as MDEP, to inquire of past, present, and future developments near the Jetport. Offsite development, which has already occurred near the Jetport, is summarized in **Table 3F**. **Table 3G** summarizes anticipated future offsite development near the Jetport.

TABLE 3F
Past/Current Offsite Projects
Portland International Jetport

Development Type	Location	Project Description
Hotel & Motel	340 Park Ave Portland, Maine	Stormwater detention facility beneath the existing parking lots to mitigate a regional flooding issue
Equipment Shelter	1531 Congress Street Portland, Maine	One-story, 1,200-sf equipment shelter
Museum	1 Thompson’s Point Portland, Maine	9,682-sf Children’s Museum & Theatre with 18 parking spaces
Maintenance & Operations Building	454 Commercial Street Portland, Maine	9,935-sf maintenance and operations building
Subdivision	1700 Westbrook Street Portland, Maine	124-lot subdivision with 182,657 sf of impervious area
Hospital	22 Bramhall Street Portland, Maine	Addition of two floors to the east tower of Maine Medical Center and relocation of heliport to east tower
Medical Building and Office Building	1945 Congress Street Portland, Maine	Renovate the Elks Building and add a 15,000-sf medical building and a 25,300-sf general office building
Condominium Units	Jamestown Court, South Portland, Maine	30 condominium units
Parking Lot	14 Thomas Drive Westbrook, Maine	26-space paved parking lot
Outdoor Storage Area	20 Thomas Drive Westbrook, Maine	6,500-sf screened and fenced laydown/storage area and 10-space parking lot expansion
Department of Health and Human Services Facility	Jetport Boulevard South Portland, Maine	A 5.5-acre development with parking and a 40,000-sf building

sf = Square feet

Sources: Barhydt, B., Development Review Services Manager, City of Portland Planning Office 2018; Franceschi, J., Director of Planning and Code Enforcement, City of Westbrook Planning Office 2018.

TABLE 3G
Future/Proposed Offsite Projects
Portland International Jetport

Development Type	Location	Project Description
Hospital	22 Bramhall Street Portland, Maine	Addition of three levels to the parking garage
Hotel	Thompson’s Point Portland, Maine	A hotel at Thompson’s Point across the Fore River from the Jetport
Portland Transportation Center Parking Expansion	100 Sewall Street Portland, Maine	300 parking spaces
Compressed Natural Gas Filling Station	594 County Road Westbrook, Maine	A 34,300-sf compressed natural gas filling station

sf = Square feet

Sources: Barhydt, B., Development Review Services Manager, City of Portland Planning Office 2018; Franceschi, J., Director of Planning and Code Enforcement, City of Westbrook Planning Office 2018.



Chapter Four

ENVIRONMENTAL CONSEQUENCES AND MITIGATION

Chapter Four

ENVIRONMENTAL CONSEQUENCES AND MITIGATION

4.1 INTRODUCTION

The potential for environmental effects resulting from the Proposed Action and No Action alternatives are presented in this chapter in accordance with Federal Aviation Administration (FAA) Order 1050.1F, *Environmental Impacts: Policies and Procedures* (FAA 2015d) and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* (FAA 2006b). Impacts are determined by comparing the anticipated local environmental condition after development (Proposed Action alternative) to the conditions at and around the Portland International Jetport (Jetport) should no project be developed (No Action alternative).

For the purposes of this Environmental Assessment (EA), the environmental consequences have been evaluated for the Proposed Action and No Action alternatives. All other project alternatives under consideration were eliminated because they did not meet the stated project criteria (see Section 2.2). In accordance with the Council on Environmental Quality (CEQ) regulations, as contained within Title 40 Code of Federal Regulations (CFR) Section 1508.8, the No Action alternative has been retained for further environmental analysis.

The environmental consequences of each impact category include consideration of the following:

- **Direct effects** – Direct effects are defined as those which are caused by the action and occur at the same time and place (40 CFR 1508.8[a]).
- **Indirect effects and their significance** – Indirect effects are defined as those which are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable (40 CFR 1508.8[b]).
- **Cumulative effects and their significance** – Cumulative effects are defined as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes the other actions (40 CFR 1508.7, 1508.8, 1508.27(b)(7) and CEQ Guidance on considering cumulative impacts under NEPA).

Where necessary, avoidance, minimization, and/or mitigation measures are listed which will reduce or eliminate anticipated environmental impacts for each of the alternatives. Special purpose laws which protect various environmental resources are also identified.

4.2 RESOURCES NOT IMPACTED BY PROJECT ALTERNATIVES

As outlined within paragraph 706.f of FAA Order 5050.4B, concise analysis was undertaken *only* for potential impacts that the alternatives under consideration may cause. As discussed in Chapter Three, the following resources are not located in the project area or will not be affected by the project alternatives and are, therefore, not discussed within this chapter of the EA:

- United States (U.S.) *Department of Transportation Act*, Section 4(f)
- Farmlands

Many of the remaining resources would be affected only during the construction phase of the project; the type and number of operations of the Jetport would not be affected in the long term and the Proposed Action would be contained entirely on Jetport property with the exception of the tree removal on the Runway 36 end (Project Item 5).

4.3 RESOURCES POTENTIALLY IMPACTED BY PROJECT ALTERNATIVES

The following sections contain impact analyses for those categories defined within FAA Order 1050.1F that could be affected by project alternatives. The No Action alternative provides an evaluation of future environmental conditions if the Proposed Action alternative is not undertaken. Where there is not a potential for a significant impact, the rationale for this conclusion is discussed.

Projects addressed in this EA are primarily related to enhancing safety, efficiency, and sustainability at the Jetport. They are identified on Exhibit 1D in Chapter One and are collectively referred to as the Proposed Action within the EA (Project Items 2, 3, 4, 5, 6B, 7, 8, 9, 10, and 11).

4.3.1 Air Quality

Regulatory Setting

The federal *Clean Air Act* (CAA), as amended by the *Clean Air Act Amendments of 1990*, and FAA provide guidance for conducting air quality analyses for airport projects under NEPA.

Air quality in a given location is described by the concentrations of various pollutants in the atmosphere. The significance of a pollutant concentration is determined by comparing it to the state and federal ambient air quality standards. The U.S. Environmental Protection Agency (U.S. EPA) has established National Ambient Air Quality Standards (NAAQS) for six pollutants: carbon monoxide (CO), nitrogen dioxide

(NO₂), sulphur dioxide (SO₂), lead (Pb), ozone (O₃), and particulate matter (PM₁₀ and PM_{2.5}). Based upon federal air quality standards, a specific geographic area can be classified under the CAA as either being an “attainment,” “nonattainment,” or “maintenance” area for each criteria pollutant. The criterion for nonattainment designation varies by pollutant. As discussed in Chapter Three, the Jetport is in Cumberland County, which is designated as an attainment area for all federal criteria pollutants.

The CAA requires analysis of air quality emissions in certain conditions, and NEPA requires public disclosure of potential impacts to the human environment. The same analysis, described below, can fulfill the requirements of both Acts.

Analysis Methodology and Significance Thresholds

To ensure that a federal action complies with the NAAQS, the CAA establishes the General Conformity Rule for all general federal actions, which includes all airport improvement projects. The General Conformity Rule (40 CFR 93) applies to federal actions that meet all the following criteria:

- Federally funded or federally approved;
- Not a highway or transit project;
- Not identified as an exempt project under the CAA and is not listed on the federal agency’s Presumed to Conform list; and
- Located within a nonattainment or maintenance area.

As the Proposed Action components are in an attainment area for all criteria pollutants, additional analysis under the General Conformity Rule is not required. In addition, no applicability test under the General or Transportation Conformity Rules of the CAA is warranted; there are no applicable *de minimis* thresholds for NAAQS criteria pollutants.¹

FAA Order 1050.1F, Exhibit 4-1 states that a significant impact would occur if the Proposed Action would cause pollutant concentrations to exceed one or more of the NAAQS, as established by the U.S. EPA under the CAA, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations. Per FAA’s *Aviation Emissions and Air Quality Handbook*, Version 3, Update 1 (2015c), projects that would not increase the capacity of an airport or change aircraft and vehicle traffic patterns are not likely to cause or create a “reasonably foreseeable increase in emissions.”

The Proposed Action components under consideration would not permanently change Jetport operations or aircraft and vehicle traffic patterns or have reasonably foreseeable increases in emissions when compared to the No Action alternative in the long term. Per FAA Order 5050.4B, because the level of Jetport operations is not expected to change as a result of the project, no operational emissions inventory was prepared or is required under NEPA. However, for the purposes of disclosure, a construction-related emissions inventory was prepared.

¹ If an applicability test was required, the levels of project-related construction emissions presented in this section are well below the *de minimis* thresholds typically applied. *De minimis* thresholds are defined as pollutant or pollutant precursor levels above which a project’s emissions would be considered significant in terms of attaining the NAAQS in a timely manner and conforming to a state implementation plan (SIP).

Impact Analysis

Proposed Action Alternative

Temporary Construction Impacts. Air emissions occurring due to construction activity vary based on each project component’s duration and level of activity. Construction emissions occur mostly as exhaust products from the operation of construction equipment and vehicles but can also occur as fugitive dust emissions from land disturbance during material staging, demolition, and movement. The type of construction equipment commonly used can either be categorized as off-road or on-road equipment. Off-road equipment is normally used for earthwork, paving, demolition, and other onsite activities, while on-road equipment is typically used to transport and deliver supplies, material, and employees.

To quantify construction and passenger emissions for the Proposed Action, the U.S. EPA’s Motor Vehicle Emissions Simulator (MOVES14B) model was used. This methodology is identified in FAA’s *Air Emissions and Air Quality Handbook* as the “current EPA-approved model used to compute motor vehicle emissions rates representative of various types of vehicles and activities.” The MOVES14B model produces emissions factors which are used to calculate emissions expressed in tons per year based on miles driven for on-road vehicles, such as dump trucks or passenger cars, and hours of activity for off-road equipment, such as bulldozers or loaders. For the purposes of modeling construction equipment activity, preliminary engineering estimates provided by the project engineer were used.

As outlined in Chapter One, the Proposed Action would be implemented during five separate calendar years. Construction emissions were calculated for each year based on the proposed schedule (Section 1.3.9). **Table 4A** summarizes the estimated construction emissions in tons per year (per the NAAQS) for each of the Proposed Action alternatives. None of the project phases would generate construction emissions above any *de minimis* thresholds (generally 100 tons per year for nonattainment or maintenance areas) typically applied during a CAA conformity determination. Construction-related emissions would be short term and localized to the construction area and along identified haul routes. Best management practices (BMPs), which were not incorporated into the analysis summarized in **Table 4A**, would be implemented to further reduce particulate emissions.

TABLE 4A
Construction Emissions Inventory per the NAAQS (Tons Per Year)
Portland International Jetport

Pollutant	2019	2020	2022	2023	2024
CO	2.92	0.58	0.47	1.24	1.10
VOC	0.30	0.05	0.04	0.14	0.15
NO _x	6.24	1.11	1.06	3.07	3.09
SO ₂	0.03	0.01	0.01	0.02	0.01
PM ₁₀	0.27	0.05	0.04	0.12	0.14
PM _{2.5}	0.26	0.05	0.03	0.12	0.14

NOTE: Based on construction equipment and vehicle estimates (Stantec 2018b)

NAAQS = National Ambient Air Quality Standards; CO = carbon monoxide; VOC = volatile organic compounds;

NO_x = nitrogen oxides; SO₂ = sulfur dioxide; PM₁₀ = coarse particulate matter; PM_{2.5} = fine particulate matter

Direct Operational Impacts. FAA's Aviation Environmental Design Tool (AEDT) is the preferable method of determining operational emissions inventories for aviation projects that are anticipated to occur due to a Proposed Action. However, no changes to aircraft emissions would occur from any of the alternatives; therefore, AEDT modeling was not conducted.

Indirect Operational Impacts. None.

No Action Alternative

The No Action alternative would not change Jetport operations or aircraft and vehicle traffic patterns and would, thus, have no change over local or regional air quality in the long term. Since construction would not occur, no short-term emissions would be generated. No significant direct or indirect impacts to air quality would occur because of this alternative.

Avoidance and Minimization Measures

To control dust and minimize air pollution, the use of standard BMPs, including those outlined within FAA Advisory Circular (AC) 150/5370-10G, *Standards for Specifying Construction of Airports, Item P-156, Temporary Air and Water Pollution, Soil Erosion and Siltation Control*, shall be implemented (FAA 2014b). Consistent with this advisory circular, typical methods of controlling dust and other air pollutants shall include:

- Exposing the minimum area of erodible earth;
- Applying temporary mulch with or without seeding;
- Using water sprinkler trucks;
- Using covered haul trucks;
- Using dust palliatives or penetration asphalt on haul roads; and
- Using plastic sheet coverings.

4.3.2 Biological Resources

Regulatory Setting

Biotic resources are the various types of flora (plants) and fauna (animals) and the habitat supporting those species located in a particular area.

The following regulations are pertinent to this analysis:

- The federal *Endangered Species Act (ESA) of 1973* provides protection for species that are facing potential extinction. Impacts to listed species resulting from the implementation of a project require the responsible agency or individual to formally consult with the United States Fish and Wildlife Service (USFWS) to determine the extent of impact to a particular species. If the USFWS

determines that impacts to a species would likely occur, alternatives and measures to avoid or reduce impacts must be identified. USFWS also regulates activities conducted in federal critical habitat, which are geographic units designated as areas that support primary habitat constituent elements for listed species.

- The *Migratory Bird Treaty Act* (MBTA) prohibits private parties and federal agencies from intentionally taking a migratory bird, their eggs, or nests. The MBTA prohibits activities which would harm migratory birds, their eggs, or nests unless the Secretary of the Interior authorizes such activities under a special permit.
- The *Fish and Wildlife Coordination Act* requires that agencies consult with the state wildlife agencies and USFWS concerning the conservation of wildlife resources where the water of any stream or other water body is proposed to be controlled or modified by a federal agency or any public or private agency operating under a federal permit.
- Executive Order (E.O.) 13112, *Invasive Species* directs federal agencies to use relevant programs and authorities, to the extent practicable and subject to various resources, to prevent the introduction of invasive species and provide for restoration of native species and habitat conditions in ecosystems that have been invaded. FAA is to identify proposed actions that may involve risks of introducing invasive species on native habitat and populations. “Introduction” is the intentional or unintentional escape, release, dissemination, or placement of a species into an ecosystem as a result of human activity. “Invasive species” are alien species whose introduction does, or is likely to, cause economic or environmental harm or harm to human health.

Analysis Methodology and Significance Thresholds

FAA Order 1050.1F, Exhibit 4-1 states that a significant impact to federally listed threatened or endangered species occurs when the USFWS determines the Proposed Action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species or would result in the destruction or adverse modification of federally designated critical habitat. When it is determined that impacts to federally protected species would occur, FAA initiates consultation with the USFWS in accordance with the ESA.

In addition to federally listed endangered and threatened species, FAA Order 1050.1F, Exhibit 4-1 requires that the additional factors also be considered:

- A long term or permanent loss of an unlisted plant or wildlife species;
- Adverse impact to special-status species (e.g., state species of concern, species proposed for listing, migratory birds, bald and golden eagles) or their habitats;
- Substantial loss, reduction, degradation, disturbance, or fragmentation of native species’ habitats or their populations; or

- Adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality rates, or ability to sustain the minimum population levels required for population maintenance.

For purposes of analyzing impacts to biological resources for this EA, information regarding federally and state-protected species for the project study area was obtained from the USFWS, Ecological Services, Maine Field Office, and the Maine Department of Inland Fisheries and Wildlife (MDIFW). In addition, site visits of the on-Jetport project study area were conducted on September 25, 2017, and on October 2, 2017; a site visit of the off-Jetport project study area (Project Item 5 - tree removal for the glideslope qualification surface [GQS] for the Runway 36 end) was conducted on July 27, 2018. Field work to evaluate wetland impacts was also conducted in 2018 and is discussed in Section 4.3.12.1. Information regarding biological resources was also taken from the Jetport's wildlife hazard assessment (WHA) (Wood and Vashon 2015) and wildlife hazard management plan (WHMP) (PWM and USDA 2016).

Impact Analysis

Proposed Action Alternative

Based on the results of the field surveys and coordination with USFWS and MDIFW, the Proposed Action has the potential to have adverse impacts on one federally threatened and state-endangered species (i.e., the northern long-eared bat [*Myotis septentrionalis*]), and on one state-endangered species (i.e., the little brown bat [*Myotis lucifugus*]). No habitat for any other special-status species, including the New England cottontail (NEC) (*Sylvilagus transitionalis*), is located within any of the project component areas (see Section 3.3 and **Appendix B**). As noted in Section 3.3, the Jetport is adjacent to Long Creek and the Fore River; both water bodies are mapped by MDIFW as Significant Wildlife Habitat for Coastal Waterfowl and Wading Birds and Shorebird Areas (TRC 2008a). No work is proposed in the creek or river.

Temporary Construction Impacts. Construction of the proposed project components would not result in significant adverse impacts to biological resources. The proposed off-Jetport tree removal component (Project Item 5) would involve selective cutting so that impacts would be minimized and would occur over an area of approximately six acres. In 2017, FAA and the Jetport completed a *Northern Long-eared Bat 4(d) Rule Streamlined Consultation Form* in conjunction with the USFWS in advance of proposed tree clearing activities in the vicinity of the Jetport and a nearby Maine Department of Transportation (MDOT) parcel (but not including the Project Item 5 cemetery property). In October 2017, USFWS indicated that the entire Jetport property is not within 0.25 mile of any known bat hibernacula or 150 feet of any known bat roost sites; in September 2018, the area of the cemetery parcel was reviewed with USFWS and determined to not be near any known hibernacula or maternity roost trees, and be well beyond 0.25 miles and 150 feet, respectively (Dockens, P., Wildlife Biologist, USFWS 2017; 2018). In addition, to avoid impacts to protected bat species, the Jetport does not conduct tree removal activities from June 1 to July 31 (i.e., during the breeding/pup-rearing period). This would prevent significant impacts to not only the northern long-eared bat, but also the little brown bat. See *Avoidance and Minimization Measures* below.

Other adaptations to the habitats of the Jetport are not expected to negatively impact protected biological resources. Birds protected by the MBTA would not be adversely affected during construction because these habitats are already disturbed and the species that may use the Jetport to breed are regionally common and do not have unique or specialized habitat requirements. The “time of year” tree clearing restriction period of bats overlaps with the peak period for breeding birds and, thus, the restrictions would also minimize impacts to nesting birds. Select tree removal in the cemetery property across U.S. 295 from the Fore River will utilize selective logging to minimize disturbances to habitat.

Direct Operational Impacts. No impacts to biological resources would occur due to the operation of the Proposed Action components, other than those discussed in Section 4.3.12.1 regarding wetland impacts. Alterations to existing land cover types resulting from the proposed components would occur in already disturbed areas, including minimal areas of mowed grassland along the access road and runways. There is no federally designated critical habitat or state essential habitat for listed species and, based on available information, federally or state-threatened and endangered species do not regularly occur at the Jetport.

Indirect Operational Impacts. Indirect impacts to offsite biological resources can occur if water pollutants and sedimentation are allowed to leave the Jetport property and degrade downstream habitats, for example, Fore River or Long Creek. The Jetport implements BMPs and other conditions of its stormwater pollution prevention plan (SWPPP) and Maine Construction General Permit (MCGP) (see Sections 4.3.5 and 4.3.12.2). Also see Section 4.3.12.2 for water quality avoidance and minimization measures. There would be no clearing of habitat directly along the streambank and tree removal activities would not result in runoff. Thus, no indirect impacts would occur to federally listed shortnose or Atlantic sturgeon as a result of Project Item 5.

No Action Alternative

The No Action alternative would not clear any trees or make other modifications to existing habitats on or near the Jetport. Therefore, no impacts to biological resources would occur.

Avoidance and Minimization Measures

The Jetport shall not conduct tree removal activities from June 1 to July 31 during the breeding/pup-rearing period for federally and state-protected bat species. This also avoids impacts to migratory birds protected under the MBTA.

4.3.3 Climate

Regulatory Setting

Although there are no federal standards for aviation-related emissions, it is well-established that greenhouse gas (GHG) emissions can affect climate (IPCC 2014; U.S. Global Change Research Program 2009)

and the CEQ has indicated that climate should be considered in NEPA analyses. E.O. 13514, *Federal Leadership in Environmental Energy and Economic Performance* and E.O. 13693, *Planning for Federal Sustainability* both make it federal policy to measure, report, and reduce GHG emissions from direct and indirect activities.

Analysis Methodology and Significance Thresholds

FAA has not identified any significance thresholds for aviation GHG emissions, and there are currently no accepted methods of determining significance applicable to aviation projects given the small percentage of emissions they contribute. The following analysis uses the same types of emissions modeling as described in Section 4.3.1 under Air Quality. FAA’s AEDT is the preferable method of determining operational GHG emissions inventories for aviation projects that are anticipated to occur due to the Proposed Action. However, since no changes to aircraft emissions would occur from any of the alternatives, AEDT modeling was not conducted.

Impact Analysis

Proposed Action Alternative

Temporary Construction Impacts. Using the methodology described in Section 4.3.1, Air Quality, short-term, construction-related, GHG emissions have been quantified for the Proposed Action for the purposes of disclosure. This information is summarized in **Table 4B**.

TABLE 4B
Construction Greenhouse Gases Inventory (Metric Tons Per Year)
Portland International Jetport

	2019	2020	2022	2023	2024
CO ₂	4,156.02	779.52	845.90	2,037.42	1,602.50
CH ₄	0.09	0.02	0.02	0.04	0.03
Total CO₂e¹	4,158.13	779.93	846.36	2,038.44	1,603.16

NOTE: Based on construction equipment and vehicle estimates (Stantec 2018b)

CO₂ = carbon dioxide; CH₄ = methane; N₂O = nitrous oxide; CO₂e = carbon dioxide equivalent

¹ Emissions totals for CO₂e are reported in metric tons. Emissions of CO₂, CH₄ and N₂O were converted to CO₂e using global warming potentials (GWP) of 1, 25, and 298, respectively, as contained in the United Nation’s Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (2014).

Direct Operational Impacts. In the long term, the Proposed Action alternative would not cause a net change in operational GHG emissions when compared to the No Action alternative since it would not permanently change Jetport operations or aircraft and vehicle traffic patterns.

Indirect Operational Impacts. None.

No Action Alternative

The No Action alternative would not change Jetport operations or aircraft and vehicle traffic patterns and would, thus, have no change over local or regional GHGs in the long term. In addition, no construction GHGs would occur with this alternative. No significant direct or indirect impacts related to GHGs would occur as a result of this alternative.

Avoidance and Minimization Measures

None.

4.3.4 Coastal Resources

Regulatory Setting

There are three main laws governing coastal resources, including: *Coastal Barrier Resources Act*; *Coastal Zone Management Act*; and *National Marine Sanctuaries Act*. The *Coastal Zone Management Act* provides for the management of U.S. coastal resources; however, this legislation is only applicable in states with an approved coastal zone management plan. Maine's Coastal Management Program was approved in 1978. Under the *Coastal Barrier Resources Act*, conservation of hurricane prone, biologically rich coastal barriers is encouraged by restricting federal expenditures that encourage development. The *National Marine Sanctuaries Act* authorizes the Secretary of Commerce to designate and protect areas of the marine environment that have special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archaeological, educational, or aesthetic qualities as national marine sanctuaries.

As discussed in Section 3.10.2, both the City of Portland and the City of South Portland have zoning in place to protect coastal resources within their respective jurisdictions. These shoreline protection overlays are intended to preserve the natural features of the shoreland areas by minimizing the disturbance of existing vegetation and slopes, avoiding building in areas subject to erosion and sedimentation, and conserving scenic views and vistas to and from the site; to prevent and control water pollution; to protect aquatic life and habitat; to safeguard buildings and lands from flooding and accelerated erosion; to preserve cultural resources; to protect commercial fishing and maritime industries; to protect wetlands; to conserve shore cover; to anticipate and respond to the impacts of development in shoreland areas; and to conserve and maintain the enjoyable quality of existing shoreland areas as places where people and nature can exist in productive harmony.

Portions of the Jetport property extending along the Fore River and Long Creek are subject to the requirements of the City of Portland and the City of South Portland Shoreland Zoning requirements. The limits of the Shoreland Zones are shown on Figures 2 and 3 in Section 3.10.2. The Maine Department of Environmental Protection (MDEP) regulates the Resource Protection Zone, which is 75 feet from the upland edge of the coastal wetland.

Analysis Methodology and Significance Thresholds

FAA has not established a significance threshold for coastal resources in FAA Order 1050.1F; however, FAA has identified factors to consider when evaluating the context and intensity of potential environmental impacts on coastal resources (see Exhibit 4-1 of FAA Order 1050.1F). These factors are not intended to be thresholds. If these factors exist, there is not necessarily a significant impact; rather, FAA must evaluate these factors considering context and intensity to determine if there are significant impacts. Factors to consider that may be applicable to coastal resources include, but are not limited to, situations in which the proposed action or alternative(s) would have the potential to:

- Be inconsistent with Maine’s state coastal zone management plan(s);
- Impact a coastal barrier resources system unit (and the degree to which the resource would be impacted);
- Pose an impact to coral reef ecosystems (and the degree to which the ecosystem would be affected);
- Cause an unacceptable risk to human safety or property; or
- Cause adverse impacts to the coastal environment that cannot be satisfactorily mitigated.

Impact Analysis

Proposed Action Alternative

Temporary Construction Impacts. The proposed service access road relocation east of the cargo area (Project Item 10) and a proposed water quality filter east of the service road (WQF #2) are the closest project components to coastal resources. The Jetport’s existing erosion and sediment control (ESC) plans would be followed and also monitored by 3rd party inspectors. Other proposed project components would ultimately drain stormwater to the coastal resources and would also have detailed ESC plans to which the projects must adhere. No significant impacts to coastal resources would occur during construction.

Direct Operational Impacts. Within the City of South Portland’s Shoreland Overlay District, per Section 27-1312 of the Land Use Ordinance, “All permitted uses and special exception uses within the zoning district underlying the Shoreland Area Overlay District may be commenced, maintained, enlarged, or expanded as written in the City of South Portland Code.” The underlying district within the City of South Portland in the area of the proposed WQF #2 is the Light Industrial District (IL). Per Section 27-902 of the Land Use Ordinance, permitted uses within the Light Industrial District include Jetport-related stormwater control facilities and access spurs. The proposed water quality improvements and perimeter road (Project Item 10) would be located nearby, but not within the City of South Portland’s Shoreland Resource Protection Overlay Subdistrict.

Project Item 10 would be within the City of Portland's Shoreland Overlay Zone. Per the City of Portland's Chapter 14, Land Use Ordinance, Division 26, Sec. 14-449 - Land Use Standards, roads and driveways shall be a minimum of 75 feet from the normal high-water or upland edge of a coastal wetland. When the planning board determines that no other reasonable alternative exists, the planning board may reduce the road setback to no less than 50 feet. This is the same setback as MDEP's Resource Protection Zone. The proposed road is greater than 50 feet from the upland edge of the coastal wetland within the limits of the City of Portland. The Jetport would coordinate with the City of Portland through city permitting to obtain approval of the service road project element.

In conclusion, the proposed WQF #2 and perimeter road (Project Item 10) would comply with the zoning requirements of both the City of South Portland and the City of Portland. Additionally, the proposed WQF #2 and its outlet have been designed to release outside the 75-foot Resource Protection Zone; thus, it would not require work within the coastal wetland in this area at the Fore River. The shoreland zoning requirements do not apply to the other project components of the Proposed Action alternative.

Indirect Operational Impacts. Indirect impacts to offsite coastal resources can occur if water pollutants and sedimentation are allowed to leave the Jetport property and degrade downstream resources, for example, Fore River. The Jetport implements BMPs and other conditions of its SWPPP and MCGP (see Sections 4.3.5 and 4.3.12.2). Also see Section 4.3.12.2 for water quality avoidance and minimization measures. There would be no clearing of habitat directly along the streambank and tree removal activities would not result in runoff. Thus, no indirect impacts would occur to coastal resources from Project Item 5.

No Action Alternative

No construction would occur with implementation of the No Action alternative; therefore, City of Portland and South Portland Shoreland Zoning requirements would not apply.

Avoidance and Minimization Measures

As a result of city permitting for Project Item 10, there will be conditional standards required to be met, including erosion control requirements for development within the shoreland zones. All applicable standards shall be followed. Third party erosion control inspections shall also take place during construction.

4.3.5 Hazardous Materials, Solid Waste, and Pollution Prevention

Regulatory Setting

Four primary laws have been passed governing the handling and disposal of hazardous materials, chemicals, substances, and wastes. The two statutes of most importance to airport projects are the *Resource Conservation Recovery Act (RCRA)* (as amended by the *Federal Facilities Compliance Act of 1992*) and the

Comprehensive Environmental Response, Compensation, Liability Act (CERCLA), as amended (also known as Superfund). RCRA governs the generation, treatment, storage, and disposal of hazardous wastes. CERCLA provides for cleanup of any release of a hazardous substance (excluding petroleum) into the environment. Other laws include the *Hazardous Materials Transportation Act*, which regulates the handling and transport of hazardous materials and wastes, and the *Toxic Substances Control Act*, which regulates and controls the use of polychlorinated biphenyls (PCBs), as well as other chemicals or toxic substances in commercial use.

MDEP implements the *Clean Water Act* for the State of Maine (i.e., Maine Pollutant Discharge Elimination System [MEDES]). See Section 4.12, Water Resources.

Analysis Methodology and Significance Thresholds

FAA has not established a significance threshold for the Hazardous Materials, Solid Waste, and Pollution Prevention impact category. However, per FAA Order 1050.1F, Exhibit 4-1 consideration should be given to the Proposed Action's potential to:

- Violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management;
- Involve a contaminated site, including but not limited to a site listed on the National Priorities List (NPL);
- Produce an appreciably different quantity or type of hazardous waste;
- Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity; or
- Adversely affect human health and the environment.

Impact Analysis

Proposed Action Alternative

Temporary Construction Impacts. During construction, the contractor would require equipment and vehicles that utilize fossil fuels and other potential hazardous materials. All construction activity would be subject to existing permit procedures for the handling, transporting, and disposal of such materials.

Some solid waste is anticipated to be generated from the construction phases, including incidental trash, which would be disposed or recycled, as appropriate, by the project contractor. The Proposed Action would also remove existing taxiway and perimeter roadway pavement in several areas of the Jetport.

To the extent that it is feasible, the pavement would be recycled. Unusable materials would be transported offsite to MDEP-approved solid waste disposal facilities.

Construction of the Proposed Action would disturb approximately 84 acres overall, including project staging; therefore, a Maine Construction General permit will be required before construction activities commence. A Notice of Intent to Comply would be submitted to MDEP, in conjunction with the preparation and implementation of a project-specific SWPPP. See also Section 4.12, Water Resources.

None of the factors to consider per FAA Order 1050.1F, Exhibit 4-1 for hazardous materials, solid waste, or pollution prevention would occur during the construction phase of the project as long as the *Avoidance and Minimization Measures* listed below are implemented.

Direct Operational Impacts. The Jetport operates under a Jetport-wide SWPPP that will be implemented in the long term to further reduce pollution related to runoff at the Jetport. The Jetport, as well as applicable Jetport tenants, also follow spill prevention, countermeasure, and control (SPCC) plans associated with petroleum use, storage, and spill procedures. The deicing fluid recycling and treatment plant also operates in compliance with all applicable hazardous materials regulations, an SWPPP, and an Industrial Wastewater Discharge permit. Therefore, operation of the proposed project components would not result in significant impacts related to hazardous materials or pollution. Proposed project components involve the expansion or relocation of existing Jetport infrastructure. No additional hazardous materials or solid waste would be generated by operation of the proposed components.

Indirect Operational Impacts. None.

No Action Alternative

Under the No Action alternative, the potential for impacts related to the use, storage, or disposal of hazardous materials or pollution due to accidental spills of hazardous materials would continue to be what currently occurs at the Jetport. No additional impacts or risk would occur, and the accidental spillage of fuel is less likely to happen when compared to the Proposed Action alternative since there would not be construction activities. No significant direct impacts to hazardous materials or pollution would occur as a result of this alternative.

The No Action alternative would not result in the long-term generation of additional solid waste. Therefore, impacts related to solid waste disposal and regional landfills would not occur.

Avoidance and Minimization Measures

The Jetport's existing SWPPP and SPCC plans shall continue to be followed. During construction, if previously unknown contaminants are discovered or a spill occurs, work shall be halted and MDEP shall be notified. Appropriate spill prevention and cleanup kits shall be readily available onsite and any accidental spills shall be promptly cleaned up.

4.3.6 Historical, Architectural, Archaeological, and Cultural Resources

Regulatory Setting

Determination of a Proposed Action's environmental impact to historic and cultural resources is made under guidance contained in the *National Historic Preservation Act of 1966* (NHPA), as amended, and the *Archaeological and Historic Preservation Act of 1974* (AHPA). Section 106 of the NHPA requires federal agencies to consider the effects of their undertaking (or action) on properties listed on or eligible for listing on the National Register of Historic Places (NRHP). An Adverse Effect is found when an undertaking may alter, directly or indirectly, the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

Analysis Methodology and Significance Thresholds

FAA has not established a significance threshold for the full range of historical, architectural, archaeological, and cultural resources in FAA Order 1050.1F; however, FAA has identified a factor to consider when evaluating the context and intensity of potential environmental impacts for historical, architectural, archaeological, and cultural resources (see Exhibit 4-1 of FAA Order 1050.1F). This factor includes, but is not limited to, situations in which the proposed action or alternative(s) would result in a finding of Adverse Effect through the NHPA Section 106 process. Note that this factor is not intended to be a threshold. The NHPA regulations at 36 CFR 800.8(a) state that an Adverse Effect finding does not necessarily require an Environmental Impact Statement (EIS) under NEPA. FAA makes the determination on the level of impact under NEPA and whether to prepare an EA or EIS. Advice from the Advisory Council on Historic Preservation (ACHP) and the appropriate State Historic Preservation Office (SHPO) and/or Tribal Historic Preservation Offices (THPOs) may assist FAA in making this determination.

Historic districts receive the same protection under Section 106 of the NHPA as other types of historic resources.

Impact Analysis

Proposed Action Alternative

Temporary Construction Impacts. The Proposed Action's Area of Potential Effect (APE) (**Exhibit 4A**) consists of approximately 157 acres to account for direct and indirect impacts; only 84 acres would be directly impacted by the proposed undertaking. Because all proposed components would be internal to the Jetport boundaries or the Calvary Cemetery, neither of the historic districts located in proximity to the Jetport (i.e., Stroudwater Historic District or State Reform School/Brick Hill Historic District) are located within the indirect APE for the Proposed Action. Construction equipment and vehicles would primarily require the use of on-Jetport streets, such as Jetport Boulevard, Westbrook Street, and Yellowbird

Road. There would be minimal impacts to nearby businesses or residences during construction activity. (See Section 4.11 for a discussion of potential visual effects of proposed components.)

As discussed in Section 3.9, a pedestrian survey of the approximate 157-acre APE and 16 shovel pit soil tests were completed in November 2017, with follow-up site-specific shovel pit tests conducted on September 20, 2018 and two machine excavations on September 27, 2018 (**Appendix C**). No sensitive cultural resources were found. The SHPO was contacted by the Jetport as part of the scoping for this EA. A response was received on August 21, 2017, which stated that “no historic properties would be affected by the proposed undertaking” (**Appendix A**).

FAA advised four tribal groups regarding the proposed project via certified letter on October 16, 2017. FAA received two responses from a tribal group regarding the Proposed Action, one from the Penobscot Nation and one from the Houlton Band of Maliseets. Neither response indicated concerns with the project.

Direct Operational Impacts. No additional ground disturbance would occur during the operational stages of the Proposed Action; therefore, no impacts to historical, architectural, archaeological, and cultural resources would occur.

Indirect Operational Impacts. None.

No Action Alternative

No impacts to historical, architectural, archaeological, or cultural resources would occur due to the No Action alternative as no ground disturbance activities would be necessary.

Unanticipated Discovery Measure

If cultural resources are encountered during project activities, all construction shall be halted and FAA and SHPO shall be notified as soon as possible to determine the appropriate course of action.

4.3.7 Land Use

Regulatory Setting

40 CFR 1502.16(c) requires the discussion of environmental impacts, including “possible conflicts between the proposed action and the objectives of federal, regional, state, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned.” Where an inconsistency exists, the NEPA document should describe the extent to which the agency would reconcile its action with the plan (40 CFR 1506.2[d]).



- LEGEND**
- Airport Property Line
 - City Limit Line
 - Future Pavement
 - Project Study Area
 - Proposed Tree Removal

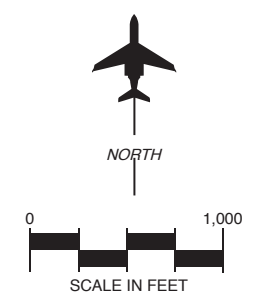


Photo: Google Earth, May 9, 2016
Source: Stantec, September 15, 2017



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The Jetport is within both the City of Portland and the City of South Portland, and thus Jetport property has two different zoning designations, Airport Business (AB) on the City of Portland side and Light Industrial (IL) on the City of South Portland side. Both cities have overlay zones intended to protect shoreland resources associated with the Fore River and Long Creek. These zones have development restrictions to minimize shoreline disturbance, while conserving these resources for the benefit of both people and nature (refer to Chapter 3, Section 3.10.2 for additional information on these overlay zones). All development associated with the Proposed Action would be required to meet the development standards and restrictions associated with both cities' overlay zones.

Analysis Methodology and Significance Thresholds

FAA has not established a significance threshold for land use, and FAA has not provided specific factors to consider in making a significance determination for land use in Exhibit 4-1 of FAA Order 1050.1F. The determination that significant impacts exist in the land use impact category is normally dependent on the significance of other impact categories. If the proposal would result in other impacts that have land use ramifications (for example, disruption of communities, relocation, and induced socioeconomic impacts), the impacts on land use should be analyzed in these contexts and described accordingly under the appropriate impact category. An analysis of potential noise impacts on nearby noise-sensitive land uses is discussed in Section 4.3.9 of this EA. Section 4.3.11 provides an analysis of potential visual ramifications of the proposed change in land use, and Section 4.3.10 discusses potential socioeconomic impacts.

The potential for land use impacts has been assessed by comparing the existing and proposed land uses for the project study area. Impacts to adjacent land uses have also been assessed by describing what they are, and if construction activities or long-term operation would diminish their value and/or purpose.

Impact Analysis

Proposed Action Alternative

Temporary Construction Impacts. All construction activity would occur on Jetport property for all project components, except for the tree removal project to clear the GQS for the Runway 36 end (Project Item 5), which would have construction equipment in the Calvary Cemetery (a private cemetery). Tree cutting and hauling equipment would be required to clear select trees from this project area; however, construction vehicle activity would be temporary. Construction work at the Jetport would typically occur during daylight hours, Monday through Friday, with occasional night and/or weekend work to limit construction impacts to Jetport operations. For all project components, construction haul routes would be designated and used by construction equipment and construction workers. Construction equipment and vehicles would primarily require the use of on-Jetport streets, such as Jetport Boulevard, Westbrook Street, and Yellowbird Road. There would be minimal impacts to nearby businesses or residences during construction activity. Therefore, significant land use compatibility impacts during construction would

not occur. See *Avoidance and Minimization Measures* below that would ensure that construction impacts to nearby land uses from Proposed Action components are less than significant.

Direct Operational Impacts. Once Proposed Action components are implemented/constructed, all operational impacts would occur on Jetport property. Components of the Proposed Action would disturb unpaved areas; however, all components (except for tree removal south of Runway 36) would occur within an active airfield that has been previously disturbed. Further, because most project components are within existing Jetport property, there would be no operational impacts related to nearby land uses, as discussed further below.

Long-term Hold/Deicing/Remain Overnight Apron (Project Items 2 and 3). This project component lies within the City of Portland and the City of South Portland (refer to Figures 2 and 3 in Chapter Three). Some of this area is paved, including a perimeter road, part of Taxiway A, and part of the current deicing pad. The rest of this component area is unpaved, and the northwest corner of it contains a wetland. Approximately 1.2 acres of wetland impact would occur as result of this Proposed Action component. (Wetland impacts are discussed in Section 4.3.12.1.) Nearby land uses include a hotel north of Jetport Boulevard. There would be no long-term impacts to this nearby land use as result of this proposed component.

Runway 11 End Taxiway Bypass and Realignment of Perimeter Service Road (Project Item 4). This Proposed Action component is entirely within the City of South Portland. This area currently contains grassy areas, as well as existing pavement for a perimeter road and Taxiway A. This component would construct additional pavement along the perimeter road, as well as a new taxiway bypass. The closest land uses to this proposed project component are north of Jetport Boulevard and consist of commercial properties. All aspects of this project component would occur on Jetport property and would not disrupt these nearby land uses.

Tree Removal to Clear the Glideslope Qualification Surface for Runway 36 End (Project Item 5). This project component involves tree removal of approximately six acres of off-Jetport property. Approximately 0.5 acres of select tree removal would be within areas delineated as wetlands. (Wetland impacts are discussed in Section 4.3.12.1.) Trees would be removed in the Calvary Cemetery, which is adjacent to a residential area to the west and additional cemetery-owned property to the east. This component would not impact the nearby residences or the Calvary Cemetery, as the proposed tree removal areas would not require the removal or replacement of any headstones. This component would only require tree removal to enhance Jetport safety and would not disrupt nearby land uses long term. See *Avoidance and Minimization Measures* below that would ensure that temporary land use impacts to the Calvary Cemetery from this project component are less than significant.

Air Cargo Taxiway (Project Item 6B). The air cargo taxiway component would construct 663 linear feet (lf) of taxiway (connected to existing Taxiway G) and realign 373 lf of an existing perimeter service road. Some of the components would replace existing aircraft apron and there would be grass disturbance associated with utility installation. The air cargo taxiway would be entirely within the City of Portland, as well as within the bounds of the Jetport. Nearby land uses include the Fore River to the west. This

proposed component would not disturb any nearby land uses and would improve the Jetport's efficiency in the long term. There would be no land use impacts because of this component.

Taxiway C Realignment (Project Items 7 and 9). The Taxiway C realignment would construct 3,363 lf of a new taxiway. There would be grassed side slope area with site fills, as well as disturbance associated with utility installation. The Taxiway C realignment falls within both the City of Portland and the City of South Portland. The Taxiway C realignment would be constructed entirely within existing Jetport property in an active part of the airfield. Immediately southwest of the Jetport boundary is an apartment complex and park (Jordan Park) off Lydia Lane. The closest Taxiway C project area would be approximately 1,200 to 1,500 feet to the north (approximately 0.23 to 0.28 mile) of these neighboring land uses. This proposed component would be part of the overall runway-taxiway system, and there would be no impacts to nearby land uses.

Taxiway A Relocation East of Runway 18-36 (Project Item 8). This project component would relocate a portion of Taxiway A (1,776 lf) to remove the part of the taxiway that is in the glideslope critical area. There would also be eight acres of grassy area associated with site fills and disturbance from utility installation. There would also be a wetland impact due to this project. (Wetland impacts are discussed in Section 4.3.12.1.) The Fore River is the closest land use that is off the Jetport property. The relocation of Taxiway A is entirely within Jetport property and would not violate any aspects of the City of South Portland's Shoreland Overlay Zone or Shoreland Resource Protection Overlay Subdistrict. Therefore, there would be no impacts to land use or applicable city policies to this Proposed Action component's implementation.

Service Access Road Relocation East of Cargo Area (Project Item 10). The relocation of the service access road would relocate 1,300 lf of the existing service access road. Approximately 9.8 acres of grassed area would be disturbed from site fills, storm drain installation, and a proposed water quality filter. This project component is within the cities of Portland and South Portland. This component is entirely within Jetport property (i.e., within the Jetport's fence line), with the Fore River approximately 300 feet to the east of the existing service access road, and approximately 170 feet from the proposed service road relocation. On the City of Portland side, this road relocation would not be in violation of the Resource Protection Zone associated with the Fore River as the development restrictions are related to the erection, alteration, enlargement, redevelopment, or use of buildings. Further, the City of Portland considers non-invasive activities, such as the use of existing roadways, to not conflict with the Resource Protection Zone. See *Avoidance and Minimization Measures* below that would ensure that land use impacts to the shoreline resources associated with the Fore River from this proposed component are less than significant.

Taxiway B Construction from Runway 36 End to Runway 29 End (Project Item 11). The Taxiway B construction would involve 1,226 lf of additional pavement. There would be disturbance related to site fills and storm drain installation. This project is entirely within the City of South Portland and would be inside Jetport property. The nearest land use is the Fore River to the west and Long Creek to the south; however, this component of the Proposed Action is not within the City of South Portland's Shoreland Overlay Zone associated with these water resources. Immediately southwest of the Jetport boundary is an apartment complex and park (Jordan Park) off Lydia Lane. The closest Taxiway B project areas would be

approximately 1,340 to 1,800 feet (0.25 to 0.35 mile) northeast of these neighboring land uses, which would be separated from Taxiway B by other development on the Jetport. Because the Taxiway B construction would be developed entirely within Jetport property and would be part of the overall runway-taxiway system, there would be no operational impacts to these proximal land uses.

Indirect Operational Impacts. None.

Conclusion. In conclusion, with implementation of the *Avoidance and Minimization Measures* below, potential land use impacts from the Proposed Action would be less than significant.

No Action Alternative

The No Action alternative would not change the land use at the Jetport, and thus no direct or indirect land use impacts would occur.

Avoidance and Minimization Measures

The following avoidance and minimization measures would reduce potential impacts to nearby land uses. With implementation of these measures, adverse impacts would not result from project construction activities.

1. Construction BMPs shall be implemented during site preparation and demolition, actual construction, as well as post-construction, to minimize disruption to nearby land uses, including:
 - a. Site Preparation and Demolition. Minimize land disturbance; use watering trucks to minimize dust; cover trucks when hauling dirt; stabilize the surface of dirt piles if not removed immediately; use windbreaks to prevent accidental dust pollution; limit vehicular paths and stabilize temporary roads; and grade to prevent soil from washing onto paved roadways.
 - b. Construction. Cover trucks when transferring materials; use dust suppressants on traveled paths that are not paved; minimize unnecessary vehicular and machinery activities; and minimize dirty track-out by washing or cleaning trucks before leaving the construction site.
 - c. Post-Construction. Remove unused material and remove dirt piles.
2. The Jetport shall work with the Calvary Cemetery to appropriately redress construction-related damage to the cemetery property (including access restrictions).
3. For the tree removal of the GQS area, trees shall be removed on a tree-by-tree basis, and all stumps shall be treated and left in place.

4.3.8 Natural Resources and Energy Supply

Regulatory Setting

40 CFR 1502.16(e)(f) requires that federal agencies consider energy requirements, natural depletable resource requirements, and the conservation potential of alternatives and mitigation measures in NEPA documents. In addition, the *Energy Independence and Security Act* requires federal agencies to take actions to move the U.S. to increase the production of clean renewable fuels and improve the energy performance of the federal government.

Analysis Methodology and Significance Thresholds

FAA Order 1050.1F, Exhibit 4-1 states that FAA has not established a significance threshold for the Natural Resources and Energy Supply impact category (FAA Order 1050.1F, Exhibit 4-1). However, a factor to consider is if an action has the potential to cause demand to exceed available or future natural resource or energy supplies.

Impact Analysis

Proposed Action Alternative

Temporary Construction Impacts. Water and other consumable natural resources, such as fossil fuel and electricity, would be obtained from local utility providers and distributors under prevailing market conditions during the construction phases of the Proposed Action. Potable water and electricity are currently available at the Jetport or can be provided by mobile generators (for example, to clear trees off the Jetport property). Fossil fuel for construction and long-term employee vehicles is available from private vendors within the local area and along major roadways and highway corridors. The use of fossil fuels and electricity by the Proposed Action would not cause a statistically significant increase in fuel or energy consumption in Cumberland County and there is no indication that fossil fuels or electricity would be in short supply. The Jetport encourages the use of energy-efficient building methods per its adopted Sustainable Airport Master Plan (SAMP) (City of Portland 2018a).

Direct Operational Impacts. Most of the Proposed Action components would require a commitment of sand, gravel, aggregate, or other pavement materials. These uses of natural resources are discussed below. No long-term use of energy sources or water would be required once the proposed improvements are constructed other than those used to maintain the Jetport's airfield pavements. The incremental increase in energy resources or water for pavement maintenance is not a considerable increase in the use of such resources over what already occurs to operate the Jetport.

Long-term Hold/Deicing/Remain Overnight Apron (Project Items 2 and 3). It is anticipated that the expansion of the hold/deicing/RON apron would require the use of approximately 20,000 cubic yards (cy) of sand, gravel, or aggregate material. No significant impact to local mineral sources would occur as

a result of this project component as local and regional sources can accommodate large-scale site improvement projects.

Runway 11 End Taxiway Bypass and Realignment of Perimeter Service Road (Project Item 4). The bypass taxiway component would construct 245 lf of taxiway and 928 lf of perimeter service road. It is anticipated that this would require the use of approximately 5,000 cy of sand, gravel, or aggregate material. No significant impact to local mineral sources would occur as a result of this project component as local and regional sources can accommodate large-scale site improvement projects.

Tree Removal to Clear the Glideslope Qualification Surface for Runway 36 End (Project Item 5). This Proposed Action component involves tree removal of approximately five acres of off-Jetport property. No long-term commitment of natural resources would occur with this project component.

Air Cargo Taxiway (Project Item 6B). The air cargo taxiway component would construct 663 lf of taxiway (connected to existing Taxiway G) and 373 lf of realigned perimeter road. It is anticipated that this would require the use of approximately 6,000 cy of sand, gravel, or aggregate material. No significant impact to local mineral sources would occur as a result of this project component as local and regional sources can accommodate large-scale site improvement projects.

Taxiway C Realignment (Project Items 7 and 9). The Taxiway C realignment would construct 3,363 lf of a new taxiway. It is anticipated that this would require the use of approximately 50,000 cy of sand, gravel, or aggregate material. No significant impact to local mineral sources would occur as a result of this project component as local and regional sources can accommodate large-scale site improvement projects.

Taxiway A Relocation East of Runway 18-36 (Project Item 8). This Proposed Action component would relocate a portion of Taxiway A to remove the part of the taxiway that is in the glideslope critical area. This would construct 1,776 lf of pavement. It is anticipated that this would require the use of approximately 60,000 cy of sand, gravel, or aggregate material. No significant impact to local mineral sources would occur as a result of this project component as local and regional sources can accommodate large-scale site improvement projects.

Service Access Road Relocation East of Cargo Area (Project Item 10). The relocation of the service access road would relocate 1,300 feet of the existing service access road. It is anticipated that this would require the use of approximately 6,000 cy of sand, gravel, or aggregate material. No significant impact to local mineral sources would occur as a result of this project component as local and regional sources can accommodate large-scale site improvement projects.

Taxiway B Construction from Runway 36 End to Runway 29 End (Project Item 11). The Taxiway B construction would involve 1,226 lf of additional pavement. It is anticipated that this would use approximately 20,000 cy of sand, gravel, or aggregate material. No significant impact to local mineral sources would occur as a result of this project component as local and regional sources can accommodate large-scale site improvement projects.

Indirect Operational Impacts. The Proposed Action would have a beneficial indirect impact on energy conservation through the implementation of project components that would improve the overall functionality and efficiency of the Jetport (i.e., an expansion of the deicing/RON apron).

No Action Alternative

Since no ground disturbance or change in Jetport use would result from the No Action alternative, no change in demand for natural resources or energy at the Jetport would occur. No significant direct or indirect impacts to natural resources and energy supply would occur as a result of this alternative.

Avoidance and Minimization Measures

None required.

4.3.9 Noise and Noise-Compatible Land Use

Regulatory Setting

Federal regulations regarding aircraft noise have been put into place primarily by FAA. The *Aviation Safety and Noise Abatement Act of 1979* establishes funding for noise compatibility planning and sets the requirements by which airport operators may apply for funding. This is also the law in which Congress mandated that FAA develop an airport community noise metric that would be used by all federal agencies assessing or regulating airport noise. The result was the Day-Night Average Sound Level (DNL or L_{dn}) metric.

The *Airport and Airway Improvement Act of 1982* authorizes funding for noise mitigation and noise compatibility planning and projects and establishes requirements related to noise-compatible land use for federally funded development projects.

There are numerous additional noise regulations, including the *Airport Noise and Capacity Act of 1990*, which mandates the phasing out of Stage 2 jet aircraft over 75,000 pounds and establishes requirements regarding airport noise and access restrictions for other classes of aircraft. These regulations are not applicable to the Proposed Action, which would not change aircraft operations at the Jetport.

Analysis Methodology and Significance Thresholds

FAA Order 1050.1F, Table 4-1 states that a significant noise increase occurs when the Proposed Action would increase noise by DNL 1.5 decibel (dB) or more for a noise-sensitive area (such as residents, schools, medical facilities, and places of worship) that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a 1.5 dB or greater increase, when compared to the No Action alternative for the same timeframe.

Special consideration should also be given to noise impacts on noise-sensitive areas within Section 4(f) properties when the above threshold does not adequately address the value, significance, and enjoyment of the area in question.

Impact Analysis

Proposed Action Alternative

Temporary Construction Impacts. Construction-related noise impacts at airports result from the use of construction equipment in proximity to noise-sensitive resources. The demolition/construction phases of the Proposed Action are expected to include earthwork/grading, the pouring of asphalt, and the removal of abandoned sections of pavement. Construction vehicular noise would also occur. Each phase necessitates different types of construction equipment. Based on the proposed construction schedule, the Proposed Action would be constructed over numerous phases from 2018 through 2024. A detailed construction schedule is provided in Section 1.3.9.

The closest noise-sensitive receptors in proximity to the proposed construction areas would be the residents of an apartment complex located off Lydia Lane, southeast of the MAC Air Hangar and aircraft apron, and northeast of the State Reform School Historic District. These residences are located on a hill overlooking the proposed southerly realignment of Taxiway C and the proposed Taxiway B connection from Runway 36 to 29, as well as adjacent to the Jetport's property line at the foot of the hill. In addition, a construction route along Westbrook Street/Yellowbird Road would be utilized for project components on the east side of the Jetport. This route is just south of the Stroudwater Historic District and residential neighborhood. Finally, tree removal within the Calvary Cemetery is adjacent to a single-family residential neighborhood to the west. In all cases, residents would be located far enough away (minimum of 0.23 mile) from the construction areas that temporary construction-related noise would not result in significant noise impacts per FAA Order 1050.1F, Exhibit 4-1.

Table 4C provides average noise levels, in A-weighted decibels (dBA), at a distance of 50 feet from a construction site, based on the type of construction equipment used. The dBA noise levels are an expression of the relative loudness of sounds in air as perceived by the human ear. In comparison, the FAA noise threshold for noise impacts is expressed in dB DNL. These noise metrics are not equivalent. Therefore, the table is provided only for purposes of qualitative information, not to determine an impact based on FAA significance thresholds.

Direct Operational Impacts. The most recent noise contours for the Jetport were prepared as part of a 2009 EA conducted on the Jetport's proposed airfield and terminal development at that time and were based on operational forecasts and fleet mixes assumed for the 2007 airport master plan. As previously discussed in Section 3.12, the future (2017) noise contours prepared for the 2009 EA did not identify any noise-sensitive uses within the 65 DNL contour (FAA and City of Portland 2009). Currently, Jetport operations are significantly less than when the 2009 EA contours were prepared. Operations in the 2035 forecast of the SAMP are also less than the operational levels used to prepare the future (2017) noise contours in the 2009 EA (see Table 3B).

TABLE 4C
**Anticipated Project Construction Operations, Equipment Types, and Their Noise Levels
Portland International Jetport**

Equipment	Typical Noise Level (dBA ¹) 50 Feet From Source
Backhoe	80
Dozer	85
Grader	85
Loader	85
Paver	89
Roller	74
Scraper	89
Shovel	82
Truck	88

Source: FHWA 2006

¹ A-weighted decibels, abbreviated dBA, dBa, or dB(a), are an expression of the relative loudness of sounds in air as perceived by the human ear.

Since none of the components of the Proposed Action would alter the current runway configuration or permit changes in the design category of aircraft serving the Jetport, no change between the noise levels of the Proposed Action when compared to the No Action would occur. Direct operational noise from the Proposed Action would not result in significant noise impacts per FAA Order 1050.1F, Exhibit 4-1. The Jetport's current 65 DNL contours do not encompass noise-sensitive land uses.

Indirect Operational Impacts. None.

No Action Alternative

Since no construction or change in Jetport use would occur with the No Action alternative, no impacts related to noise or land use compatibility would occur.

Avoidance and Minimization Measures

As part of the Jetport's 2006 noise compatibility plan, the Jetport established the Jetport's noise hotline and a system for receiving complaints. Additionally, the Jetport established a Noise Advisory Committee in 1988 by order of the Portland City Council, which reviews feedback on noise abatement projects and provides overview for implementation of the Jetport's noise abatement programs. The Jetport also encourages operators to use voluntary flight procedures to reduce noise impacts within the vicinity of the Jetport. Use of the Jetport's ongoing noise hotline and other noise abatement procedures would continue to be available throughout the construction phases of all Proposed Action components.

4.3.10 Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks

Regulatory Setting

Federal regulations for this resource category include the *Uniform Relocation Assistance and Real Property Acquisition Policies Act*, E.O. 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, and other related memorandums and regulation (including Title VI of the *Civil Rights Act*), and E.O. 13045, *Protection of Children from Environmental Health Risks and Safety Risks*.

Analysis Methodology and Significance Thresholds

FAA has not established a significance threshold for the Socioeconomics impact category (FAA Order 1050.1F, Exhibit 4-1). However, per FAA Order 1050.1F, Exhibit 4-1, consideration should also be given to the Proposed Action's potential to:

- Induce substantial economic growth in the area, either directly or indirectly; or
- Produce a substantial change in the community tax base.

For environmental justice and children populations, FAA is concerned that disproportionate adverse impacts do not result to these types of populations.

Impact Analysis

Proposed Action Alternative

Temporary Construction Impacts. The Proposed Action would create additional jobs, primarily in the construction industry, during the construction phases of the proposed components. These jobs would occur on a temporary basis throughout the construction phases and would represent a temporary infusion of income into the local economy. No long-term changes to the tax base would occur.

The only potential environmental justice population in proximity to the Jetport is related to a public housing apartment complex off Lydia Lane to the southwest of Runway 18-36. The closest project components to these residents would be the realignment of Taxiway C and the construction of Taxiway B between Runways 36 and 29. The apartments are approximately 1,200 feet (0.23 mile) to the southwest of the Taxiway C realignment and approximately 1,340 feet (0.25 mile) southwest of the proposed Taxiway B alignment. All construction activity would occur on Jetport property for all project components,

except for the tree removal project to clear the GQS for the Runway 36 end (Project Item 5), which would have construction equipment in the Calvary Cemetery (a private cemetery).

For all project components, construction haul routes would be designated for use by construction equipment and construction workers. Construction equipment and vehicles would primarily require the use of on-Jetport streets, such as Jetport Boulevard, Westbrook Street, and Yellowbird Road. The Calvary Cemetery is accessed from Broadway in South Portland. There would be minimal impacts to nearby businesses during construction activity and residential areas (including those containing environmental justice populations) would not be impacted.

Potential elevated health and safety risks to children sometimes result during construction of projects as disturbed soils and stockpiled materials pose potential pathways for increased fugitive soil/dust inhalation and ingestion. The proposed construction sites, including areas of excavation, soil and materials stockpiles, and construction equipment, would not be accessible to children since the Jetport is a secure, access-controlled environment. Therefore, impacts to children during construction would not occur.

Direct Operational Impacts. The Proposed Action consists of a series of components that would improve the existing infrastructure and operation of the Jetport. It does not include any new business opportunities or substantial improvements that would directly increase economic growth in the local economy or tax base.

All operational impacts of the proposed components would occur on Jetport property. There would be no operational impacts related to nearby environmental justice populations and disproportionate adverse impacts would not occur.

After implementation of the Proposed Action, the Jetport would continue to operate in a manner similar as it does today and access to substances which could affect a child's health or safety would remain limited. The perimeter fence would be maintained to restrict unauthorized persons from gaining access to the runway and other areas of potential health and safety risks. Increases to children's environmental health and safety risks would not occur.

Indirect Operational Impacts. The Proposed Action would help to implement the Jetport's SAMP. Based on that study, the Jetport has the following economic impact to the community: 5,258 direct jobs, \$147.0 million in direct payroll benefits, and \$639.7 million in direct on-Jetport and air visitor spending; 8,261 indirect jobs, \$269.6 million in indirect payroll, and \$1.0 billion in indirect, induced, and secondary economic benefits (City of Portland 2018a). The Proposed Action would help the Jetport to continue these economic benefits by improving and enhancing the safety and efficiency of the Jetport.

No Action Alternative

The No Action alternative would not change the land use at the Jetport, and thus impacts related to direct or indirect socioeconomic impacts, environmental justice, or risks to children would not occur.

Avoidance and Minimization Measures

The following avoidance and minimization measures are recommended to reduce potential impacts to nearby environmental justice populations. With implementation of these measures, adverse impacts are not anticipated to result from project construction activities.

1. Construction BMPs shall be implemented during site preparation and demolition, actual construction, as well as post-construction, to minimize disruption to nearby land uses, including:
 - a. Site Preparation and Demolition. Minimize land disturbance; use watering trucks to minimize dust; cover trucks when hauling dirt; stabilize the surface of dirt piles if not removed immediately; use windbreaks to prevent accidental dust pollution; limit vehicular paths and stabilize temporary roads; and grade to prevent soil from washing onto paved roadways.
 - b. Construction. Cover trucks when transferring materials; use dust suppressants on traveled paths that are not paved; minimize unnecessary vehicular and machinery activities; and minimize dirty track-out by washing or cleaning trucks before leaving the construction site.
 - c. Post-Construction. Remove unused material and remove dirt piles.

4.3.11 Visual Effects

Regulatory Setting

Although there are no federal special purpose laws or requirements specific to light emissions and visual effects, there are special purpose laws and requirements that may be relevant. Protected visual resources generally include, but are not limited to, federal, state, or local scenic roadways/byways; Wild and Scenic Rivers; National Scenic Areas; scenic easements; trails protected under the *National Trails System Act* or similar state or local regulations; and scenic features protected under other federal, state, or local regulations. For example, in addition to NEPA, laws protecting resources that may be affected by visual effects include Section 106 of the NHPA, Section 4(f) of the *Department of Transportation Act*, the *Wild and Scenic Rivers Act*, the *Coastal Zone Management Act*, and state and regional coastal protection acts. In addition, there may be state and local regulations, policies, and zoning ordinances that apply to visual effects.

Analysis Methodology and Significance Thresholds

FAA has not established a significance threshold for visual effects in FAA Order 1050.1F; however, FAA has identified factors to consider when evaluating the potential environmental impacts related to visual effects (see Exhibit 4-1 of FAA Order 1050.1F). Note that these factors are not intended to be thresholds.

If these factors exist, there is not necessarily a significant impact; rather, FAA must evaluate these factors considering context and intensity to determine if there are significant impacts. Factors to consider that may be applicable to visual effects include, but are not limited to:

- Light Emissions Effects
 - The degree to which the action would have the potential to create annoyance or interfere with normal activities from light emissions; and
 - The degree to which the action would have the potential to affect the visual character of the area due to the light emissions, including the importance, uniqueness, and aesthetic value of the affected visual resources.
- Visual Resources/Visual Character Effects
 - The degree to which the action would have the potential to affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources;
 - The degree to which the action would have the potential to contrast with the visual resources and/or visual character in the study area; and
 - The degree to which the action would have the potential to block or obstruct the views of visual resources, including whether these resources would still be viewable from other locations.

4.3.11.1 Light Emissions

Impact Analysis

Proposed Action Alternative

Temporary Construction Impacts. Construction activity would occur on Jetport property for all project components, except for the tree removal project to clear the GQS for the Runway 36 end (Project Item 5), which would have construction equipment in the Calvary Cemetery (a private cemetery). No lights would be necessary except in an instance where night work is required to minimize construction impacts to Jetport operations. Night construction lighting would be directed to the individual project areas and would be confined to those project components in proximity to one of the Jetport's two runways. Due to the limited use of such lighting, the fact that construction lighting would be directed towards the construction activity rather than the perimeter of the Jetport, and the distance of residences with a potential to be affected by such lighting from the potential construction areas (i.e., approximately 0.23 mile or more), no significant impacts would occur from this temporary situation.

Direct Operational Impacts. Once Proposed Action components are implemented/constructed, all operational impacts would occur on Jetport property within an active airfield. Additional lighting for each proposed component is described below:

Long-term Hold/Deicing/Remain Overnight Apron (Project Items 2 and 3). This apron would be lit by pole-mounted lights and/or lights mounted to buildings. Lighting is, and would continue to be, directed down towards the pavement and light spillage off the apron would be minimal. This proposed lighting is consistent with existing uses at the Jetport.

Runway 11 End Taxiway Bypass and Realignment of Perimeter Service Road (Project Item 4). The taxiway bypass would be equipped with medium-intensity taxiway edge lights; the perimeter service road would not be lit. This proposed lighting is consistent with existing uses at the Jetport.

Tree Removal to Clear the Glideslope Qualification Surface for Runway 36 End (Project Item 5). No lights would be necessary for this proposed component.

Air Cargo Taxiway (Project Item 6B). The air cargo taxiway would be equipped with medium-intensity taxiway edge lights. This proposed lighting is consistent with existing uses at the Jetport.

Taxiway C Realignment (Project Items 7 and 9). The Taxiway C realignment would be equipped with medium-intensity taxiway edge lights. This proposed lighting is consistent with existing uses at the Jetport.

Taxiway A Relocation East of Runway 18-36 (Project Item 8). Taxiway A would be equipped with medium-intensity taxiway edge lights. This proposed lighting is consistent with existing uses at the Jetport.

Service Access Road Relocation East of Cargo Area (Project Item 10). No lighting is proposed for this service road.

Taxiway B Construction from Runway 36 End to Runway 29 End (Project Item 11). Taxiway B would be equipped with medium-intensity taxiway edge lights. This proposed lighting is consistent with existing uses at the Jetport.

None of the new lighting would result in a noticeable change in the lighted environment of the Jetport from off-Jetport lands in proximity to the facility. The Jetport's overall night environment would remain the same.

Indirect Operational Impacts. None.

No Action Alternative

The No Action alternative would not change the amount of lighting at the Jetport.

4.3.11.2 Visual Resources/Visual Character

Impact Analysis

Proposed Action Alternative

Temporary Construction Impacts. Since construction activity is temporary, no significant changes to visual resources or visual character would occur. Off-Jetport views of construction activity related to proposed components would be generally limited to apartments off Lydia Lane, some of which are located atop a hill and have panoramic views of the Jetport. However, the closest construction area (the south end of the Taxiway C realignment, Project Item 9) would be approximately 0.25 mile away. At that distance, views of construction activity would be minimal (see Section 3.14.2, Figure 6).

Views of proposed construction activity from the Stroudwater Historic District to the north of the Jetport would be screened by existing trees present along the border between the Stroudwater neighborhood and the Jetport property and limited by the intervening distance between residences and the closest proposed component (i.e., the northerly end of Taxiway C, located approximately 0.23 mile from the closest residence).

Direct Operational Impacts. Once Proposed Action components are implemented/constructed, they will become part of the overall runway-taxiway system. No change to the visual character of the Jetport or visual resources of the general area would occur and there would be no significant visual impacts to nearby land uses.

Indirect Operational Impacts. None.

No Action Alternative

The No Action alternative would not change the land use at the Jetport, and thus no direct or indirect land use impacts would occur.

4.3.12 Water Resources

FAA Order 1050.1F identifies the following subcategories of impact under the overall topic of water resources: wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers. Floodplains and wild and scenic rivers are not addressed in this section as these water resources would not be affected by the Proposed Action (see Sections 3.15.2 and 3.15.5).

4.3.12.1 Wetlands

Regulatory Setting

The following is a summary of the regulations related to the protection of wetlands and other Waters of the U.S.

Federal Clean Water Act. The *Clean Water Act* (CWA) (Title 33 United States Code [USC] Sections 1251 through 1376) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

- **Section 404** of the CWA establishes a permit program administered by the U.S. Army Corps of Engineers (USACE) that regulates the discharge of dredged or fill material into Waters of the U.S., including wetlands.

USACE regulatory jurisdiction under Section 404 of the CWA extends to all work in, over, and under Waters of the U.S. that results in a discharge of dredged or fill material within USACE regulatory jurisdiction. Under Section 404, the USACE regulates traditional navigable waters (TNW), wetlands adjacent to TNW, relatively permanent non-navigable tributaries that typically flow year-round or have a continuous flow at least seasonally (typically three months), and wetlands that directly abut relatively permanent tributaries. The USACE will determine jurisdiction over waters that are non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally, wetlands adjacent to such tributaries, and wetlands adjacent to but that do not directly abut a relatively permanent, non-navigable tributary, only after making a significant nexus finding.

USACE jurisdiction over non-tidal Waters of the United States extends laterally to the ordinary high-water mark (OHWM) or beyond the OHWM to the limit of any adjacent wetlands, if present (33 CFR 328.4). USACE jurisdiction over non-tidal waters typically extends upstream to the point where the OHWM is no longer perceptible. The OHWM is defined in 33 CFR 328.3 as:

“that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area.”

Implementing regulations by USACE are found at 33 CFR 320-330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines and were developed by the U.S. EPA in conjunction with USACE (40 CFR 230).

Analysis Methodology and Significance Thresholds

Per FAA Order 1050.1F, Table 4-1, an action will have significant impacts to wetlands if it would:

- Adversely affect a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers;
- Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected;

- Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety, or welfare;
- Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands;
- Promote development of secondary activities or services that would cause the circumstances listed above to occur; or
- Be inconsistent with applicable state wetland strategies.

Impact Analysis

Proposed Action Alternative

Jay Clement, Senior Project Manager with the USACE, attended the Project Orientation and Inter-Agency Meetings in September and October 2017 for this EA and also attended a pre-application meeting together with representatives from MDEP on August 22, 2018. A USACE permit for wetland fills and a MDEP Site Location of Development permit amendment and MDEP's Natural Resources Protection Application (NRPA) will be obtained prior to construction of the proposed project components.

Temporary Construction Impacts. No impacts to wetlands are proposed beyond the permanent development limits of the proposed projects discussed below under direct operational impacts. Where tall trees are removed south of Runway 18-36 as part of Project Item 5, wood mats would be used for access to protect soils in wetland areas and adjacent areas; therefore, any vegetation affected by access would be re-established (see *Avoidance and Mitigation Measures*).

Direct Operational Impacts

Long-term Hold/Deicing/Remain Overnight Apron (Project Items 2 and 3). A total of 1.16 acres of freshwater wetlands would be removed where this apron project component is proposed. In-lieu fee payment would be made to the MDEP as compensation for this wetland impact, and within the footprint of a portion of the wetland impact, a vegetated water quality filter (WQF #1) would be constructed to provide stormwater quality treatment for the adjacent apron in accordance with MDEP Chapter 500 rules.

Runway 11 End Taxiway Bypass and Realignment of Perimeter Service Road (Project Item 4). No wetlands would be impacted as a result of this project element.

Tree Removal to Clear the Glideslope Qualification Surface for Runway 36 End (Project Item 5). Approximately 30 trees would be removed within wetland areas south of Runway 36 on the cemetery property to eliminate obstructions to the 30 horizontal to 1 vertical glideslope qualification surface. See *Avoidance and Mitigation Measures*.

Air Cargo Taxiway (Project Item 6B). No wetlands would be impacted as a result of this project element.

Taxiway C Realignment (Project Items 7 and 9). No wetlands would be impacted as a result of this project element.

Taxiway A Relocation East of Runway 18-36 (Project Item 8). A total of 0.1 acre of mowed freshwater wetlands would be removed where this apron project element is proposed. In-lieu fee payment would be made to the MDEP as compensation for this wetland impact (see *Avoidance and Mitigation Measures*).

Service Access Road Relocation East of Cargo Area (Project Item 10). A wetland of special significance exists adjacent to this project element but would not be filled as a result of this development.

Taxiway B Construction from Runway 36 End to Runway 29 End (Project Item 11). No wetlands would be impacted as a result of this project element.

Indirect Operational Impacts. Grading activities and vegetation removal associated with Project Item 10 would occur within 75 feet of this wetland; therefore, erosion control measures to protect the wetland would be implemented and approval by the MDEP and USACE for grading activities within 75 feet of the wetlands would be obtained prior to construction of this project component (see *Avoidance and Mitigation Measures*).

No Action Alternative

No impacts to wetlands or other jurisdictional waters would occur with the No Action alternative.

Avoidance and Mitigation Measures

Wetlands have been avoided to the extent practicable by only including the project elements necessary to improve the operation and safety of the Jetport. Mitigation shall be provided by payment of in-lieu fee to the MDEP at the established rate for the type of wetland impacts associated by the Proposed Action.

Impacts to wetlands within the Calvary Cemetery (Project Item 5) would be temporary and all vegetation affected by access shall be reestablished. Erosion control measures to protect wetlands adjacent to the service road relocation east of the cargo area (Project Item 10) shall be implemented per the applicable MDEP and USACE permit conditions.

4.3.12.2 Surface Waters

Regulatory Setting

The MDEP implements the *Clean Water Act* and the Maine Pollutant Discharge Elimination System (MEPDES) permitting process. See Section 4.3.12.1 for a discussion of the *Clean Water Act*, especially as it relates to wetlands. The Jetport's surface/stormwater is regulated by MDEP under the *Site Location of Development Act* (38 Maine Revised Statutes Annotated [MRSA] 481-490), and development projects at the Jetport require an amendment to the facility's existing MDEP permit. Water quality protection is a major element reviewed as part of development projects at the Jetport, and each project must comply with MDEP Chapter 500 Stormwater Regulations under general stormwater standards. Development projects at the Jetport are also reviewed by either the City of Portland or City of South Portland (depending on location) under their respective site plan approval guidelines, which include stormwater control requirements.

As discussed in Chapter Three, the Jetport is operating under Maine's Multi-Sector General Permit for Stormwater Discharge Associated with Industrial Activity (MSGP), Permit Number MER05B425. The Proposed Action will fall under this permit and the Jetport's SWPPP.

Analysis Methodology and Significance Thresholds

Per FAA Order 1050.1F, Table 4-1, an action will have significant impacts to surface waters if it would:

- Exceed water quality standards established by federal, state, local, and tribal regulatory agencies; or
- Contaminate public drinking water supply such that public health may be adversely affected.

Per MDEP Chapter 500 Stormwater Management, an action requires MDEP permitting if a new project disturbs more than one acre of land, or if there are changes made to an existing permit. As such, the proposed development requires a major amendment to the existing Site Location of Development Permit.

In addition, FAA Order 1050.1F states that the following factors should be considered when evaluating surface water impacts (i.e., would the action have the potential to):

- Adversely affect natural and beneficial water resource values to a degree that substantially diminishes or destroys such values;
- Adversely affect surface waters such that the beneficial uses and values of such waters are appreciably diminished or can no longer be maintained and such impairment cannot be avoided or satisfactorily mitigated; or
- Present difficulties based on water quality impacts when obtaining a permit or authorization.

Impact Analysis

Proposed Action Alternative

Temporary Construction Impacts. The proposed project components would follow an ESC plan that is required for the Site Location of Development Permit (and is also a requirement of the MEPDES). Potential temporary construction impacts, such as dust and erosion, would be controlled by erosion control measures in accordance with the project-specific erosion control plans. The Proposed Action would not impact any *Clean Water Act*, Section 303(d) listed waters, sole source aquifers, a public drinking water supply, or waters of national significance.

Direct Operational Impacts. Implementation of the Proposed Action would result in a net increase of impervious surface area of approximately 22.4 acres. Section 12, Stormwater Management of the *Site Location of Development Application*, details the water quality measures for the Proposed Action, which were designed in accordance with MDEP Stormwater Law (Chapter 500). This project is classified by MDEP as a redevelopment project, which categorizes the existing and proposed uses by pollutant ranking, and a formula is used to determine the percentage of developed area that must be treated. The proposed projects require 60 percent treatment. The requirement is being met through the following treatment for water quality:

- Modifications to an existing grassed underdrained soil filter (WQF #1) adjacent to the Terminal Apron to treat the existing deicing facility area, portions of the existing aircraft apron adjacent to the terminal, and a portion of the proposed long-term hold/deicing/RON apron (Project Items 2 and 3);
- A new grassed underdrained soil filter (WQF #2) east of the Taxiway A relocation to treat portions of the existing Runway 18-36, existing cargo apron, and proposed Taxiway A, air cargo taxiway, and the service road east of cargo area (Project Items 6A, 8, and 10); and
- Modifications to an existing wet pond east of the Runway 36 end to meet sizing requirements in order to treat a portion of the proposed Taxiway C realignment and Taxiway B Runway 36 to 29 (Project Items 9 and 11), along with additional existing area that would be redirected to the pond with the proposed projects.

Indirect Operational Impacts. None.

No Action Alternative

No changes to the amounts of impervious surfaces at the Jetport would occur if the No Project alternative is implemented. Thus, no impacts to surface water quality would occur.

Avoidance and Minimization Measures

The additional acreage of impervious area has been limited to the amount required by FAA Advisory Circular 150/5300-13A for the design of airports based upon the category of aircraft planned to utilize respective project elements. Impacts to surface waters are avoided and minimized by installation and maintenance of the proposed water quality filters and improvement to the existing water quality pond east of Runway 18-36.

4.3.12.3 Groundwater

Regulatory Setting

Federal activities affecting groundwater are primarily governed by the *Safe Drinking Water Act*, which prohibits federal agencies from funding actions that would contaminate a U.S. EPA-designated sole source aquifer or its recharge area.

Analysis Methodology and Significance Thresholds

FAA Order 1050.1F, Exhibit 4-1 states that groundwater impacts would be significant when the action would:

- 1) Exceed groundwater quality standards established by federal, state, local, and tribal regulatory agencies; or
- 2) Contaminate an aquifer used for public water supply such that public health may be adversely affected.

Other factors to consider include if the action would have the potential to adversely affect natural or beneficial groundwater resource uses and values, or when a project has difficulties obtaining a water quality permit or authorization.

As described in Section 3.15.4, there are no known sole source aquifers, wellhead protection areas, or potential groundwater uses in proximity to the Jetport. Therefore, the discussion below focuses on potential impacts to groundwater quality.

Impact Analysis

Proposed Action Alternative

Temporary Construction Impacts. No impacts to the quality of groundwater would occur during construction of Proposed Action components. Although groundwater is likely to be encountered during

excavation and the dewatering of construction sites would be necessary, the implementation of the required construction SWPPP would also control pollutants that could be absorbed into the ground and eventually into the groundwater. This occurrence would be minimal due to the dewatering of the construction sites.

Direct Operational Impacts. The Jetport does not act as a groundwater recharge area. As discussed above, the Jetport's SWPPP would also control pollutants that could be absorbed into the ground and eventually into the groundwater. However, most stormwater runoff is conveyed off the Jetport. See Section 4.12.3.2 for avoidance and minimization measures to control the quality of the stormwater.

Indirect Operational Impacts. The only Proposed Action component that could potentially affect groundwater quality is the proposed expansion of the deicing apron as one potential source of short-term groundwater contamination is the storage and use of spent aircraft deicing fluid. To the extent that this proposed component increases the amount of spent deicing fluid, an indirect impact to groundwater quality could occur in the event of a spill. However, the Jetport currently has SPCC plans in place to minimize this risk. Therefore, this indirect potential impact is less than significant.

No Action Alternative

No changes to the amounts of deicing that occurs at the Jetport or construction activities associated with the Proposed Action would take place if the No Project alternative is implemented. Thus, no impacts to groundwater quality would occur.

Avoidance and Minimization Measures

The Jetport's existing SWPPP and SPCC plans shall continue to be followed. During construction, if previously unknown contaminants are discovered or a spill occurs, work shall be halted and MDEP shall be notified. Appropriate spill prevention and cleanup kits shall be readily available onsite, and any accidental spills shall be promptly cleaned up.

All proposed components shall follow an ESC plan, which is required for the Site Location of Development Permit (and is also a requirement of the MEPDES). Section 12, Stormwater Management of the *Site Location of Development Application*, details the water quality measures for the Proposed Action and which were designed in accordance with MDEP Stormwater Law (Chapter 500).

4.4 CUMULATIVE IMPACTS

Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. Cumulative impact analysis considers connected actions, projects related and dependent upon the completion of the proposed Jetport project, and similar actions or projects having a common geography or timing that provide a basis for considering their impact together with impacts

related to the proposed Jetport project. For this analysis, cumulative projects are those that would occur within the general vicinity of the Jetport.

Cumulative impacts are evaluated for the following time horizons: past actions, present actions, and reasonably foreseeable actions. Past actions are those known to have occurred within the five years immediately prior to the year of project implementation. Present actions are those projects which are ongoing and will continue during the implementation of the Proposed Action. Reasonably foreseeable actions are those that have: 1) received local approval for implementation, such as a building permit, and are expected to occur within the five years immediately after project implementation; or 2) are programmed into the five-year airport capital improvement program (ACIP). Projects without a building permit, such as those outlined within a community's General Plan or Specific Plan, are not considered reasonably foreseeable as part of this analysis.

Specific thresholds for cumulative impacts are not established in FAA Order 1050.1F as the significance threshold varies according to the affected resources. In evaluating cumulative impacts, the impact of the Proposed Action alternative has been added to the impacts of other projects to determine if the significant impact threshold would be exceeded.

4.4.1 Resource Categories

Several environmental resource categories were determined to have no impact from the Proposed Action and are not likely to have incremental impacts that could cause cumulatively adverse effects in conjunction with other development projects. These include: air quality; hazardous materials, solid waste, and pollution prevention; historical, architectural, archaeological, and cultural resources; land use; noise and compatible land use; socioeconomic impacts, environmental justice, and children's environmental health and safety risks; and visual effects. Therefore, the remaining environmental resource categories are discussed below: biological resources; climate; coastal resources; natural resources and energy supply; and water resources.

4.4.1.1 Biological Resources

The Jetport conducts ongoing tree removal activities in a few small areas (each consisting of less than one acre) within the Jetport and surrounding area, on an as-needed basis. These additional tree removal activities are conducted to maintain safe visibility for navigation. At this time, it is anticipated that cumulative tree removal activities could result in the alteration of up to 6.55 acres of forested habitat in the vicinity of the Jetport and a nearby MDOT parcel.

Additional tree removal could occur as a result of off-Jetport projects listed in Section 3.16.2. These projects are not under the control of the Jetport but would be required to comply with applicable state and federal regulations regarding the protection of special-status species and/or protected vegetation or ecosystems.

4.4.1.2 Climate

For the purposes of this analysis, GHG impacts are considered to be exclusively cumulative impacts and there are no non-cumulative GHG emission impacts from a climate change perspective. Increased concentrations of GHGs in the atmosphere affect global climate change but may also result in local impacts, such as sea level rise. GHG emissions associated with construction of the cumulative projects would result from the use of fossil fuels. However, as discussed in Chapter Three, the Proposed Action components would not be located within the projected six-foot sea level rise area mapped by the National Oceanic and Atmospheric Administration (NOAA).

4.4.1.3 Coastal Resources

Significant cumulative impacts to coastal resources would not occur. The service vehicle access road relocation and WQF #2 (Project Item 10) are within the City of South Portland's Shoreland Overlay District and the proposed actions are allowed in this district. The water quality improvements and perimeter road are located nearby, but not within the City of South Portland's Shoreland Resource Protection Overlay Subdistrict; therefore, this coastal resource would be protected in South Portland.

These same projects are within the City of Portland's Shoreland Overlay Zone. Per the City of Portland's Chapter 14, Land Use Ordinance, with Planning Board Approval, the service road can be located as proposed just over 50 feet from the upland edge of the coastal wetland within the limits of the City of Portland. The applicant would coordinate with the City of Portland through City permitting to obtain approval of the service road project element with provisions to protect the coastal resource in this area.

The shoreland zoning requirements would also apply to any other cumulative projects within the shoreland zones. No cumulative impacts would occur due to the existing regulatory protections of the coastal areas within the cumulative study area.

4.4.1.4 Natural Resources and Energy Supply

Fossil fuels would be used during construction of projects on the cumulative project list and would be obtained by local retail providers. No significant cumulative impacts would result from this demand, which is controlled by the market. Mineral resources needed for construction are supplied locally from several mining operations that have the resources to supply large-scale capital improvement projects. No significant cumulative impacts to mineral resources would occur as a result of anticipated cumulative development.

4.4.1.5 Water Resources

As mentioned previously in Section 4.3.15, floodplains and wild and scenic rivers are not addressed in this section as these water resources would not be affected by the Proposed Action.

Wetlands

Significant cumulative impacts to wetlands would not occur. As discussed in Section 4.3.12.1, a USACE permit and an MDEP NRPA permit for wetland fills would be obtained prior to construction of the proposed project components and compensation in the form of in-lieu fee payment would be provided by the City of Portland associated with the project's wetland impacts. This in-lieu payment would fully mitigate the Proposed Action's potential for cumulative impacts to regional wetland resources.

Surface Waters

Significant cumulative impacts to surface waters would not occur. As discussed in Section 4.3.15.2, MDEP implements the *Clean Water Act* and the MEDPES permitting process. The Jetport's surface/stormwater is regulated by MDEP under the *Site Location of Development Act* (38 MRSA 481-490), and development projects at the Jetport require an amendment to the facility's existing MDEP permit. Water quality protection is a major element reviewed as part of development projects at the Jetport, and each project must comply with MDEP Chapter 500 Stormwater Regulations under general stormwater standards. Development projects under the jurisdictions of the City of Portland or City of South Portland (depending on location) are also reviewed under their respective site plan approval guidelines, which include stormwater control requirements.

Ground Water

No cumulative impacts would occur to groundwater as the cumulative study area is not in proximity to a sole source aquifer or significant groundwater recharge area.

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Chapter Five

COORDINATION AND PUBLIC INVOLVEMENT

Chapter Five

COORDINATION AND PUBLIC INVOLVEMENT

5.1 AGENCY AND PUBLIC SCOPING PROCESS

At the onset of this Environmental Assessment (EA), letters were sent to a number of resource agencies seeking input regarding potential environmental resources which could be impacted by the Proposed Action. A list of the agencies contacted, a copy of the information sent, and the responses received are included in this EA in **Appendix A**.

Responses to the scoping materials were received from the following agencies:

- United States Fish and Wildlife Service (USFWS), Ecological Services, Maine Field Office, dated August 7, 2017. Provided information for obtaining a species list of federally listed species.
- Maine Department of Inland Fisheries and Wildlife (MDIFW), Habitat Group, dated August 8, 2017. Requested shape files of project areas. (Note: These files were provided on September 21, 2017. A follow-up letter from MDIFW was received on October 13, 2017, which stated that the MDIFW's information indicated no locations of Endangered, Threatened, or Special Concern species within the project area that would be affected by the project as proposed. Additionally, MDIFW has not mapped any Essential or Significant Wildlife Habitats or fisheries habitats that would be directly affected by the project.)
- United States Department of Agriculture, Natural Resources Conservation Service, dated August 8, 2017. Provided comments regarding the proposed tree removal for the glideslope qualification surface (GQS).
- Maine Bureau of Remediation and Waste Management, dated August 15, 2017. Stated that permitting for proposed activities through the Bureau do not appear necessary.
- Maine Historic Preservation Commission, dated August 17, 2017. Stated that no historic properties would be affected per Section 106 of the *National Historic Preservation Act*.

- Maine Department of Environmental Protection (MDEP), Bureau of Land Resources, dated August 18, 2017. Stated that permitting for proposed activities through the Bureau will be necessary.
- Maine MDEP, Stormwater Inspector, dated August 25, 2017. Provided a letter regarding ongoing stormwater permitted activities.
- United States Environmental Protection Agency (U.S. EPA), New England, Region 1, Office of Environmental Review, dated August 29, 2017. Requested the opportunity to participate in project meetings.
- National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Maine Field Station, dated August 31, 2017. Provided information on the shortnose and Atlantic sturgeon in the Fore River and provided comments regarding the proposed tree removal for the GQS.

Two interagency meetings were then held on September 7, 2017, and on October 5, 2017. These meetings were attended by staff representatives of the following agencies, to whom were provided additional information on the Proposed Action and from whom provided information regarding applicable permitting and/or environmental review processes:

- Federal Aviation Administration (FAA)
- U.S. EPA, New England Region 1
- U.S. Army Corps of Engineers
- USFWS
- MDIFW
- MDEP

The City of Portland (city) also conducted an EA public scoping process. A public information meeting was held on June 22, 2017. Notification of the meeting was published in the *Portland Press Herald* on June 17 and 20, 2017, as well as on the Portland International Jetport website. Letters and/or emails regarding the Proposed Action and preparation of a Draft EA were sent to neighboring residents and airport tenants. The public was given a 30-day period during which they could submit official comments for the Administrative Record. No comments were received in response to the public outreach efforts.

5.2 DRAFT ENVIRONMENTAL ASSESSMENT'S AVAILABILITY FOR REVIEW

All organizations and interested parties previously contacted during the EA's scoping process or that submitted comments on the EA scope will be sent a Notice of Availability (NOA) of a Draft EA for review. A link to download the Draft EA will also be given. Any agencies requesting a hard copy of the report or the report on compact disc (CD) will be provided these items as well.

An NOA will be published in the *Portland Press Herald* on November 16, 2018. This Draft EA will be available for review by the general public and interested parties for 30 days at: www.thejetport.airportstudy.com or at the following physical locations:

Federal Aviation Administration, New England Region, Airports Division	1200 District Avenue Burlington, MA
Portland International Jetport Administration Office	1001 Westbrook Street, Portland, ME
Portland City Hall	389 Congress Street, Portland, ME
South Portland Public Library - Memorial Branch	155 Wescott Road, South Portland, ME

Anyone wishing to comment on the Draft EA may submit written comments by letter or email to the following physical or email addresses:

Stantec Consulting Services, Inc.
482 Payne Road
Scarborough, ME 04074
Attn: Dwight Anderson, P.E.
dwight.anderson@stantec.com

The cutoff date for comment submission is not later than **5:00 PM – Eastern Standard Time, December 17, 2018**. Please allow enough time for mailing. All comments must be **received** by the deadline, not simply postmarked by that date.

Before including your name, address, telephone number, email, or other personal identifying information in your comment, please be advised that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold from public review your personal identifying information, we cannot guarantee that we will be able to do so.

Under *National Environmental Policy Act (NEPA)*, the City will prepare written responses to comments received on the Draft EA and prepare a Final EA for transmittal to the FAA for review and approval. All agency and/or public comment letters received during the official comment period will be included in the Final EA along with responses. Based on the content of the EA and the comments received, the FAA will issue a NEPA finding. The Final EA and FAA's finding will be available to the public and all who commented on the EA.

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Chapter Six

LIST OF PREPARERS

Chapter Six

LIST OF PREPARERS

Persons responsible for preparation of this Environmental Assessment (EA) are listed below:

NAME	TITLE	PROFESSIONAL EXPERIENCE/EXPERTISE
FEDERAL AVIATION ADMINISTRATION (FAA) REVIEWER		
Michelle Ricci	Environmental Protection Specialist, Phoenix Airports District Office	B.A., Mathematics and Physics. Responsible for detailed FAA evaluation of EAs, as well as coordination of comments from various Federal and State agencies.
PORTLAND INTERNATIONAL JETPORT REVIEWER		
Paul Bradbury, P.E.	Airport Director	B.S., Mechanical Engineering. Licensed as a P.E. Responsible for coordination of Proposed Action with airport activity.
EA PREPARERS		
<i>Stantec Consulting Services, Inc.</i>		
Dwight Anderson, P.E.	Project Manager	B.S., Civil Engineering. Licensed as a P.E. Responsible for project management, environmental permit preparation and preliminary project design to support environmental analysis.
Brooke Barnes	Natural Resources Lead	B.A., Sociology. Registered Attorney in the State of Maine. Responsible for wetland and resource reports and support of NRPA permitting.
Amie Gray	Civil Design Engineer	B.S., Civil Engineering. Licensed as a P.E. Responsible for stormwater quality and quantity analysis and preliminary civil design.
Jess Costa	Biologist	Certified Wetland Biologist. Responsible for preparation of the project Biological Evaluation and evaluation of potential effects.
<i>Coffman Associates</i>		
Steve Benson	Senior Project Manager	B.S., Civil Engineering. Licensed as a P.E. Responsible for project management and public involvement.
Judi Krauss	Project Manager, Environmental Planner	M.A., Economics; B.A., Environmental Studies. Responsible for environmental analysis and documentation, including those required under the <i>National Environmental Policy Act</i> .
Kory Lewis	Associate, Airport Planner	Masters, Urban Planning; B.A., Geography. Responsible for air quality and noise assessment, and preparation of environmental documentation for airport development projects.
Tim Kahmann	Associate, Geographic Information Systems (GIS) Manager	M.S. Geographic Information Systems; B.S. Geography. Responsible for airspace analysis. Provides GIS support for airport master plans, environmental analyses, and wildlife hazard assessments and management plans.

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Chapter Seven

REFERENCES

Chapter Seven REFERENCES

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Appendix A

AGENCY COORDINATION AND SCOPING PROCESS

APPENDIX A
AGENCY COORDINATION AND
SCOPING PROCESS

The following agencies were provided a scoping packet containing information on this Environmental Assessment (EA) and soliciting input regarding the Proposed Action. The scoping packet and all responses received are included within this appendix.

FEDERAL

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Bureau of Land Resources
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Augusta, ME 04333

David Burns, Bureau Director
Bureau of Remediation and Waste
Management
**Maine Department of Environmental
Protection**
17 State House Station
Augusta, ME 04333

Michael Kuhns, Bureau Director
Bureau of Water Quality
**Maine Department of Environmental
Protection**
17 State House Station
Augusta, ME 04333

Maribeth Richardson, Director
Portland, Southern Maine Regional Office
**Maine Department of Environmental
Protection**
312 Canco Road
Portland, ME 04103

Robert L. Green, Jr., Project Manager
Bureau of Land Resources
**Maine Department of Environmental
Protection**
312 Canco Road
Portland, ME 04103

Chandler E. Woodcock, Commissioner
**Maine Department of Inland Fisheries and
Wildlife**
41 State House Station
Augusta, ME 04330

Scott Lindsay, Regional Biologist
Region A - Gray
**Maine Department of Inland Fisheries and
Wildlife**
RR #1, 328 Shaker Road
Gray, ME 04039

Stacie Haskell, Planning and Programming
Manager
Bureau of Planning - Aviation Program
Maine Department of Transportation
16 State House Station

Augusta, ME 04333
Doug Carlson, PE, Region Manager
Southern Region (Region 1) Scarborough
Maine Department of Transportation
51 Pleasant Hill Road
Scarborough, ME 04070-0358

Earle G. Shettleworth, Jr., State Historian
Maine Historic Preservation Commission
55 Capitol Street
Augusta, ME 04333

LOCAL

Jeff Levine, Director
Department of Planning and Urban
Development
City of Portland
389 Congress Street, 4th Floor
Portland, ME 04101

Christopher Branch, Director
Department of Public Works
City of Portland
55 Portland Street
Portland, ME 04101

Scott Morelli, City Manager
City of South Portland
25 Cottage Road
South Portland, ME 04106

Thomas Hall, Town Manager
Scarborough Town Manager's Office
P.O. Box 360
Scarborough, ME 04070-0360

Jerre Bryant, City Administrator
City of Westbrook Mayor's Office
2 York Street
Westbrook, ME 04092

Matthew E. Sturgis, Town Manager
Town of Cape Elizabeth
P.O. 6260
Cape Elizabeth, ME 04107

John Duncan, Director
Portland Area Comprehensive Transportation
System (PACTS)
Greater Portland Council of Governments
970 Baxter Boulevard, Suite 201
Portland, ME 04103

Dan Koloski, President
Stroudwater Village Association
stroudwatervillageassociation@gmail.com

Responses to the scoping materials were received from the following agencies and are included in this appendix following a copy of the scoping letter and attached information:

- United States Fish and Wildlife Service (USFWS), Ecological Services, Maine Field Office, dated August 7, 2017.
- Maine Department of Inland Fisheries and Wildlife (MDIFW), Habitat Group, dated August 8, 2017.
- United States Department of Agriculture, Natural Resources Conservation Service, dated August 8, 2017.
- Maine Bureau of Remediation and Waste Management, dated August 15, 2017.
- Maine Historic Preservation Commission, dated August 17, 2017.
- Maine Department of Environmental Protection (MDEP), Bureau of Land Resources, dated August 18, 2017.
- Maine MDEP, Stormwater Inspector, dated August 25, 2017.
- United States Environmental Protection Agency (U.S. EPA), New England, Region 1, Office of Environmental Review, dated August 29, 2017.
- National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Maine Field Station, dated August 31, 2017.



You're on your way.

Paul H. Bradbury, P.E.
Airport Director

Zachary R. Sundquist, A.A.E.
Assistant Airport Director

August 3, 2017

Maribeth Richardson, Director
Portland, Southern Maine Regional Office
Maine Department of Environmental Protection
312 Canco Road
Portland, ME 04103

RE: Environmental Documentation for Future Projects at Portland International Jetport, Portland, ME

Dear Ms. Richardson:

The City of Portland (City), as owner and grant sponsor of Portland International Jetport (Jetport), is seeking to implement capital improvements and other safety-related actions listed as high priority (i.e., completion within five to seven years) in its recently approved Sustainable Airport Master Plan (SAMP). The proposed future projects will be depicted on the Jetport's Airport Layout Plan and will require federal funding and approvals by the Federal Aviation Administration (FAA). These federal actions are subject to the requirements of Section 102(2) of the *National Environmental Policy Act (NEPA) of 1969* (and FAA implementing orders for NEPA); FAA will be the Lead agency for the projects under NEPA. An Environmental Assessment (EA) is being prepared to evaluate the potential environmental effects of the proposed future projects.

Future projects to be addressed in the EA are listed below and are primarily related to enhancing safety and sustainability at the Jetport. They are identified on the attached exhibit and are collectively referred to as the Proposed Action within the EA.

- **Long-term Hold/Deicing/Remain Overnight (RON) Apron (Phases 1 and 2)** - This project would provide more locations for deicing aircraft as well as additional parking for aircraft that remain overnight. Resultant runoff would be collected for recycling in keeping with the Jetport's sustainability goals (Items 2 & 3).

- **Runway 11 End Taxiway Bypass and Realignment of Perimeter Service Road** - This safety project would better separate ground vehicles on the perimeter service road from aircraft waiting to depart on Runway 11 (Item 4).
- **Tree Removal to Clear the Glide Slope Qualification Surface (GQS) for the Runway 36 End** - This safety project would maintain the required clearance of the instrument approach to Runway 36 (Item 5).
- **Air Cargo Taxiway (Phase 2)** - This safety project would move the Taxiway G crossing out of the High Energy Area of Runway 18-36. It would help to meet the Jetport's sustainability goals by reducing taxiing times and associated fuel burn and carbon emissions (Item 6B).
- **Taxiway C Realignment (Phases 1 and 2)** - This safety project would reduce the potential for runway incursions. It would improve taxiway circulation and provide room for additional parking apron (Items 7 & 9).
- **Taxiway A Relocation East of Runway 18-36** - This safety project would reduce the potential for runway incursions and move Taxiway A out of the Glide Slope Critical Area. It would improve the efficiency of the airfield by reducing aircraft delay and would help to meet the Jetport's sustainability goals by reducing fuel burn and carbon emissions (Item 8).
- **Taxiway B Construction from Runway 36 End to Runway 29 End** - This safety project is identified as a priority project by FAA's Runway Safety Action Team (RSAT) to reduce runway crossings. It would help to meet the Jetport's sustainability goals by reducing taxiing times and associated fuel burn and carbon emissions (Item 11).
- **Service Access Road Relocation East of Cargo Area** - This road would be relocated to allow room for the proposed Taxiway A relocation discussed above, as well for future ramp and building development in the northeast quadrant of the Jetport. (Item 10).

Other projects shown on the exhibit (Items 1 & 6A) have already received environmental clearance. These projects will be included in the cumulative analysis of the subject EA, as will other projects at the Jetport that have been constructed within the past five years or are currently underway.

The intent of this letter is to solicit input regarding environmental resources within your agency's jurisdiction or your organization's interest that could be potentially associated with or affected by the Proposed Action. We are also seeking information or concerns regarding cumulative impacts.

Please send your response to the attention of our environmental consultant at the address below or email them directly. A response is requested within 30 days of receipt of this letter.

Ms. Richardson
August 3, 2017
Page 3

Mailing Address: Coffman Associates
4835 E. Cactus Road, Suite 235
Scottsdale, AZ 85254
Attn. Judi Krauss, Environmental Planner

Email Address: jkrauss@coffmanassociates.com

Please let us know if you have any questions. Judi can be reached at 1 (800) 574-6334.

Thank you for your consideration and timely response.

Sincerely,

A handwritten signature in blue ink, appearing to read "Paul Bradbury". The signature is fluid and cursive, with a large initial "P" and "B".

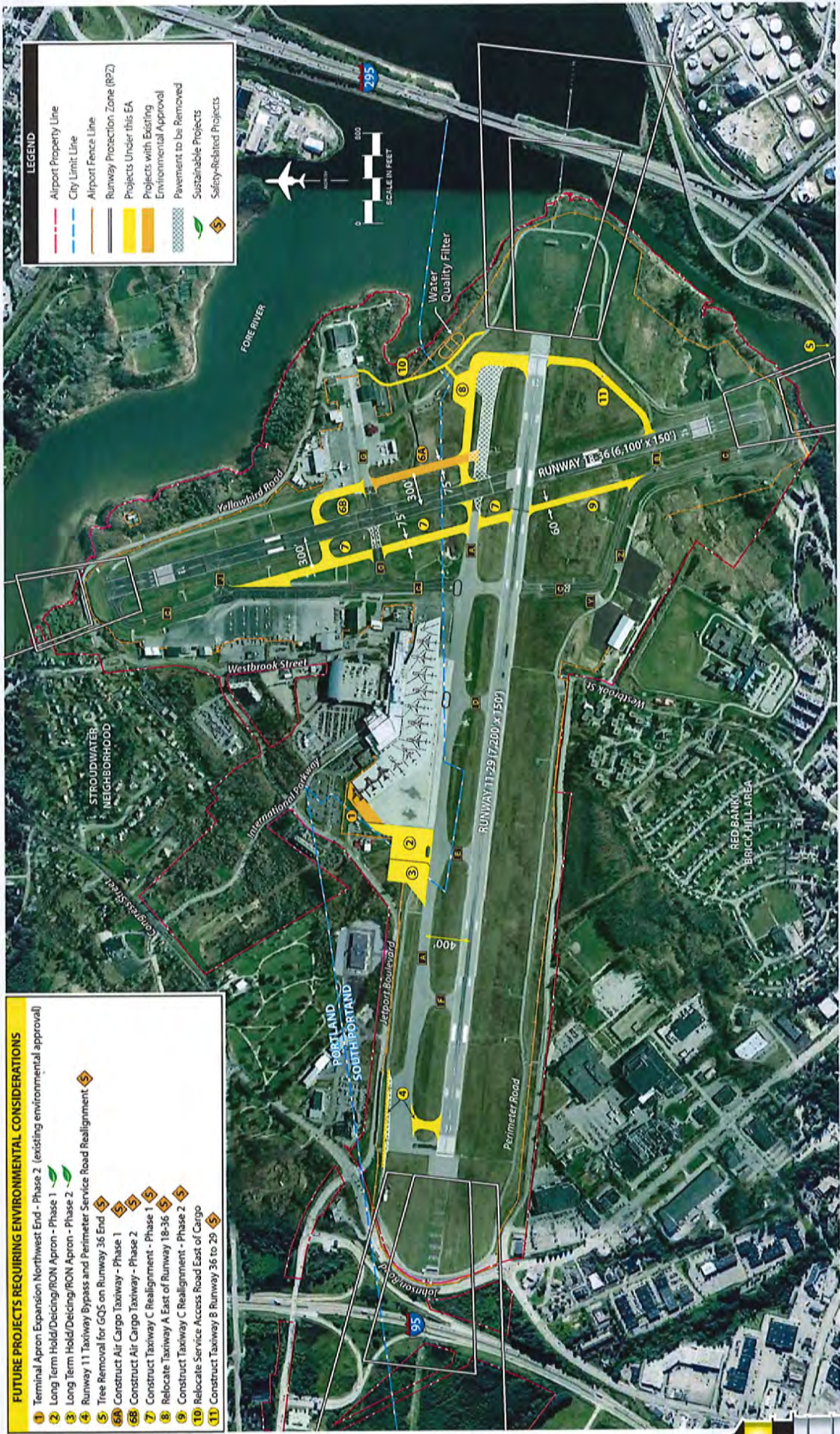
Paul Bradbury
Director

Enclosures (1)

CC: Michelle Ricci, Environmental Protection Specialist, FAA New England Region
Dwight Anderson, Sr. Project Manager, Stantec
Steve Benson, Project Manager, Coffman Associates
Judi Krauss, Environmental Planner, Coffman Associates

FILE: 17-EA-01

FUTURE PROJECTS AT PORTLAND INTERNATIONAL JETPORT



LEGEND

- Airport Property Line
- City Limit Line
- Airport Fence Line
- Runway Protection Zone (RPZ)
- Projects Under this EA
- Projects with Existing Environmental Approval
- Pavement to be Removed
- Sustainable Projects
- Safety-Related Projects

FUTURE PROJECTS REQUIRING ENVIRONMENTAL CONSIDERATIONS

- 1 Terminal Apron Expansion Northwest End - Phase 2 (existing environmental approval)
- 2 Long Term Hold/Deicing/ROD Apron - Phase 1
- 3 Long Term Hold/Deicing/ROD Apron - Phase 2
- 4 Runway 11 Taxiway Bypass and Perimeter Service Road Realignment
- 5 Tree Removal for GOS on Runway 36 End
- 6A Construct Air Cargo Taxiway - Phase 1
- 6B Construct Air Cargo Taxiway - Phase 2
- 7 Construct Taxiway C Realignment - Phase 1
- 8 Relocate Taxiway A East of Runway 18-36
- 9 Construct Taxiway C Realignment - Phase 2
- 10 Relocate Service Access Road East of Cargo
- 11 Construct Taxiway B Runway 36 to 29

From: White, Shay
To: [Judi Krauss](#)
Subject: Re: Environmental Documentation for Future Projects at Portland International Jetport, Portland, ME
Date: Monday, August 07, 2017 11:59:53 AM
Attachments: [Species List Response Letter 2017 Coffman Associates.pdf](#)

Please see attached instructions.

VR,
Shay White

--

Shay White
US Fish and Wildlife Service
Maine Fish and Wildlife Service Complex
306 Hatchery Road
P.O. Box A
East Orland, Maine 04431
Complex Telephone: (207) 469-7300
Direct dial: (207) 902-1568
Fax: (207) 902-1588



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Ecological Services
Maine Field Office
306 Hatchery Road
East Orland, Maine 04431
207/469-7300 Fax: 207/902-1588

August 07, 2017

Coffman Associates
4835 E. Cactus Road, Suite 235
Scottsdale, AZ 85254
Attn: Judi Krauss, Environmental Planner

**Re: Species List Request/Review: Request for Endangered Species Review for
Job Location/Number(s): Future Projects at Portland International Jetport,
Portland, Maine**

Dear Ms. Krauss:

We have received your requests for information regarding the occurrence of federally listed threatened and endangered species within the vicinity of the above referenced project/property. **In an effort to streamline project reviews in a time of increasing workloads, we are directing all species list requests to our Web site: <http://www.fws.gov/mainefieldoffice/Project%20reviews.html>.** Please click or copy and paste this link into your browser and follow the instructions at **Species Lists and Project Reviews**. Step-by-step instructions are provided. For communication tower projects follow the self-certification procedure by clicking the link on the Intro page. Using this Web-based process will allow you to print an ***Official species list response*** from the Maine Field Office. Once you have received your official species list response ***please send your entire package to the Federal Agency you are working with, (e.g. Veterans Affairs, USDA or NRCS,).*** If you have questions, or you are not working with a Federal Agency, then by all means feel free to send us the entire review package with your request for a Federal section 7 review.

As a reminder, Section 9 of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) prohibits unauthorized taking* of listed species and applies to both Federal and non-federal activities. Additionally, endangered and threatened species and their habitats are protected by Section 7(a)(2) of the ESA, which requires Federal agencies, in consultation with the U.S. Fish and Wildlife Service (Service), to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. An assessment of the potential direct, indirect, and cumulative effects is required for all Federal actions that may affect listed species. For projects not authorized, funded, or carried out by a Federal agency, consultation with the Service pursuant to Section 7(a)(2) of the ESA is not required. However, no person is authorized to “take”* any listed species without appropriate authorization from the Service. Therefore, we provide technical assistance to individuals and agencies to assist with project planning to avoid the potential for “take,” or when appropriate, to provide assistance with their application for an incidental take permit pursuant to Section 10(a)(1)(B) of the ESA.

Project construction or implementation should not commence until all requirements of the ESA have been fulfilled. If you have any questions or require further assistance regarding our Web-based **Species List and Project Reviews** process, please contact Shay White at: Shay_White@fws.gov or by telephone

at 207/902-1568. If you have questions about our Endangered Species Program, please contact Mark McCollough at: Mark_McCollough@fws.gov or by telephone at 207/902-1570, For questions about Atlantic salmon, please contact Wende Mahaney at: Wende_Mahaney@fws.gov or by telephone at 207/902-1569.

Thank you.

Anna Harris
Maine Field Office

*Under the Act and regulations, it is illegal for any person subject to the jurisdiction of the United States to *take* (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these), import or export, ship in interstate or foreign commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any endangered fish or wildlife species and most threatened fish and wildlife species. It is also illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. "Harm" includes any act which actually kills or injures fish or wildlife, and case law has clarified that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.

From: Czapiga, Jason
To: [Judi Krauss](#)
Subject: Portland International Jetport review
Date: Tuesday, August 08, 2017 9:22:36 AM

Ms Krauss,

Could you please provide spatial data of the footprints for the Portland International Jetport project for use in our review. I prefer a shapefile, but can work with most formats.

Thank you,
Jason

Jason Czapiga

GIS Coordinator

Maine Department of Inland Fisheries & Wildlife
Habitat Group
650 State Street
Bangor, ME 04401
(207) 561-5620
mefishwildlife.com | [facebook](#) | [twitter](#)

Correspondence to and from this office is considered a public record and may be subject to a request under the Maine Freedom of Access Act. Information that you wish to keep confidential should not be included in email correspondence.

From: [Judi Krauss](#)
To: "Czapiga, Jason"
Cc: PHB@portlandmaine.gov; [Anderson, Dwight](#)
Subject: RE: Portland International Jetport review
Date: Friday, August 11, 2017 2:00:00 PM

Dear Jason,

Thank you for your response to our EA scoping packet. The EA project team is currently working on some preliminary engineering for the various project components to allow an accurate assessment of the limits of disturbance for the environmental analysis. I expect it to be available in early September and will request that the Airport forward it on to you at that time.

Sincerely,

Judi Krauss
Environmental Planner
4835 E. Cactus Rd., Suite #235
Scottsdale, AZ 85254
602-993-6999 • 602-993-7196 (FAX)
www.coffmanassociates.com



From: Czapiga, Jason [mailto:Jason.Czapiga@maine.gov]
Sent: Tuesday, August 08, 2017 9:23 AM
To: Judi Krauss <jkrauss@coffmanassociates.com>
Subject: Portland International Jetport review

Ms Krauss,

Could you please provide spatial data of the footprints for the Portland International Jetport project for use in our review. I prefer a shapefile, but can work with most formats.

Thank you,
Jason

Jason Czapiga
GIS Coordinator

Maine Department of Inland Fisheries & Wildlife
Habitat Group
650 State Street
Bangor, ME 04401
(207) 561-5620
mefishwildlife.com | [facebook](#) | [twitter](#)

Correspondence to and from this office is considered a public record and may be subject to a request under the Maine Freedom of Access Act. Information that you wish to keep confidential should not be included in email correspondence.

From: Munroe, Wayne - NRCS, Scarborough, ME
To: [Judi Krauss](#)
Cc: Michelle.Ricci@FAA.gov
Subject: Future Projects at Portland International Jetport
Date: Tuesday, August 08, 2017 9:30:01 AM

Judi,

I received the correspondence today from Paul Bradbury outlining the current proposed Portland International Jetport capital improvement projects and supporting Environmental Assessment being prepared to meet FAA NEPA supporting documentation.

After complete review of all proposed Future Projects my recommendation is limited to Safety Related project number 5 "Tree Removal for GQS on Runway 36 End" as outlined and located on the Environmental Assessment map enclosure.

As located, Future Project 5 "tree removal" proposes to remove trees on Runway 36 end located on the South streambank of the Fore River. The full area extent of the Tree Removal is not depicted on the Environmental Assessment Map or quantified as to extent and size of the proposed trees to be removed. My Technical advice regarding removal of the trees located on the Fore River Streambank is to remove the stems only and leave the stumps and supporting root mass that exist below grade intact (cut trees flush and leave flat top stump close to the natural ground surface topography elevation with very little vertical stump remaining) . The remaining well developed roots from removal of mature trees will then offer more stability for the banks and shore land of the Fore River minimizing erosion and sedimentation. I also would highly suggest using bark mulch barrier rather than silt fence to comply with potential shore land zone erosion and sediment control requirements. A scope of work in the project 5 tree removal area that introduces less surface disturbance of the Fore River streambank may be most suitable to preventing additional erosion and sediment loss on the slopes of the Fore River. Marine Clay subsoils commonly located on the rivers and streams of Southern Maine (Presumpscot Formation) are exceptionally vulnerable to slope failures often from natural occurrences and heavy equipment.

I also am certain the Environmental Assessment will address any fish and wildlife species concerns including New England Cottontail and Northern Long Eared Bat habitats that may exist in the Project 5 tree removal area.

Thank You for sending notice of the pending Environmental Assessment in support of the Jetport Capital Improvement propose projects.

Wayne,

Wayne P. Munroe
District Conservationist
Natural Resources Conservation Service

306 US Route One, Suite A1
Scarborough, ME 04074

“Helping People Help the Land”

Voice: (207) 883-0159 (ext. 2803)

Fax: 1-855-603-3570

Email: Wayne.Munroe@me.usda.gov

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From: Burns, Dave E
To: [Judi Krauss](#)
Subject: Environmental Documentation for future projects at Portland International Jetport, Portland, ME
Date: Tuesday, August 15, 2017 5:59:42 AM

Ms. Krauss,

In response to the August 3, 2017 letter to me regarding future projects at the jetport, based on the information presented it does not appear that any permitting activities will be necessary through the Bureau of Remediation & Waste Management. I have spoken with Mark Bergeron in the Bureau of Land Resources and offered any assistance necessary, should it be needed, to that Bureau's permitting activities. If the scope of the projects change I'd be happy to discuss any BRWM permitting requirements. Thank you.

David Burns, P.E., Director
Bureau of Remediation & Waste Mgmt.
Desk: (207) 287-7890
Cell: (207) 592-9104
dave.e.burns@maine.gov



MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

PAUL R. LEPAGE
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

August 17, 2017



Ms. Judi Krauss
Environmental Planner
Coffman Associates
4835 E. Cactus Rd
Suite 235
Scottsdale, AZ 85254

Project: MHPC# 1050-17 Portland International Jetport
Environmental Review for Future Projects
Town: Portland, ME

Dear Ms. Krauss:

In response to your recent request, I have reviewed the information received August 7, 2017 to initiate consultation on the above referenced project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

Based on the information submitted, I have concluded that there will be no historic properties affected by this proposed undertaking, as defined by Section 106.

Please contact Megan Hopkin at (207) 287-2992 or megan.m.hopkin@maine.gov if we can be of further assistance in this matter.

Sincerely,

Kirk F. Mohney
State Historic Preservation Officer

From: Cherry, David
To: [Judi Krauss](#)
Subject: Maine DEP Response to Portland Jetport Expansion Projects
Date: Friday, August 18, 2017 5:09:05 AM

Hi Paul,

The Department has reviewed the list of proposed project outlined in your August 3, 2017 letter. These infrastructure and approach safety measures will need to be permitted under the Site Location of Development Act and/ or the Natural Resources Protection Act. The jetport currently has an existing license with the Department and an amendment may be filed for the proposed projects.

We do require a pre-application meeting ahead of an application being submitted. Please feel free to contact me with any further questions or to schedule a meeting. I can be contact by e-mail at david.cherry@maine.gov or at 207-523-9807.

Thank you,

David Cherry
Environmental Specialist
Maine Department of Environmental Protection
Bureau of Land Resources
312 Canco Road
Portland, ME 04103
david.cherry@maine.gov
207-523-9807



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE
GOVERNOR

PAUL MERCER
COMMISSIONER

August 25, 2017

Brad Wallace
Airport Operations
Portland International Jetport
1001 Westbrook Street
Portland, ME 04102

RE: Multi-Sector General Permit for Stormwater Discharge Associated with Industrial Activity – Stormwater Outfall Sampling follow up & Proposed Future Projects

Dear Brad,

The Jetport has conducted monthly analytical stormwater sampling for Propylene Glycol and BOD as requested by the Department from December 2016 through June 2017. After reviewing the data there are two concerns the Department would like the Jetport to investigate. This letter also serves as the Bureau of Water Quality’s response to the Jetport’s letter dated August 3, 2017, regarding future Jetport projects.

A review of the Jetport’s monitoring data has revealed two separate concerns. The first is elevated levels of BOD at outfalls 1, 2, 3, 4, 5, 7, 8, & 10 during the deicing season as well as elevated levels of Propylene Glycol at outfalls 3 & 4 during the deicing season. The second issue is elevated level of BOD at outfall 3 which was sampled on June 26, 2017. It’s the Department’s understanding that the last runway deicing application was on April 11, 2016, and the last aircraft deicing application was a frost shot on May 9, 2017, based on this the June 26, 2017 sample was taken more than 30 days after the Jetport’s deicing season ended. At this time, the Department is requesting the Jetport to investigate potential causes which would contribute to these results.

The elevated levels of BOD may be related to the Jetport’s use of runway deicing material such as Potassium Acetate and Sodium Formate. Please include in your response to the Department details regarding the Jetport’s efforts to meet the Source Reduction & Management of Runoff requirements in Sector S of the Multi-Sector General Permit (MSGP) such as pre wetting dry chemical constituents prior to application, implementing anti-icing operations, and the use of infiltration swales and/or stormwater impoundment.

In regards to the Jetport’s future project letter dated August 3, 2017, the additional taxiways identified as project #’s 7, 6A, 6B, 11 would increase the Jetports use of runway deicing materials which already may be a contributing factor to the elevated levels of BOD being

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

discharged via the facility's stormwater outfalls. Please describe the Jetports Best Management Practices to reduce potential pollutants from being discharged from the new taxiways to meet the MSGP Sector S source reduction and management of runoff requirements. In addition, Stormwater associated with project #4 appears to be directed toward outfall 10 which discharges to the North Branch of Long Creek. Long Creek is an impaired stream with watershed retrofits and instream alterations being implemented in an attempt to bring the stream into attainment. Sampling results for outfall 10 showed elevated levels of Propylene Glycol and BOD being discharged during the deicing season. Please evaluate the potential to redirect current and future stormwater discharge from outfall 10 to the drainage area associated with outfall 3 which discharges to the Fore River.

Please submit the requested information to the Department for review within 30 days receipt of this letter.

Sincerely,



Alison R. Moody
Stormwater Inspector
Maine DEP
312 Canco Road
(207) 615-8936
Alison.r.moody@maine.gov

Judi Krauss, Environmental Planner, Coffman Associates
Dwight Anderson, Sr. Project Manager, Stantec
David Cherry, Land Licensing Project Manager, DEP

Judi Krauss

From: Timmermann, Timothy <Timmermann.Timothy@epa.gov>
Sent: Tuesday, August 29, 2017 12:30 PM
To: Judi Krauss
Cc: Walsh-Rogalski, William; Timmermann, Timothy; LeClair, Jacqueline
Subject: Portland International Jetport

Judi:

Nice to speak with you on the phone earlier today regarding the Portland International Jetport project. Please list me as the point of contact for EPA. As we discussed, we would appreciate the opportunity to participate in any upcoming project meetings as appropriate.

Regards,

Timothy L. Timmermann, Associate Director
Office of Environmental Review
EPA New England-Region 1
5 Post Office Square, Suite 100
Mail Code ORA 17-1
Boston, MA 02109-3912

Email: timmermann.timothy@epa.gov
Telephone: 617-918-1025
E-Fax: 617-918-0025

Judi Krauss

From: Max Tritt - NOAA Federal <max.tritt@noaa.gov>
Sent: Thursday, August 31, 2017 12:27 PM
To: Judi Krauss
Subject: Future Portland Jetport Projects

Follow Up Flag: Follow up
Flag Status: Flagged

Greetings Judi,

We recently received your letter requesting comments on future projects at the Portland International Jetport.

Federally listed shortnose and Atlantic sturgeon have been documented in the Fore River, but it does not appear that the terrestrial activities described in your letter will have any in-water effects in the River.

From the included illustration, it was difficult to determine exactly where the tree removal for GQS on Runway 36 End was to occur. Although unlikely, sturgeon can access the stream abutting the south end of the Jetway. The National Marine Fisheries Service (NMFS) would be concerned if the tree removal was done from a vessel operating in the stream, if the action encouraged runoff, or otherwise degraded the riparian function of a vegetated strip.

Best Regards,

Max

H. Max Tritt
Fishery Biologist
National Marine Fisheries Service
Maine Field Station
17 Godfrey Drive, Suite 1
Orono, ME. 04473
Tel: 207.866.3756
Fax: 207.866.7342

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Garage Sales
Antiques & Auctions

Saturday, June 17, 2017

Portland Press Herald

SECTION D

HELP WANTED

General Help

DRIVERS - Bus, Van & Car, P/T, CDL/P Drivers & Non-CDL Drivers. 207-722-4457. www.vicorhires.com

P/T CLEANERS WANTED - Late evening hours, in Yarmouth. Competitive pay. Call 207-339-8968.

PORTLAND JETPORT Maintenance Porter (S) P/T openings:
- Mon-Fri, 12am-8am overnight shift (includes 10% shift differential)
- Sun-Thurs, 4pm-12am evening shift. Incl snow removal, landscaping, background/pre-employment screen read. Call M-F 772-7028 or Apply Online: appus.com & click CAREERS

PORTLAND TROLLEY CO. CDL Driver/Guides. Perfect for retirees, snow birds, school bus drivers & others. FI/PI. Call Kathy: 774-0808

SUMMER JOBS - to help with hay harvest, loading 50 to 100 bales. Pay up to \$107/hour. Call Ewen for a work schedule. Ialokno Farm, Falmouth. Call 797-3548.

Healthcare
HOME HEALTH AIDE - P/T Standard. 33 1/2 hr. M-F. jmh.unhress@gmail.com

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LEGAL ADS

Legal Advertisement

TOWN OF WELLS, MAINE Invitation for Bids
Sealed bids will be received in the Office of the Town Manager, 208 Sanford Road, Wells, Maine 04090 until 10:00AM on Thursday, June 29, 2017 when they will be publicly opened and read for Asphalt and Concrete Grubbing Services.

Legal Advertisement

LEGAL NOTICE AND NOTICE OF HEARING Maine Department of Health & Human Services
Copies of the bid packages are available from the Town Manager's Office, 645-5113 ext. 200 or from the Town's website at www.wellstown.org.
Jonathan L. Carter, Town Manager

Health & Human Services

IN RE: Halo Fernald MAINE DISTRICT COURT Doc. No. PORDC-PC-16-81
NOTICE IS HEREBY GIVEN TO UNKNOWN FATHER whereabouts unknown Pursuant to 22 M.R.S. §4001 et seq., the Maine Department of Health & Human Services (hereafter, "DHHS") has petitioned the Court for a Child Protection Order and Termination of Parental Rights Order concerning the child, Halo Fernald, and the mother, Helen Fernald, and the father is or may be unknown. The DHHS has met the requirements of M.R. Civ. P. 4(a)(1)(A)-(C). Hearing in the pending Petition(s) will be held at Maine District Court, 205 Newbury Street, Portland, Maine, on July 5, 2017 at 10:30 a.m. Failure to appear at this hearing may result in the issuance of a Child Protection Order, the Termination of your parental rights, and/or any other order permissible under 22 M.R.S. §4001 et seq. You may be entitled to legal counsel. These proceedings contact the court at the above address or 207-822-1000 to obtain a copy of the Petition(s); contact the court DHHS at 207-822-2231, 151 Portland Blvd., Portland, Maine. DHHS is represented by the Maine Office of the Attorney General, 415 Congress Street, Suite 301, Portland, Maine 04101.
dated June 6, 2017
Beth A. Powers, Judge, Maine District Court

NOTICE OF PUBLIC INFORMATION WORKSHOP

regarding the Environmental Assessment for Future Projects at
Portland International Jetport
Thursday, June 22, 2017
5:30-7:00 P.M.
Portland International Jetport
(lower level concourse of passenger terminal building between ticketing and baggage)
1001 Westbrook Street
Portland, Maine 04102

EVERYONE WELCOME!

OPEN HOUSE FORMAT... DROP IN ANYTIME
For more information, please call the Jetport: 207-874-8877
or visit: www.thejetportairportstudios.com

Skilled Trades

Ironworkers/Welders

Maine-based company is accepting applications for experienced ironworkers and Structural Welders. We offer competitive wages and benefits. Please email resume to: zjohnro@americanoer.com or FAX: (207) 797-0479.

MISCELLANEOUS METALS INSTALLERS

Maine-based company is accepting applications for experienced miscellaneous metals installers. We offer competitive wages and benefits. Please email resume to zjohnro@americanoer.com or Fax 207-797-0479

ANNOUNCEMENTS

Lost & Found

FOUND BACKPACK with baseball glove & bathing helmet on June 10 at 1010 St. John in Westbrook. Call 773-8678.

FOUND BASEBALL GLOVE on Foster Field in Westbrook June 10th. Call 773-8678.

FOUND KEYS ON LANYARD on May 29th, Carvel St., Portland. Call 773-8678.

LOST BIRD Green parrotlet. Few weeks May 29th. Calling Chr. Kelly pet Name: Bosei. Call if seen: REWARD for safe return. 771-5522. 415-1995 or 631-5641

Lost & Found

LOST CAT Comp. Ella. Soc. on 6/10. 2mo. orange short hair, white tab & black spots on nose, stopped F microchip 590-5833

LOST WHITE & YELLOW GOLD DIAMOND BRACELET Oak Hill area Scarborough, June 13. Significant reward offered. 207-415-5568.

MERCHANDISE

Antiques & Collectibles

WANTED - Collections old postcards, stamps, early paper items, antique photos. Top prices. 799-7890.

Furniture

VICTORIAN WALNUT SETTEE All new upholstery, solid 5500/best offer 429-5207

General Merchandise

7" COLOR TV & ANTENNA 550. Tennis racket \$75. States \$25. Gran Pappy Fryer, ice bucket, cordless phones \$9 ea, new Kohler toilet seat \$20. 885-9118

AIR CONDITIONER 18,200 Btu. 120 Volt, General Electric, only 3 yrs old, works great. \$60. 1/2 inch electric impact gun by Milwaukee. \$50. 50 Ft. 3/2 inch rope. 934-1709

BEVELLED GLASS COFFEE TABLE \$35; HOVERER windup iron. \$50; 150, big TV, stereo entertain. cr. \$36; metal & wood desks, \$35 ea. Book frames, 75¢/162

BLUE DIAMOND POINT INDIANA GLASS CANDY PISTOL DISH. 1970. \$10. Call 284-8744

Lawn and Garden

AAA TOP QUALITY SCREEDING GRASS \$17.50 ea/yr ea min 639-6103

GARAGE SALES

SO. PORTLAND 22 COTTAGE RD. SAT. JUN 17, 9-12
HUGE COMMUNITY YARD SALE! 40 of your neighbors have reserved tables & are clearing out their homes. Many great finds! DON'T MISS IT!

STANDISH RD. SAT. & SUN., 9-2
Barn Sale. Inside if rain. Antiques and other stuff.

TOPSHAM 47 PLEASANT ST. TOPSHAM GRANDE HALL SAT. 10AM - 4PM
HUGE BOOK SALE
1000's of used books, \$1 ea. 713-4295.

WESTBROOK 28 PRIDE ST. SAT. & SUN. 9-1
Table w/4 chairs, freezer, kitchen, ever, ever, wood stove, much variety inside garage, rain/shine.

SO. PORTLAND 125 AND 11 ELDERBERRY DRIVE OFF HIGHLAND FRI, SAT, SUN 8-3-7
6 Families Combined at 2 locations. Rain or shine. Too much to list. Don't miss this sale!

PORTLAND 201 LARRABEE RD. SAT. & SUN., 9-3
Acorn Storage Unit Estate Sale. Antiques, household, tools, bikes, tons of stuff.

SCARBOROUGH 12 RIVER WOODS DRIVE SAT. JUN 17, 8-2
Multi-family Yard Sale. Kids' stuff, household items, lots more.

SCARBOROUGH 15 WINDSOR PINES DRIVE SAT. JUN 17, 8-1
Furniture, clothes, toys. Priced to move!

SCARBOROUGH 81 KING ST FRI & SAT 8-4
Pine Panel, Multi-family. Furn, gardening, D/I projects, household, plants, estate quality items.

SCARBOROUGH PLANTATION DR., SCOTTON HILL WDS SAT. JUN 17, 7-1
Multi-family furniture to toys, air hockey table & everything in between.

CAPE ELIZABETH FURNISHED 4 BR. 5925 sq ft. except 1br. 3 1/2 baths, oil room, office and 2 car garage. Close to everything. \$360K/mo. Avail 8/1/17-7/31/18

PORTLAND 23 Souders St 1 BR. 5925 sq ft. except 1br. 3 1/2 baths, oil room, office and 2 car garage. Close to everything. \$360K/mo. Avail 8/1/17-7/31/18

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General Merchandise

BOX FAN \$10. squirrel trap \$20. Penn 2 burner propane stove \$25. alum. towel chair \$5. 2 car seat cushions \$5. 3 square iron bird feeder \$15. 781-4510

COMPACT APT \$2 BLOMBERG STACKABLE FRONT-LOADING WASHER/DRYER w/2100 traps. \$11200/best. 797-3395.

ELECTRIC EXERCISE BICYCLE \$35/best offer. One good bike 447. low chair \$5. 2 car seat cushions \$5. 3 square iron bird feeder \$15. 781-4510

FREE 2 Sony 27" Trinitron TVs not flat screen, both work great. Scarborough 885-4286

HAILER AIR CONDITIONER \$45. 776-4957, call if you are interested.

HAMMOCK/CANOPY Queen size hammock on metal base and portable canopy with carrying case. \$75 each. 775-9096

HUMMEL FIGURINES Original. 545. 776-4957, call if you are interested.

KING STAY POSTER/PEDICURE \$50. 50 Ft. 3/2 inch rope. 934-1709

LARGE BOX OF ITEMS Good for lawn sale. \$25. FANCY PURSE, new fabric & beads, with shoulder strap, by Mary Francis. \$75. 934-1709

PORT-A-CRIB very good cond. \$50. sewing machine w/needle, case. \$75. wooden high chair. \$25. 3 bathroom sink w/sockets. \$75. 211-2134

Apartment

PORTLAND 23 Souders St 1 BR. 5925 sq ft. except 1br. 3 1/2 baths, oil room, office and 2 car garage. Close to everything. \$360K/mo. Avail 8/1/17-7/31/18

Houses For Rent

CAPE ELIZABETH Furnished 4 BR. 5925 sq ft. except 1br. 3 1/2 baths, oil room, office and 2 car garage. Close to everything. \$360K/mo. Avail 8/1/17-7/31/18

Rooms For Rent

SINGLE OCCUPANCY RM Why 5170 + 3 wks sec. 723 Congress 756-7631 st. 104

TRANSPORTATION

Autos For Sale
FORD MUSTANG CONVERTIBLE 2004 40th Anniversary edition. V-6 auto, stereo, winter tires, runs excellent. 107K. \$4,900. Boothbay Harbor. 207-380-7456

FORD TAURUS LTD 2014 New condition, 22k miles. \$23,000. Brunswick. 207-725-0113

HONDA ACCORD 2002 \$4,500. Very fine car. Great. 127,850 miles. Inspection through May 2018. Call 248-1618

NISSAN LEAF 2012 All electric. 54,000 miles, new inspection sticker, white. \$23,000. Gorham. 207-839-5718

NISSAN SENTRA SV 2014 28k. 4dr. 4 door sedan. 1.8 liter. extra tires, loaded. Blue tooth. A steel for \$11,000. Elm. Wilton. 207-778-1017

NISSAN VERSA 2015 Hatchback. Silver. 4 dr. auto. AC. exc. cond. 17k miles. \$8195. Call 207-272-8233

TOYOTA CAMRY 2010 Black. 4dr. 72k miles. very clean. Asking \$8,150. Gorham. 207-839-5314. offer \$6999

VOLKSWAGEN JETTA 2003 Black. 4dr. std. 133K miles. new battery. \$11,400. Portland. 207-450-4544

VOLVO XC90 2009 Blk. 71K. good cond., loaded, nav., Power windows, seats, sunroof. Heated seats, 3rd row. great. \$31,000. Priced to sell. Call 650-3946

Motorcycles

KAWASAKI VULCAN 750CC 1986 Great condition, newly restored. Asking \$2,600. Westbrook. 207-756-5573

Garage Sales

SO. PORTLAND 22 COTTAGE RD. SAT. JUN 17, 9-12
HUGE COMMUNITY YARD SALE! 40 of your neighbors have reserved tables & are clearing out their homes. Many great finds! DON'T MISS IT!

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Portland

SANTORO REAL ESTATE
207-767-4777
www.santororealestate.com

OPEN HOUSE SATURDAY 8-3
PORTLAND 17 Meadow Lane \$305,000
MLS# 128309

Don't miss this opportunity to be in a great Northend neighborhood. This 3bedroom, 2 bath Ranch w/ finished basement is set in a Cul-de-Sac (No thru traffic). Features: Inground pool, decking and paver patio, pool shed, gardens. 2 Minutes to Falmouth, Portland, 295, 95.

65 munjoy OPEN HOUSE

Construction Now Complete!
Please Join our Open House
Sunday, June 18, 2017 • 2:00-4:00 PM

• 6 Spacious 1,2 and 3 Bedrooms Units
• 6 Small Remaining
• 722-1,347 square feet of living space
• Each with assigned off-street parking
• High Quality Finishes - Hardwood & Tile Floors, Quartz Countertops, High Ceilings
• Common Area Park, Bicycle Storage, Intercom System
• High Efficiency Heat and Cooling, Energy Recovery Ventilators, Triple Pane Windows
• Priced Below Market for Multiple Acquire Buyers - Prices starting at \$279,000
• Available for Occupancy Mid-June!
• One of a Kind Opportunity - Call for Details!

Yarmouth

NEW LISTING - YARMOUTH

62 South Street Yarmouth \$775,000

Striking 4 BR, 2 BA Victorian in the heart of Yarmouth Village. Walking distance to village amenities, library, shops and schools. Classic design offering a newer addition featuring kitchen sunroom and rear entry mudroom. Two acre lot offers potential of an additional building lot.

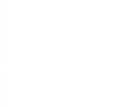
Pat Rabidouxx
RE/MAX Heritage
207-847-4103

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LOOK AT ME!
See favorite Press Herald photos at
instagram.com/portlandpressherald



NOTICE OF PUBLIC INFORMATION WORKSHOP

regarding the Environmental Assessment
for Future Projects at



Portland International Jetport

Thursday, June 22, 2017

5:30 - 7:00 P.M.

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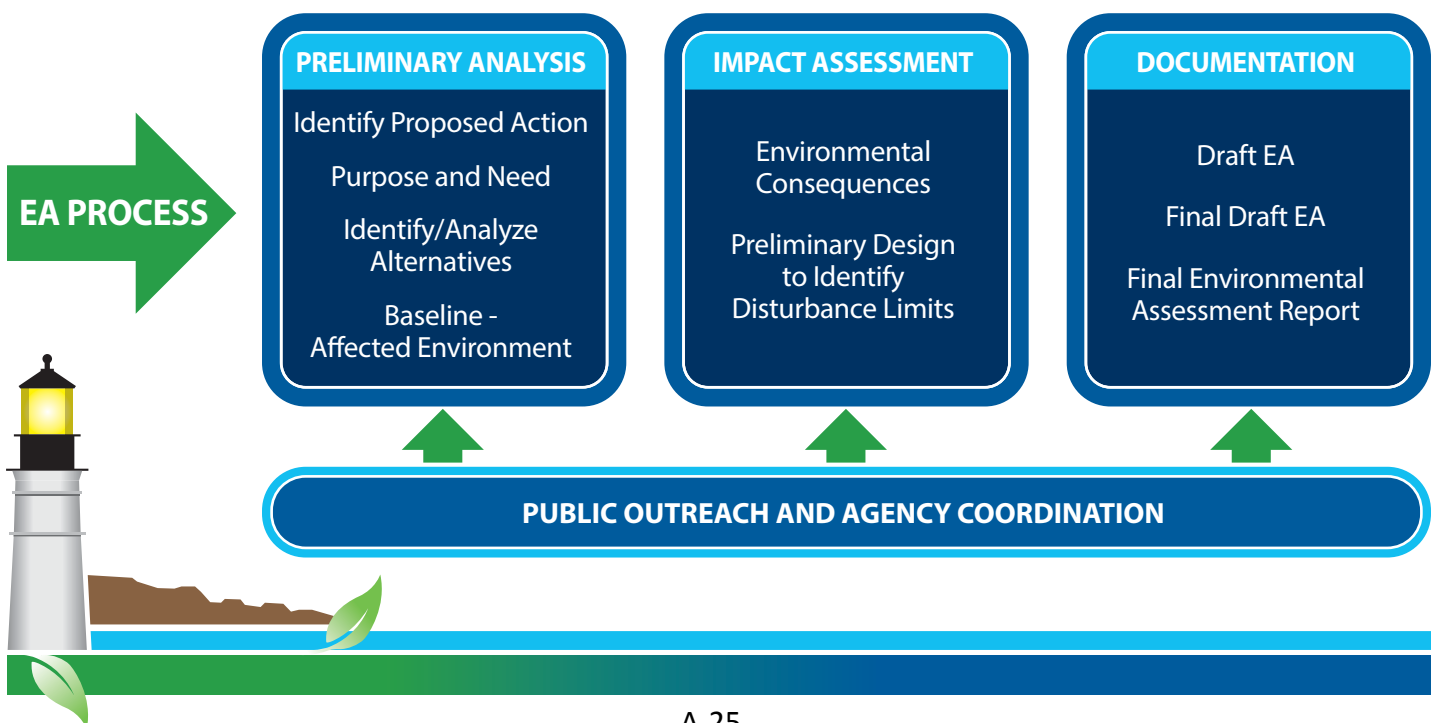
ENVIRONMENTAL ASSESSMENT FOR FUTURE PROJECTS AT THE PORTLAND INTERNATIONAL JETPORT

The recent Sustainable Airport Master Plan (SAMP) prepared for the Portland International Jetport established direction and guidelines for future capital improvements. The SAMP has been approved by the Portland City Council. For projects in the plan to be eligible for federal funding, they must be part of the airport layout plan (ALP) in the SAMP. While FAA accepts the SAMP, they approve the ALP on the condition that for any project to receive federal assistance, it must be environmentally approved under the National Environmental Policy Act, as well as applicable State environmental regulations.

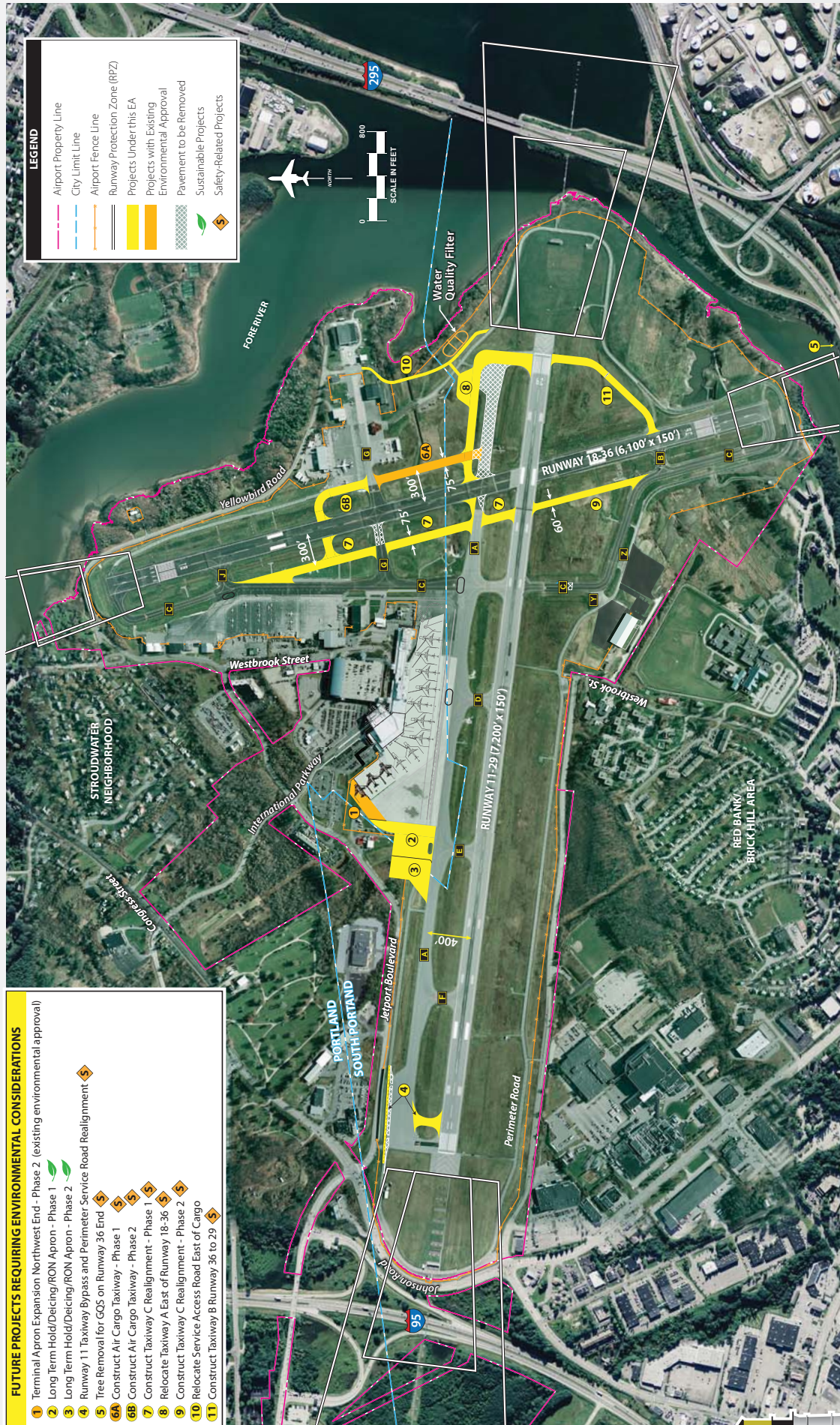
The Environmental Assessment just underway is being prepared for projects given the highest priority for development over the next five to seven years. Project implementation timing could vary depending upon factors such as approval, design, and funding availability. The Proposed Action Projects are depicted on the exhibit on the back of this sheet. Most projects are primarily related to enhancing safety or sustainability and are thusly noted on the exhibit. The future projects are as follows:

- **Construct Long Term Hold/Deicing/Remain Overnight (RON) Apron** – two-phase project that serves to provide more locations for deicing aircraft and collection of runoff to be recycled, as well as provide additional parking for aircraft that remain overnight.
- **Runway 11 Taxiway Bypass and Realignment of Perimeter Service Road** – safety-related project to better separate ground vehicles on the perimeter service road from airport waiting to depart on Runway 11.
- **Tree Removal to clear Glide Slope Qualification Surface (GQS) Runway 36 End** - safety-related project to maintain required clearance of instrument approach to Runway 36.
- **Construct Air Cargo Taxiway – Phase 1 and 2** – safety-related project to reduce runway crossings for aircraft to and from the northeast quadrant; a side benefit is reduced taxi times thus reducing fuel burn and carbon emission.
- **Construct Taxiway C Realignment – Phase 1 and 2** – safety-related project to reduce potential for runway incursions; also improves taxiway circulation and provides room for additional parking apron.
- **Relocate Taxiway A East of Runway 18-36** – safety-related project to reduce potential for runway incursions; a side benefit is improved efficiency and reduced aircraft delay thus reducing fuel burn and carbon emissions.
- **Construct Taxiway B from Runway 36 to 29** – prioritized by Runway Safety Action Team (RSAT) to reduce runway crossings; a side benefit is reduced taxi times, thus reducing fuel burn and carbon emissions.
- **Relocate Service Access Road East of Cargo Area** – relocated in part for Taxiway A relocation, but also for future ramp and building considerations in the northeast quadrant.

The process for the Environmental Assessment outlined in the graphic below is anticipated to take 12 to 15 months. Timing may be subject to change for reviews by the FAA and other agencies involved. In addition to this project introduction, the public will have the opportunity to review and comment on the draft environmental assessment through a public hearing process. As with the master plan, draft documents will be made available online at www.thejetport.airportstudy.com.



FUTURE PROJECTS AT PORTLAND INTERNATIONAL JETPORT



- FUTURE PROJECTS REQUIRING ENVIRONMENTAL CONSIDERATIONS**
- 1 Terminal Apron Expansion Northwest End - Phase 2 (existing environmental approval)
 - 2 Long Term Hold/Deicing/RON Apron - Phase 1
 - 3 Long Term Hold/Deicing/RON Apron - Phase 2
 - 4 Runway 11 Taxiway Bypass and Perimeter Service Road Realignment
 - 5 Tree Removal for GOS on Runway 36 End
 - 6A Construct Air Cargo Taxiway - Phase 1
 - 6B Construct Air Cargo Taxiway - Phase 2
 - 7 Construct Taxiway C Realignment - Phase 1
 - 8 Relocate Taxiway A East of Runway 18-36
 - 9 Construct Taxiway C Realignment - Phase 2
 - 10 Relocate Service Access Road East of Cargo
 - 11 Construct Taxiway B Runway 36 to 29





Appendix B

BIOLOGICAL EVALUATION



Biological Evaluation

Portland International Jetport
Portland and South Portland,
Maine

Prepared for:

Paul Bradbury P.E., Airport
Director

Portland International Jetport
1001 Westbrook Street
Portland, ME 04102

Prepared by:

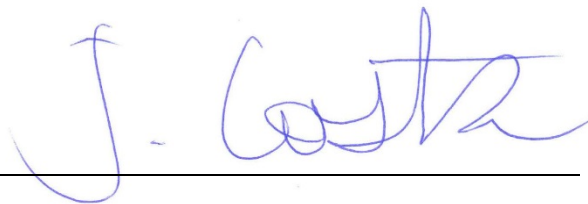
Stantec Consulting Service Inc.
30 Park Drive
Topsham, ME 04086

September 27, 2018

Sign-off Sheet

This document entitled Biological Evaluation was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of Portland International Jetport (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

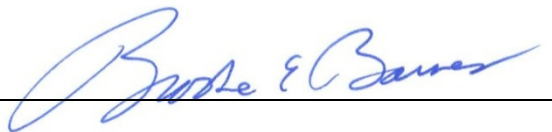
Prepared by _____



(signature)

Jessica Costa, CWB

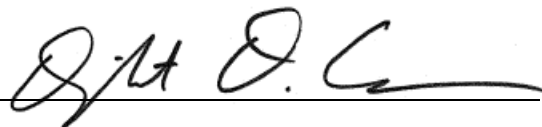
Reviewed by _____



(signature)

Brooke Barnes

Approved by _____



(signature)

Dwight Anderson, PE

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2.0	SITE DESCRIPTION	2
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Figure 1. NLCD and Jetport Project Areas



BIOLOGICAL EVALUATION

Introduction and Background
September 27, 2018

1.0 INTRODUCTION AND BACKGROUND

The City of Portland (City) owns and operates the Portland International Jetport (Jetport). The Jetport occupies 769 acres within the cities of Portland and South Portland, Maine. The City of Portland contracted Stantec Consulting Services (Stantec) to prepare a Biological Evaluation for the Jetport. The purpose of the evaluation is to describe the available habitats within Jetport and to assess the likelihood of occurrence of listed and protected species and/or their habitats. This assessment will inform the potential for impacts to listed species due to the Jetport's capital improvements and other safety-related activities described in the Sustainable Airport Master Plan (City of Portland, 2018) (Figure 1).

Information for this evaluation was available from the Jetport's 2014–2015 Wildlife Hazard Assessment (WHA; Wood and Vashon 2015), the 2016 Wildlife Hazard Management Plan (WHMP; PWM and USDA 2016) and 2017 WHMP Airport Certification Manual (PWM 2017), and the 2008 Biological Resources Inventory and Wetland Resources reports (TRC Companies, Inc. [TRC] 2008a and 2008b). These documents describe the habitat conditions and biological resources at the Jetport. In addition, habitat and wildlife data were summarized from Stantec's 2017 site visit to the Jetport and Stantec's 2018 site visit to off-site tree removal area Project 5 (see Figure 1), as well as Stantec's 2018 Wetland Delineation Report (Stantec 2018b). Finally, plant and wildlife information were summarized from state and federal agency responses to information requests.

The U.S. Code of Federal Regulations (CFR) for airport passenger traffic Title 14 CFR, Part §139.337 and the Federal Aviation Administration's (FAA) Memorandum of Understanding (MOU) with the U.S. Department of Agriculture Animal and Plant Health Inspection Service Wildlife Services (USDA WS) specify that hazards posed by wildlife at airports must be mitigated. The 2006 Certalert¹ 06-07 advisory specifies that airports are not required to manage habitat for listed species, rather airports should not specifically maintain these species' habitats for safety reasons. However, for species that are protected, the harassment, take, or take of habitat of listed species is prohibited under the federal Endangered Species Act (ESA) of 1973 (Sec. 2 [16 U.S. Code 1531]) and/or the Maine Endangered Species Act of 1975 (12 Maine Revised Statutes Annotated [MRSA] Part 10 Subsection 7753). Except for non-native species, such as rock doves (*Columba livia*), house sparrows (*Passer domesticus*), European starlings (*Sturnus vulgaris*), and resident game species such as wild turkey (*Meleagris gallopavo*), essentially all of the bird species that may occur within the Jetport are protected by the Migratory Bird Treaty Act of 1918 (MBTA) (16 U.S. Code §§ 703–712). Eagles are afforded further protection by the Bald and Golden Eagle Protection Act of 1940 (BGEPA) (16 U.S. Code 668-668c). Reptiles and amphibians in Maine are also protected, but these species currently do not pose a risk to safety due to their limited abundance on the site (PWM and USDA 2016). The Jetport retains migratory bird depredation and State of Maine depredation permits when lethal removal of game or protected species is necessary for safety. A state harassment permit is retained by the Jetport for bald eagles (*Haliaeetus leucocephalus*). The Jetport also retains a state permit for removal of non-listed game mammals (e.g., white-tailed deer [*Odocoileus virginianus*], snowshoe hare [*Lepus americanus*], coyote [*Canis latrans*], fox [*Urocyon cinereoargenteus* and *Vulpes vulpes*], raccoon [*Procyon lotor*]) and maintains an agreement with the USDA WS to lethally remove game mammals when they pose a risk to public safety.

¹ Certalerts are safety advisories issued by the Airport Safety and Operations Division to airport operators and FAA Airport Certification Safety Inspectors.



BIOLOGICAL EVALUATION

Site Description
September 27, 2018

2.0 SITE DESCRIPTION

The Jetport has 2 runways (11-29 and 18-36) oriented east-west and north-south and 10 taxiways (A through J, and Y and Z) providing access/egress to the runways and travel to and from the terminal area and aprons. The facility is primarily upland, mowed grasslands, and impervious areas. Jetport facilities also include a deicing pad for up to 2 aircraft and a deicing fluid treatment facility west/northwest of the terminal ramp that is certified to recycle propylene glycol from Jetport operations and others (assuming the fluid is not contaminated). Proposed projects involve improvements to the taxiways and roadways for safety and expanding the deicing pad.

Aside from impervious surfaces, grasses, clover, and weeds are the primary cover type at the Jetport; these disturbed grassland habitats are regularly mowed or brush-hogged. There are drainages and human-altered wetlands including freshwater emergent, freshwater forested, and freshwater scrub-shrub present at the Jetport. Tree species in the patches of upland forest that occur at the borders of the Jetport are primarily deciduous (i.e., oak, maple, aspen); scrub-shrub species consist of red-osier dogwood (*Cornus sericea*), staghorn sumac (*Rhus typhina*), speckled alder (*Alnus incana*), arrowwood (*Viburnum dentatum*), long-beaked willow (*Salix bebbiana*), winterberry holly (*Ilex verticillata*), and other deciduous species (Wood and Vashon 2015, TRC 2008a). The land cover types in the off-site tree removal project area south of the Jetport (Project 5; Figure 1) include forest habitat dominated by oak, maple, aspen, and pine, forested wetlands, scrub-shrub species (consisting of staghorn sumac, arrowwood, chokecherry [*Prunus virginiana*], pin cherry [*Prunus pensylvanica*], elderberry [*Sambucus sp.*], Morrow's honeysuckle [*Lonicera morrowii*], common blackberry [*Rubus allegheniensis*], Asian bittersweet [*Celastrus orbiculatus*], hawthorn [*Crataegus sp.*], and willow [*Salix sp.*]), as well as manmade clearings.

The Jetport is adjacent to Long Creek and the Fore River; both of these water bodies are mapped Maine Inland Fisheries and Wildlife (MDIFW) Significant Wildlife Habitat for Coastal Waterfowl and Wading Birds and Shorebird Areas (TRC 2008a). The habitats at the Jetport, and the Jetport's proximity to Long Creek and the Fore River, inadvertently attract a variety of wildlife species throughout the year (Wood and Vashon 2015). These habitats provide shelter as well as loafing, foraging, and breeding habitat for wildlife (Wood and Vashon 2015). There are a variety of natural food sources at the Jetport, including grasses, fruiting shrubs or trees (e.g., crab apple [*Malus sp.*], juniper [*Juniperus sp.*], and blueberry [*Vaccinium sp.*]), small rodents, insects, both terrestrial and aquatic invertebrates, and small fish (Wood and Vashon 2015).

3.0 BIOLOGICAL FIELD SURVEYS

For the preparation of the Jetport's 2014-2015 WHA, three-minute bird point count surveys were conducted six times per month at locations within the Jetport, as well as reference locations in the surrounding area. Nocturnal mammal spotlight surveys were conducted along the perimeter of the Jetport twice per month, and spring and fall four-day small mammal trapping surveys were also conducted. Frequently detected bird groups during point count surveys included gulls, blackbirds, corvids, and to a lesser extent other songbirds and raptors. The abundance of gulls and waterfowl peaks during spring and fall migration periods, while large groups of crows are predominantly present in the fall and winter. European starlings breed in the area and are most common during the summer. During nocturnal mammal spotlight surveys, there were several species detected (Table 1), with gray fox and striped skunk (*Mephitis mephitis*) most commonly observed. New England cottontail (*Sylvilagus transitionalis*), a state endangered species,



BIOLOGICAL EVALUATION

Biological Field Surveys
September 27, 2018

was not detected during these surveys. Coyote are expected to regularly occur at the Jetport based on tracks observed (Wood and Vashon 2015). Groundhogs (*Marmota monax*) are relatively abundant at the Jetport, and muskrats (*Ondatra zibethicus*) are occasionally observed in the retention pond. During the small mammal trapping surveys, rodents were captured during the fall only and consisted of two species: deer mice (*Peromyscus maniculatus*) and meadow voles (*Microtus pennsylvanicus*). Table 1 lists all species observed during the 2014-2015 WHA.

Table 1. Species Documented During Field Surveys, Portland International Jetport and Surrounding Area

American coot	Greater scaup
American black duck	Hairy woodpecker
American crow	Herring gull
American goldfinch	Hooded merganser
American kestrel	House sparrow
American robin	Iceland gull
Bald eagle	Killdeer
Barn swallow	Least sandpiper
Black-capped chickadee	Mallard
Belted kingfisher	Merlin
Blue jay	Mourning dove
Black-headed gull	Northern cardinal
Bobolink	Northern flicker
Bohemian waxwing	Northern harrier
Brown-headed cowbird	Northern mockingbird
Bufflehead	Osprey
Canada goose	Red-tailed hawk
Cedar waxwing	Red-winged blackbird
Chipping sparrow	Ring-billed gull
Common eider	Red-breasted merganser
Common goldeneye	Rock pigeon
Common grackle	Ruddy turnstone
Cooper's hawk	Sanderling
Common loon	Savannah sparrow
Common merganser	Snow bunting
Common raven	Snowy egret
Common tern	Snowy owl
Double-crested cormorant	Song sparrow
Downy woodpecker	Tree swallow
Eastern bluebird	Turkey vulture
Eastern kingbird	Wild turkey
Eastern meadowlark	Wood duck
Eastern phoebe	Deer mouse
European starling	Gray fox
Great black-backed gull	House cat
Great blue heron	Meadow vole
Great-crested flycatcher	Muskrat
Glaucus gull	Raccoon
Glossy ibis	Red fox
Gray catbird	Striped skink
Great egret	White-tailed deer

Source: Wood and Vashon 2015.



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Biological Field Surveys
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Field surveys for TRC's Biological Resources Inventory Report conducted in 2007 and early 2008 documented the occurrence of upland sandpiper (*Bartramia longicauda*; state threatened) and New England cottontail at the Jetport (TRC 2008). TRC biologists observed up to eight upland sandpiper adults in summer 2007 near Taxiway C of Runways 11-29. Potential New England cottontail tracks were observed in early 2008. Active burrows, tracks, and droppings were documented in January 2009 in a 13-acre shrub thicket near Runway 29. The Jetport developed an Incidental Take Plan (ITP) in 2009 (TRC 2009) which included the removal of the shrub-cover habitat and relocation of the cottontails from the Jetport.

A Stantec biologist conducted a site visit to the proposed improvement areas within the Jetport on September 25, 2017. There were no listed species observed. The biologist documented blue jay (*Cyanocitta cristata*), song sparrow (*Melospiza melodia*), American robin (*Turdus migratorius*), herring gull (*Larus argentatus*), American crow (*Corvus brachyrhynchos*), and European starling. Evidence of rodents (i.e., rodent runs through relatively taller grass) as well as unidentified scat (believed to be fox but not confirmed) were also documented.

Stantec conducted an initial site visit to the Project 5 tree removal area in fall 2017 for wetland surveys (Stantec 2018) and a second visit to the Project 5 area on July 27, 2018 to assess the current habitat conditions for the presence of New England cottontail. During the 2018 visit, there were no listed species observed, and no preferred habitat (i.e., extensive, dense thickets) or other evidence of New England cottontail observed. There was evidence of white-tailed deer and coyote (tracks), as well as striped skunk and gray squirrel (*Sciurus carolinensis*). Avian species observed included: blue jay, American crow, common grackle (*Quiscalus quiscula*), cedar waxwing (*Bombycilla cedrorum*), American goldfinch (*Spinus tristis*), mourning dove (*Zenaida macroura*), osprey (*Pandion haliaetus*), rock dove (*Columba livia*), ring-billed gull (*Larus delawarensis*), song sparrow, northern cardinal (*Cardinalis cardinalis*), purple finch (*Haemorhous purpureus*), and gray catbird (*Dumetella carolinensis*).

While no surveys have been conducted at the Jetport to target the occurrence of bat species, several species of bats likely use the airspace to forage on insect prey and may also roost in the patches of forest habitat in the surrounding area. Species that may be present include the federally threatened and state endangered northern long-eared bat (*Myotis septentrionalis*) and the state endangered little brown bat (*Myotis lucifugus*); however, consultation with the US Fish and Wildlife Service (USFWS) indicated the Jetport is not within 0.25 miles of any known bat hibernacula or 150 feet of any known bat roost sites.

Fish trapping surveys conducted at the Jetport's man-made retention pond in 2008 documented small individuals (less than a few inches) of the following species: pumpkinseed sunfish (*Lepomis gibbosus*), blacknose dace (*Rhinichthys atratulus*), and three-spined stickleback (*Gasterosteus aculeatus*) (PWM 2009). None of these species are federally or state listed.

Table 2 lists the federally or state protected species, or BGEPA-protected species that have an historical presence at the Jetport. Of these eight species, one is federally threatened (northern long-eared bat); five are state endangered (grasshopper sparrow [*Ammodramus savannarum*], black-crowned night heron [*Nycticorax nycticorax*], New England cottontail, northern long-eared bat, and little brown bat); and two are state threatened (upland sandpiper and short-eared owl [*Asio flammeus*]). Table 2 also outlines the history of the species at the Jetport and applicable wildlife hazard management activities. State special concern species that have been documented at the Jetport or adjacent areas include barn owl (*Tyto alba*), great blue heron (*Ardea herodias*), northern harrier (*Circus cyaneus*), bald eagle, eastern kingbird (*Tyrannus tyrannus*), tree swallow (*Tachycineta bicolor*), barn swallow (*Hirundo rustica*), common



BIOLOGICAL EVALUATION

Biological Field Surveys
September 27, 2018

tern (*Sterna hirundo*), greater scaup (*Aythya marila*), American coot (*Fulica americana*), and eastern meadowlark (*Sturnella magna*) (PWM and USDA 2016).

Table 2. Listed or Protected Species, Portland International Jetport

Species	Status ¹	History at PWM
Bald eagle	State and federally delisted; BGEPA-protected; state special concern	Identified as hazard; PWM retains harassment permit for species
black-crowned night heron	State endangered	Observed during TRC's 2008 wetland surveys (segments W and X at the existing water quality pond)
Upland sandpiper	State threatened	Observed up to eight adults in summer 2007 near Taxiway C; mowing maintains preferred habitat; PWM continues to consult with MDIFW
Short-eared owl	State threatened (breeding population only)	Historical occurrence; captured and relocated in fall 2015
Grasshopper sparrow	State endangered	Not observed during WHA surveys however habitat is available
New England cottontail	State endangered	USFWS provided record of NEC from 2001, 0.75-miles northwest of PWM; potential NEC tracks observed in 2008; active burrows, tracks, and dropping documented in 2009 in 13-acre shrub thicket by Runway 29; PWM received ITP to remove shrub-cover habitat and relocate NEC; not currently believed to be present at PWM; Stantec visited the off-site tree removal project area 5 ² per NRCS' request, and confirmed there is no preferred habitat or evidence of NEC
Northern long-eared bat	Federally threatened and state endangered	Proposed tree removal project (Project 5) may occur in suitable habitat; Stantec consulted with P. Dockens/USFWS in September 2018 to confirm that the project area is not within 0.25 miles of known bat hibernacula or 150 ft of any known bat roosting sites
Little brown bat	State endangered	Proposed tree removal project (Project 5) may occur in suitable habitat; Stantec consulted with P. Dockens/USFWS in September 2018 to confirm that the project area is not within 0.25 miles of known bat hibernacula or 150 ft of any known bat roosting sites

¹ Maine Department of Inland Fisheries and Wildlife (MDIFW) 2015.

² Project 5 is depicted in Figure 1.

ITP: Incidental Take Permit

NEC: New England Cottontail

NRCS: Natural Resources Conservation Service

USFWS: U.S. Fish and Wildlife Service

WHA: Wildlife Hazard Assessment

Source: Wood and Vashon 2015, PWM and USDA 2016, TRC 2008a and 2008b.



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Agency Consultation
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4.0 AGENCY CONSULTATION

The USFWS Information Planning and Consultation (IPaC) online resource results indicated the potential for the occurrence of a federally listed species near the Jetport: northern long-eared bat (USFWS 2017). However, during follow-up communications with USFWS, they indicated the Jetport and proposed Project areas are not within 0.25 miles of any known bat hibernacula or 150 feet of any known bat roosting sites (P. Dockens, personal communications 2017 and 2018). The Natural Resources Conservation Service (NRCS) indicated that potential concerns regarding the New England cottontail and northern long-eared bat should be assessed for the Project 5 tree removal area (W. Monroe, personal communication 2017). The National Marine Fisheries Service (NMFS) indicated that federally listed shortnose (*Acipenser brevirostrum*) and Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) are known to occur in the Fore River, and while unlikely, they could possibly occur in the part of the river near the Jetport (H. M. Tritt, personal communication 2017). Maine Department of Inland Fisheries and Wildlife (MDIFW) indicated there are no locations of endangered, threatened, special concern species, or designated Essential or Significant Wildlife Habitats, or fisheries habitats that would be directly affected by the Jetport's projects (J. Perry, personal communication 2017). Further, there are no areas designated as high value for plants or animals as classified by Maine's Beginning with Habitat Program, and there are no deer wintering areas or nesting sites for bird colonies at the Jetport (TRC 2008a).

5.0 EVALUATION OF POTENTIAL EFFECTS

The Jetport's capital improvements will result in limited areas of vegetation alteration, including tree removal activities in a few small areas (each consisting of less than one acre) within the Jetport: Project 4 along the access road, Project 3 in the vicinity of the proposed deicing facility, and Project 10 next to an existing parking area (Figure 1). Additional tree removal activities will be conducted in the Jetport and surrounding area to maintain safe visibility for navigation. With the exception of the Project 5 cemetery property, tree removal activities would result in the alteration of up to 6.55 acres of forested habitat. The Project 5 tree removal activities will involve selective cutting over an area of 6 acres so that impacts will be minimized. In 2017, the FAA and the Jetport completed a *Northern Long-eared Bat 4(d) Rule Streamlined Consultation Form* in conjunction with the USFWS in advance of proposed tree clearing activities in the vicinity of the Jetport (but not including the Project 5 cemetery property). In September 2018, the area of the cemetery parcel was reviewed with USFWS and determined to not be near any known hibernacula or maternity roost trees, and well beyond 0.25 miles and 150 feet of these resources, respectively. To minimize impacts to northern long-eared bats, the Jetport will not conduct tree removal activities from June 1 to July 31 during the breeding/pup-rearing period. Additional alterations to existing land cover types resulting from the improvement projects will occur in already disturbed areas, including minimal areas of mowed grassland along the access road and runways.

There is no federally-designated critical habitat or state essential habitat for listed species and, based on available information, federally or state-threatened and endangered species do not regularly occur at the Jetport. State endangered northern long-eared bat and little brown bat may use forest patches in the surrounding area; however, the Jetport and cemetery tree removal project areas are not in the vicinity of known bat roosts. Tree clearing activities that occur outside of the period from June 1 to July 31 will avoid impacts to bats during the breeding/pup-rearing



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References

September 27, 2018

period. Adaptations to the habitats of the Jetport are not expected to negatively impact birds protected by the MBTA because these habitats are already disturbed and the species that may use the Jetport to breed are regionally common and do not have unique or specialized habitat requirements. The time of year tree clearing restriction period of bats overlaps with the peak period for breeding birds and the restrictions will also minimize impacts to nesting birds. Tree clearing in the Project 5 cemetery property in the vicinity of the Fore River will utilize selective logging to minimize disturbances to habitat. There will be no clearing of habitat directly along the streambank and tree removal activities will not result in runoff so there are no impacts anticipated to federally listed shortnose or Atlantic sturgeon.

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BIOLOGICAL EVALUATION

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FIGURES

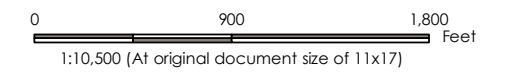


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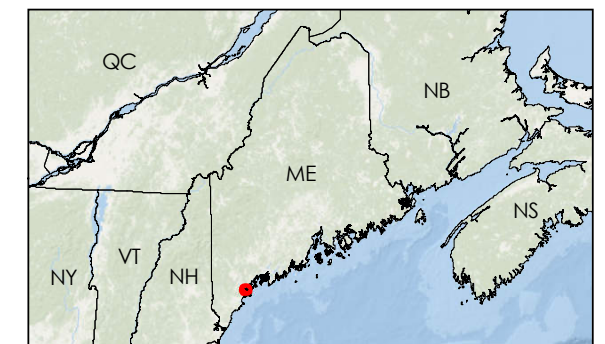


Legend

- Future Project Area
- Approximate Project Location
- Projects with Existing Environmental Approval
- Projects Seeking Approval
- 2011 National Land Cover Database
- Open Water
- Developed, Open Space
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed High Intensity
- Barren Land (Rock/Sand/Clay)
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Shrub/Scrub
- Grassland/Herbaceous
- Pasture/Hay
- Woody Wetlands
- Emergent Herbaceous Wetlands



- Notes**
1. Coordinate System: NAD 1983 StatePlane Maine West FIPS 1802 Feet
 2. The 2011 National Land Cover Data Base provided by the Multi-Resolution Land Characteristics (MRLC) Consortium.
 3. Aerial imagery provided by ArcGIS Online World Imagery Mapping Service.



Project Location
Portland/South Portland
Maine

195210916
Prepared by GAC on 2018-07-23
Reviewed by JLC on 2018-07-23

Client/Project
Portland International Jetport (PWM)
Environmental Assessment

Figure No.

1

Title

2011 National Land Cover Database

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Appendix C

PHASE 0 ARCHAEOLOGICAL SURVEY/ PHASE 1 RECONNAISSANCE SURVEY

**PHASE 0 ARCHAEOLOGICAL SURVEY
PORTLAND INTERNATIONAL JETPORT
(CUMBERLAND COUNTY), MAINE**

Submitted to

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www.iac-llc.net

IAC Report No. 1336

November 30, 2017

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PROJECT SUMMARY

Project Name: Portland International Jetport Development and Improvement Project

Type of Survey: Phase 0 Archaeological Survey

Client: Stantec Consulting Services, Inc.

Location: Portland (Cumberland County), Maine. Approximate center of project area at 4833238 N, 394396 E (WGS 1984 Datum, UTM Zone 19).

Project Area Size: 64 hectares (158 acres)

Expected Impacts: Runway expansion, construction and tree clearing

Dates of Fieldwork: Surveyed on November 1, 2017

Sites Registered: None

Findings: Archaeologists identified two areas of Pre-Contact archaeological sensitivity within the proposed Portland International Jetport development and improvement areas, designated as Sensitive Areas 1-2 (SAS 1-2). IAC found no areas of Post-Contact archaeological sensitivity within the project area.

Recommendations: IAC recommends a Phase I Reconnaissance Survey of SAs 1 and 2 to confirm the presence or absence of Pre-Contact Native American resources within the project area. We estimate the Phase I survey may require approximately 75 shovel test pits (STPs). In one area of thick fill deposits, testholes may need to be larger than 50 cm by 50 cm.

No. of Pages: 33
No. of Maps: 5
No. of Figures: 24

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INTRODUCTION

Independent Archaeological Consulting, LLC (IAC) of Portsmouth, New Hampshire, completed a Phase 0 archaeological survey for the proposed Portland International Jetport development and improvement project area located in Portland (Cumberland County), Maine (Figure 1). Project plans call for a variety of impacts including run way expansions, long term hold/de-icing/RON aprons, runway taxi bypass and perimeter service road realignments, air cargo taxi pads and aircraft engine run-ups and additional unspecified impacts (Figure 2).

The objective of the Phase 0 archaeological survey is to evaluate the archaeological sensitivity for both Pre-Contact Native American and Post-Contact cultural resources within the bounds of the project area. IAC completed the assessment through a review of known archaeological resources as inventoried by the Maine Historic Preservation Commission (MHPC); cartographic analysis of landform, topography, soils and proximity to water; a review of secondary historic resources; a walkover (inspection) survey and limited subsurface testing to identify soil conditions. In addition to the background research and cartographic overlays of project plans onto historic maps, the Phase 0 assessment includes the field inspection to provide an opportunity to examine the existing conditions for evidence of previous disturbance, estimate the extent of proposed project impacts and refine the initial, map-based sensitivity assessment based on actual ground conditions. The work is authorized under Section 106 of the Historic Preservation Act of 1966 (P. L. 89-665), as amended, and as implemented by regulations of the Advisory Council of Historic Preservation (36 CFR Part 800).

Prior to the walkover survey, IAC designated the five proposed impact areas as Management Units 1-5 (MU-1 through MU-5) (Figure 2). Project archaeologists Jacob Tumelaire and Jessica Cofelice inspected the Portland International Jetport project area (MUs 1-5) on November 1, 2017. The distribution of known Pre-Contact sites identifies level terrain, well drained soils and access to natural resources as primary variables in observed patterns of Pre-Contact Native American land use. The Portland International Jetport is located along the Fore River and the landform is bound to the north by the Stroudwater River and south by Long Creek. Close proximity to a number of hydrologic features would have provided ready access to a variety of floral and faunal resources, and egress to the water-based transportation corridor of the Fore River. The majority of the jetport appears to have been significantly altered and shows evidence of widespread landscape modification through leveling and filling. However, there are two locations within the proposed project area that may potentially contain intact soil horizons.

Archaeologists identified two broad areas of Pre-Contact archaeological sensitivity during walkover inspection of the Portland International Jetport, designated as Sensitive Areas 1 and 2 (SA-1 and SA-2) (Figure 3). IAC designated the landform south of Long Creek and I-295 (MU-5) where the jetport proposes land clearing as SA-1. The area appears to be relatively undisturbed and the general environmental conditions suggest a high potential for undocumented Pre-Contact cultural resources. Portions along the eastern margins of MU-3 (SA-2) in close proximity to the Fore River, if undisturbed, may potentially contained Pre-Contact archaeological resources. IAC found no areas of Post-Contact Euroamerican archaeological sensitivity with the proposed development areas.

IAC recommends a Phase I Reconnaissance Survey to confirm the presence or absence of Pre-Contact cultural deposits. The Phase I survey will require approximately 75 hand-excavated shovel test pits (STPs). In one area of thick fill deposits, testholes may need to be larger than the conventional 50-cm-x-50-cm shovel test pit in order to penetrate into undisturbed natural soil horizons.

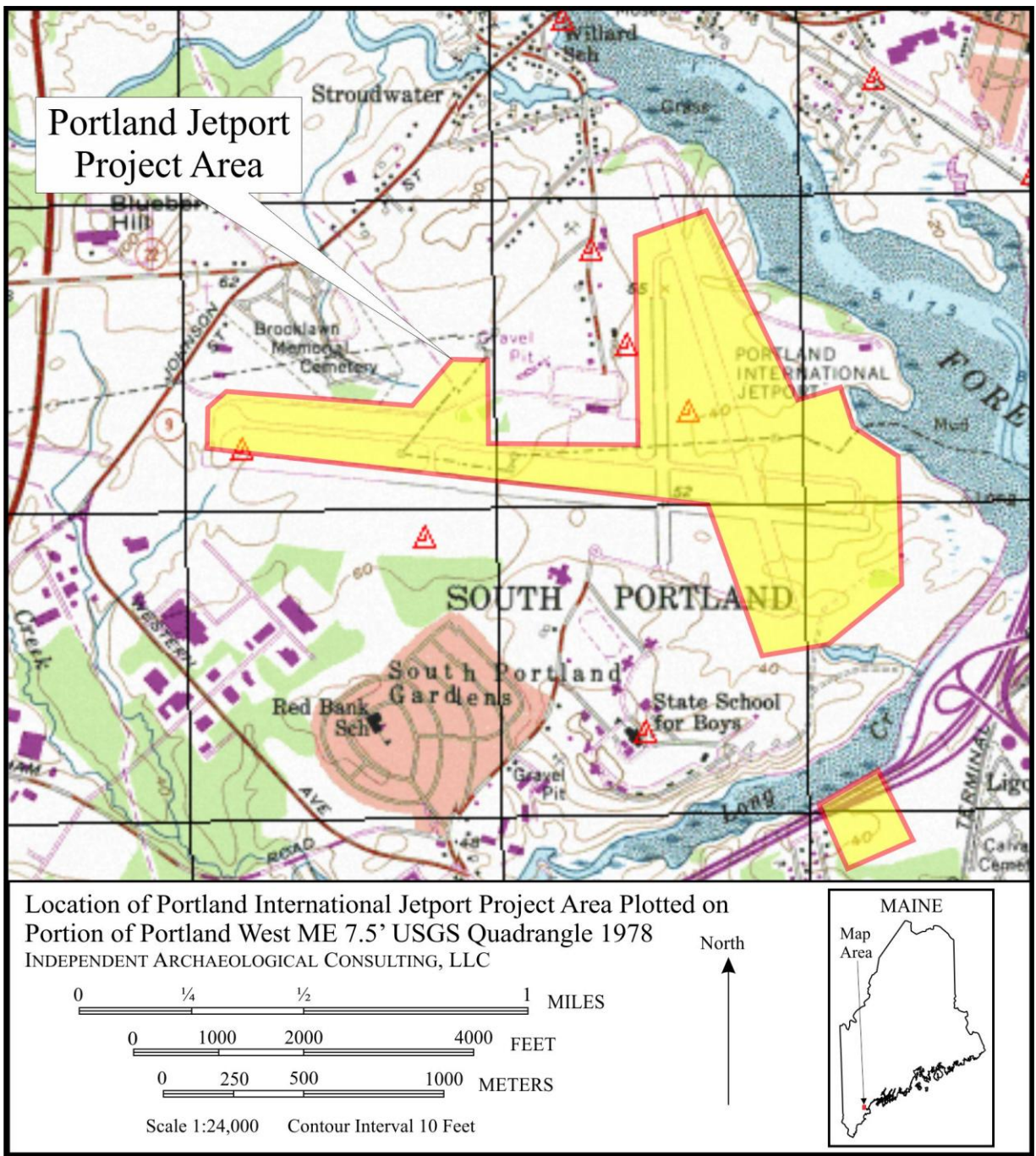


Figure 1. Portland International Jetport Project Area plotted on USGS map.

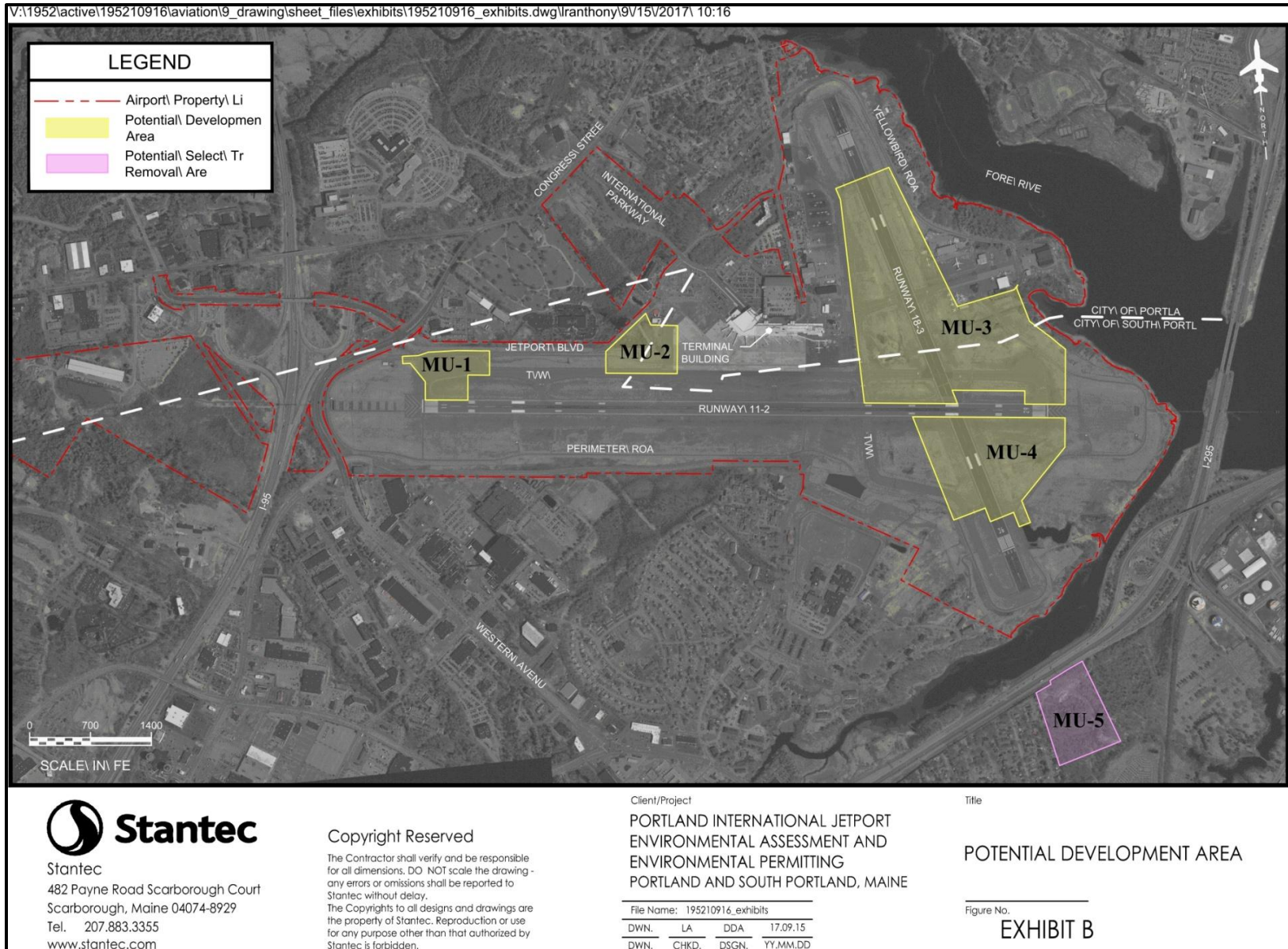


Figure 2. Portland International Jetport proposed project plans (after Stantec 2017).

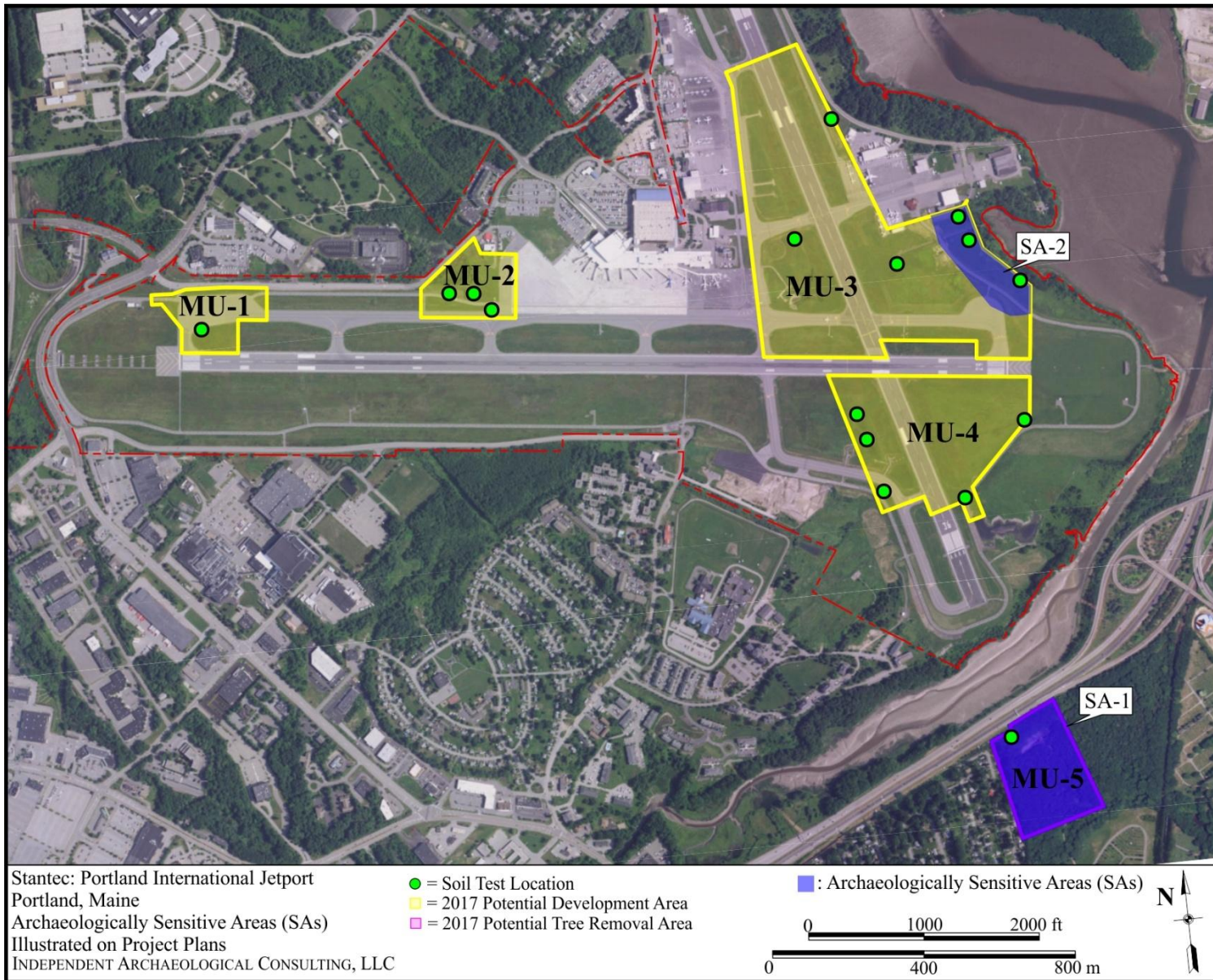


Figure 3. Archaeologically sensitive areas (SAs) identified within the jetport project limits.

PROJECT LOCATION AND ENVIRONMENTAL CONTEXT

The Portland Jetport project area encompasses five spatially distinct segments: four potential development areas within the jetport boundary fence and one potential tree removal area across Long Creek to the south of the facility all located in Portland (Cumberland County), Maine (see Figure 2). The four potential development areas within the jetport itself encompass extant runways, taxiways, utilities and other infrastructure as well as wide, level grassy areas between the various ground features. The grass areas are generally flat and low, with few notable topographic features, and exhibit evidence for widespread landscape modification (Plates 1-3). The potential tree removal area across Long Creek to the south includes an expanse of undulating ground topped by young mixed-growth forest that extends south from the I-295 right-of-way (ROW) to the northern periphery of the Calvary Cemetery (Plate 4). The five project area segments encompass a combined area of 64 hectares (158 acres). The jetport itself occupies a landform at the confluence of the Fore River and Long Creek, waterways that help define the eastern and southern boundaries of the facility.

The Portland Jetport is located within the Seaboard Lowlands physiographic region that extends along the state’s eastern coastline. The Seaboard Lowlands, characterized by gently rolling terrain with isolated elevated landforms, varies in width from about 30 km (20 mi) near the New Hampshire border to roughly 100 km (60 mi) near New Brunswick. A generalized bedrock map of Maine shows the project area encompasses a wide range of Precambrian-Ordovician volcanic and marine sedimentary rocks metamorphosed into gneiss and schist (Maine Department of Conservation 2002). The five project area segments encompass 11 soil types as listed in Table 1, with poorly drained silt loams as the most dominant soil types (USDA 2017). Pockets of well drained sandy loam or loamy sand present in isolated sections of the project area offer environmental conditions conducive to Pre-Contact human habitation as reflected by current site distribution models that show a preference for occupation or activity sites situated atop sand-rich landforms.

Table 1. Soils present within the Portland Jetport project area segments.

Soil Unit	Slope Range in APE
Belgrade very fine sandy loam	0-8%
Biddeford mucky peat	0-3%
Buxton silt loam	8-15%
Cut and fill land	N/A
Deerfield loamy sand	3-8%
Lamoine silt loam	3-8%
Scantic Silt Loam	0-3%
Suffield silt loam	25-45%
Walpole fine sandy loam	N/A
Windsor loamy sand	0-8%
Woodbridge fine sandy loam	0-8%



Plate 1. A sound wall and buried utilities as examples of jetport infrastructure, view west.



Plate 2. An example of the taxiway and lighting present within the project area, view west.



Plate 3. One of many wide, grassy areas between runways and taxiways at jetport facility, view northeast.



Plate 4. Young mixed forest across gently undulating tree-removal area south of Long Creek, view east.

PRE-CONTACT NATIVE AMERICAN CULTURAL CONTEXT AND EXPECTED ARCHAEOLOGICAL RESOURCES

This section presents a brief summary of regional Pre-Contact Native American material culture, cultural contexts and known archaeological sites near the project area as a context for potential archaeological resources within the Portland Jetport project area. Researchers have established five general cultural units of Maine prehistory that span from the end of the Pleistocene to the modern era. The following dates are listed in radiocarbon years before present, abbreviated as *B.P.* Currently recognized primary cultural periods include the Paleoindian (11,500-10,000 B.P.), Late Paleoindian (10,100-8,000 B.P.), Archaic (10,000-3,000 B.P.), Ceramic (3,000-400 B.P.) and Contact (1600 A.D. [400 B.P.] to present)(Spiess 1990). Native American settlement patterns, resource consumption, occupation tenure and group mobility shifted through time, however, early inhabitants of Maine continued to practice hunting and gathering as a primary subsistence system across all eras of prehistory.

Ancient groups employed a range of adaptations to survive the often harsh northern New England climate as they moved across the landscape in pursuit of seasonally available natural resources. Archaeologists identify five Pre-Contact site types in Maine: habitation and workshop sites, lithic quarries, cemeteries, rock art locations and waterlogged sites that can preserve wood and other perishables. Of these types, habitation and workshop sites account for over 95% of the known Pre-Contact archaeological sites in the state. An absence of quality tool stone or large stone outcrops suggests a low probability for a quarry or rock art site, however, the proximity of the Fore River, Long Creek and numerous unnamed hydrological features suggest a potential for habitation or workshop sites within the current project area.

Cultural deposits at workshop or occupation sites typically consist of stone tools, waste material from stone tool manufacture, maintenance or use, and ceramic sherds should the site post-date pottery development. Additional archaeological resources could include fire-cracked rock, hearths, roasting platforms or postholes (structural remains) dependant on the length and purpose of the activity episode. Predictive models of Pre-Contact site distribution in Maine suggest a potential for cultural deposits from any prehistoric cultural unit based on the persistence of a hunter-gatherer subsistence strategy across millennia of human occupation in the state.

Pre-Contact Material Culture

Pre-Contact peoples of Maine utilized a wide range of technologies and strategies to survive in northern New England from the late Pleistocene to initial European contact. Ancient peoples fashioned clothing, shelter, tools and other everyday items from naturally occurring substances such as wood, bone and stone. By 3,000 B.P., human inhabitants of the state developed the first synthetic material technology, fired pottery, as a major advancement in collection, cooking and storage capabilities. Pre-Contact activity at every scale left a footprint on the landscape in the form of cultural deposits: the physical remains of human action or occupation. Cultural deposits typically include artifacts – stone tools, pottery and other human-modified objects – as well as archaeological features such as fire pits, postholes and other non-moveable evidence of human occupation. Archaeologists analyze cultural deposits, the “stuff” left behind by the first New Englanders, to reconstruct the chronology, duration, purpose and cultural association of ancient human activity sites. This section presents a short description of general Pre-Contact artifacts and features.

Peoples of every known Pre-Contact era produced tools by changing the shape of naturally occurring stones and archaeologists use the term *lithics* to describe all human-modified stone at an archaeological site (Andrefsky 2005:11). Humans used three primary techniques to produce stone tools, flaking, pecking and grinding, and many cultures practiced multiple methods as dictated by the desired final tool form. Flaked-stone tools are produced and maintained by chipping flakes from an objective piece (the

stone being altered) to shape an item or create an edge. Pressing stone slivers from a projectile point to re-sharpen its edge or striking large flakes from a river cobble to make a simple chopping implement are both examples of flaked-stone technology. Pecking involves focused impacts against the objective piece to “peck” off stone and sculpt the item into a specific form. People produced ground stone tools through abrasive action, such as rubbing a stone against a river cobble to shape a stone axe head (Andrefsky 2005:256). The physical remains of stone tool technology, from finished tools to unused waste flakes called *debitage*, yield information about how Pre-Contact groups collected, processed, prepared and consumed natural resources. Lithic analysis can reveal techniques of tool production, types of tools produced and raw materials used by occupants of a site, a culturally specific tradition that provides insight into that group’s subsistence strategy, preferred game, shelter, trade networks, period of occupation and overall mobility. Made of durable stone and used by virtually all Pre-Contact cultures, lithic artifacts are often the only components of the ancient tool kit that survive millennia in the acidic Maine soils.

Pre-Contact ceramics were the first synthetic materials ever created by human beings and ceramic technology had a significant impact on ancient Native American culture, primarily as reusable cooking vessels and storage containers (Rice 2005:3). Initial development of fired ceramics in Maine marks the beginning of the Ceramic period about 3,000 B.P., visible in the archaeological record as cord-marked Vinette I pottery (Petersen and Sanger 1991). Pottery production continued throughout the Ceramic period, also designated as the Woodland period in neighboring states, and into the Post-Contact era. Archaeologists used ceramic data from several important sites described above to construct a local ceramic chronology based on physical attributes such as wall thickness, temper, rim style, vessel form, surface treatment and surface decoration (Bunker 1994; Petersen and Sanger 1991). The presence of ceramics at an archaeological site in Maine is immediately diagnostic of the Ceramic period and with sufficient preservation of the vessel pieces or *sherds*, analysts can often refine the occupation date range to one of seven Ceramic period subdivisions. Whole vessels, or even broken pieces of vessels, can contribute to a better understanding about the mobility, diet, chronology and cultural affiliation of a site’s past inhabitants. Fired pottery is durable and can survive centuries beneath the ground under the right conditions as another tool to help the archaeologist reconstruct ancient human lifeways.

Pre-Contact peoples used more than stone and pottery to survive in ancient Maine. Groups used organic materials to make clothing, twist cordage, build shelters, fashion tools and myriad other everyday tasks, however, wood, bone and other organics do not often preserve well in the moist, acidic soils of northern New England. Although the organics themselves may dissolve, evidence of their use can persist in the archaeological record. Wooden posts, fire pits or hearths, stone roasting platforms and other cultural features leave noticeable stains or inorganic components in the soil that can remain visible for millennia. All human occupants of the ancient northeast needed fire and shelter to survive, and therefore people from the Paleoindian era to the Contact period could leave an indelible mark on the archaeological record.

Natural Conditions and Pre-Contact Archaeological Sensitivity

Archaeologists define five primary factors in human decisions about where to camp, hunt, and fish, including: proximity to water, level terrain, good vantage, well-drained soils and ready access to natural resources (i. e. plants, animals or lithic raw materials). Landforms that meet these four criteria most often occur in alluvial settings along major rivers and their tributaries, along the shorelines of present-day lakes and ponds or the former shorelines of pro-glacial lakes. Sites situated away from prominent hydrological features are often selected for the ready availability of specific natural resource such as clay beds or tool stone. When assessing the Pre-Contact archaeological sensitivity of a project area, archaeologists consider the landform, soils, available natural resources, distance to water, vantage and slope based on a combination of cartographic analysis and field data collected during a walkover site inspection.

Natural processes and Post-Contact human activity affect the distribution and integrity of archaeological resources on the landscape. Even sites undisturbed by post-occupational human impacts, a relatively rarity in New England, suffer the effects of erosional, depositional and climatic processes. Dr. Richard Boisvert of the New Hampshire Division of Historical Resources speculates that sites may only remain at drainage heads since active landform erosion over the past millennia has likely removed sites that were once located along ravine edges (personal communication, Richard Boisvert to Kathleen Wheeler, November 9, 2006). Evidence suggests the pace of erosion has intensified throughout the nineteenth and twentieth centuries, leaving twenty-first-century archaeologists with the challenge of identifying cultural deposits that have survived the impacts of erosive forces.

Decades of archaeological research in New England indicate that Pre-Contact groups considered slope, landform, drainage, vantage and proximity to water and other natural resources when selecting camp or activity sites. Some areas that do not meet these criteria have the potential to contain cultural deposits related to hunting, plant collection, raw material procurement or other short-term activities that could occur at some distance from the nearest occupation site. Considering the generally level topography and proximity to both major and minor water bodies, initial desktop review suggested that all sections of the Portland Jetport project area retain a moderate to high potential for ancient Native American archaeological resources.

Paleoindian and Late Paleoindian (11,500-8,000 B. P.)

Archaeologists apply the term Paleoindian to the earliest human occupants of New England and North America as a whole. Environmental conditions in Maine and the surrounding region were vastly different than the current landscape, more similar to the modern arctic than today's thick forests. Park tundra of birch, fir and spruce stretched between a series of glacial lakes and inland seas formed by melt water from glacial regression and inundation by sea water that rushed into lowlands compressed by the weight of the overlying ice (Mack et al. 2002; Potter 1994). The distribution of known regional Paleoindian sites suggests that Paleoindian groups preferred to settle around the resource-rich mosaic of rivers, streams and wetlands that stretched across late Pleistocene and early Holocene Maine. Such locations, particularly in the basins of pro-glacial lakes, provided ready access to a diverse range of floral and faunal resources (Bunker 1994:21). Lake shores, lake outlets and high river valley terraces were also favored for their similar diversity of resources (Crock and Robinson 2012). Paleoindian site distribution patterns show a decided preference for campsites atop landforms of glacial outwash and such outwash deposits are highly sensitive for Paleoindian cultural deposits regardless of distance to a modern water source (Spiess, Wilson and Bradley 1998).

The Clovis-like fluted projectile point is the most recognizable diagnostic artifact of the Paleoindian period, but Pre-Archaic hunter-gatherer bands employed an extensive and highly varied tool kit that includes fluted points, leaf-shaped and ovate knives, end scrapers, side scrapers, flake shavers, pieces esquillées, drills, graters, channel flakes, hammerstones, anvil stones and choppers (Curran 1994; Gramly 1982). Late Paleoindian groups shared many cultural similarities with preceding peoples, however, archaeologists differentiate Late Paleoindian sites based on an observed transition from fluted point forms to smaller, unfluted point types. Late Paleoindian point types often exhibit a slender lanceolate shape and distinctive parallel to parallel-oblique flaking techniques (Boisvert 2005; Boisvert and Bennett 2003, 2004; Cox and Petersen 1997; Will and Moore 2002). Highly mobile Paleoindian bands traversed wide tracts of territory in pursuit of preferred floral and faunal species, a migratory pattern that offered access to a wide variety of resources. Not limited to locally available tool stone, Paleoindians commonly used high quality lithic material that can derive from sources hundreds of miles from the archaeological site (Spiess, Wilson and Bradley 1998).

Paleoindian sites are relatively rare on both the local and regional scale, with most documented occurrences consisting of isolated projectile point finds or small lithic workshops. MHPC records document less than 100 known Paleoindian sites in the state, but the list includes several significant sites that have contributed important data to a better understanding of the earliest New Englanders. Notable Paleoindian archaeological resources in Maine include the Michaud site in Auburn (Spiess and Wilson 1987), the Hedden site on the Kennebec Plains (Spiess and Mosher 1994; Spiess et al. 1995) and the Nicholas site in Poland (Wilson et al. 1995). Although Paleoindian sites can occur at some distance from a modern water body, archaeologists have also recorded Paleoindian sites near existing water sources such as the Esker site along the Kennebec River (Will, Moore and Dorion 2001) and the Vail site on Aziscohos Lake (Gramly 1982). At the southwestern corner of the state, investigations at the Neal Garrison site produced evidence of a Paleoindian encampment (Kellogg and Simmons 2000).

Although similarly rare in neighboring New Hampshire, Paleoindian sites have been documented across the state. Located in the Ashuelot River Valley in southwestern Cheshire County, the Whipple Site is the most substantively reported Paleoindian site in the state of New Hampshire and has been subject to intermittent archaeological investigation since the early 1970s. Other Paleoindian archaeological sites of note include two Merrimack State Forest sites (27-MR-129 and 27-MR-146) in Boscawen (Wheeler et al. 2003) and the Israel River Complex of five sites in Jefferson (Boisvert 1998, 2004). The basal levels of the multi-component Neville and Smyth sites along the Merrimack River in Manchester also produced distinctive fluted point forms (Dincauze 1976; Starbuck 2006).

Early Archaic (9,000-8,000 B. P.)

Archaeological evidence suggests a shift in human settlement patterns at the end of the Paleoindian period as a response to changing environmental conditions. Early Archaic sites cluster along modern lake shores and lake outlets as well as river terraces, particularly around major falls (Bunker 1994; Robinson, Peterson and Robinson 1992; Spiess 1992). Groups likely organized migrations between several campsites according to the seasonal availability of floral and faunal resources. Regional Early Archaic cultures show a clear reliance on locally available tool stone and an increased use of expedient tools in the form of unmodified or only slightly modified flakes and unifacial tool forms (Bunker 1992; Dincauze 1976). In addition to these general trends, Brian Robinson (1992) identified the Gulf of Maine Early Archaic tradition marked by the introduction of pecking and grinding stone tool production techniques. The Gulf of Maine tradition includes large amounts of the quartz debitage, cores, steep-bitted scrapers and unifacial tools found at other Early Archaic sites as well as the distinctive ground and pecked tool forms. Archaeologists have established that the Gulf of Maine tradition encompasses the watersheds of the Merrimack, Saco, Androscoggin, Kennebec, Penobscot, St. Croix and Saint John Rivers, and spans the period between 9,500 and 6,000 B. P. As Robinson notes, the technological tradition

...is characterized by a flaked stone industry dominated by core and uniface technology and by the early development of a diverse assemblage of ground stone tools, including full-channeled gouges, adzes and ground stone rods (Robinson 1992: 64).

The proliferation of Early Archaic sites in alluvial settings results in archaeological deposits that are often buried well below the modern ground surface. The Sharrow site (ME 90-2D) in central Maine provides an excellent example of such deeply buried cultural strata. Located near the confluence of the Sebec and Piscataquis Rivers, archaeologists identified multiple Early Archaic features over 3 m (10 ft) below the current surface grade (Petersen 1991). On a wider regional scale, investigations at the Eddy site (27-HB-078) just below the Amoskeag Falls of the Merrimack River in Manchester, New Hampshire, exposed a Gulf of Maine cultural deposit at the base of the test excavations over 2 m (6 ft) below the modern ground surface (Bunker 1992; 2007). The Early Archaic site distribution pattern focused on landforms along

existing water bodies suggests a significant potential for Early Archaic cultural resources within the Portland Jetport project area.

Middle Archaic (8,000-6,000 B. P.)

Ancient peoples practiced a more widely spaced settlement pattern during the Middle Archaic, however, human activity still concentrated along major waterways, falls and lakes, and archaeological data suggest an increased reliance on aquatic resources as a response to warmer and drier climatic conditions (Bunker 1994). The typical regional Middle Archaic tool assemblage includes a variety of stemmed projectile point forms – the Neville, Neville variant and Stark types – as well as bifacial preforms, unhafted flake scrapers, tiny quartz scrapers, wedge-shaped unhafted flake knives, perforators, winged atlatl weights, full grooved axes, cobble hammers and heavily flaked choppers. In Maine, such well known point forms are relatively rare and many sites show a continuation of the ground stone tool kit of the Gulf of Maine tradition (Robinson 1992). Expedient flake tools also comprise a portion of the Middle Archaic tool assemblage. Heavy woodworking tools such as ulus, bifacial chipped knives and gouges first arise in the Middle Archaic period and suggest that the dugout canoe originated or significantly expanded in popularity during this time.

Archaeologists have identified Middle Archaic cemetery sites in Maine that exhibit evidence of a mortuary tradition that involves the use of red ocher and the inclusion of grave goods. Artifacts found in association with burials of these Middle Archaic “Red Paint People” often consist of ground stone gouges, slate projectile points and stone rods that exhibit the morphology and production techniques of the Gulf of Maine tradition (Robinson 1992). Middle Archaic sites of the Red Paint People are more common east of the Kennebec River and many suggest a subsistence system primarily devoted to the exploitation of maritime resources.

The current project area encompasses numerous landforms along the Fore River and Long Creek that fit the water-focused model of Middle Archaic settlement and correspond to a significant potential for Middle Archaic resources.

Late Archaic (6,000-3,000 B. P.)

Tentative evidence suggests the environment of the first millennium of the Late Archaic in New England was considerably warmer than today, with precipitation rates 25-30% above modern levels. Pollen profiles suggest that although precipitation rates decreased after about 5,000 B.P., temperatures remained above the modern annual average (Thomas 1991). Like the Early and Middle Archaic periods that preceded it, the Late Archaic is marked by a continuation of hunting and gathering traditions and exhibits an increased adaptation to local conditions and resources. Radiocarbon dates from a fish weir on the Sebasticook River in Maine provide evidence for the use of stationary traps as perhaps the earliest example of such technology (Petersen et al. 1994). Burial ceremonialism is an important component of Late Archaic cultures visible in the archaeological record across New England (Bunker 1994). Steatite bowls first appear during the Late Archaic and site assemblages often show an increased diversity of tool stone as evidence for widespread inter-group contact and trade (Bunker 1994; Dincauze 1976).

A marked division appears between interior lake and forest-based economies and coastal resource oriented activities. Based on subtle artifact assemblage variations, archaeologists have identified four distinct Late Archaic traditions: the Laurentian, the Small Stemmed or Narrow point, the Susquehanna or Broad Blade and the Maritime Archaic. Artifacts associated with the Small Stemmed tradition include small triangular or stemmed bifaces with narrow blades, weak shoulders and side- or corner-notched stems (Dincauze 1976). Distinctive material culture of the Susquehanna tradition consists of broad-bladed Susquehanna and Perkiomen bifaces as well as elaborate mortuary practices including the use cremation, red ochre and often rich deposits of grave goods (Thomas 1991). The Laurentian tradition

consists of the Vergennes, Brewerton and Vosburg variants. The subdivisions overlap in both location and chronology but are differentiated by tradition-specific projectile point forms (e.g. Otter Creek, Brewerton and Vosburg points) and technological adaptations. Archaeologists identify Maritime Archaic sites by a proliferation of ground stone tools that suggest a close relationship with the Vergennes Archaic and lithic production techniques related to the Gulf of Maine tradition. It remains unclear whether the four primary technological traditions of the Late Archaic – the Small Stemmed, the Laurentian, the Susquehanna (or Broad Blade) and the Maritime Archaic – represent a temporal sequence or are instead contemporaneous phenomena that derive from distinct lithic traditions.

Notable Late Archaic sites in Maine include the Bob site (Mack et al. 2002) and the Hirundo site (Sanger and McKay 1973) along Pushaw Stream as well as the Hathaway site on the Passadumkeag River (Robinson 1996) and the Eddington Bend site on the Penobscot River (Petersen and Sanger 1987). The Hathaway and Eddington Bend sites are large Late Archaic cemeteries that show the use of red ocher as a continuation of the common mortuary practices of Early and Middle Archaic peoples. Archaeological evidence indicates that Late Archaic peoples visited sites repeatedly to conduct seasonal activities such as fish harvesting along falls and rapids. As a result, Late Archaic sites are found along both major and minor hydrological features.

Ceramic Period (3,000-400 B. P.)

By about 3,000 B. P., Native American peoples incorporated the manufacture of ceramics into their subsistence and economic strategies, and the period from 3,000 B. P. to 400 B. P. is known as the Ceramic period in Maine and the Woodland period in neighboring New Hampshire. Post-Archaic cultures to the south and west trended towards larger nucleated settlement patterns, a greater degree of sedentism and an increased incorporation of horticulture into the primary subsistence system. Contemporaneous cultures in Maine, however, continued to rely more heavily on hunting and gathering even after the development of ceramic technology. The use of the term Ceramic period in Maine, as opposed to the more common term Woodland period used in surrounding states, reflects these divergent behavioral patterns and an important distinction between regional Post-Archaic cultures. Petersen and Sanger (1991) used an intensive analysis of regional ceramics to delineate seven Ceramic period subdivisions that correspond to specific temporal associations within the larger context of the Ceramic period (Table 2).

Archaeologists identify Ceramic Period 1 sites based on the presence of Vinette I pottery and diagnostic projectile point forms such as the Meadowood, Rossville and Stubenville point types. Ceramic Periods 2-4, from 950-2,150 years B.P., generally correspond to the Middle Woodland period. Diagnostics associated with Ceramic Periods 2-4 include the introduction of dentate stamping, cord-wrapped-stick impressions and other ceramic decorative techniques as well as Jack’s Reef pentagonal and corner-notched, Woodland stemmed and lanceolate projectile points.

Table 2. Ceramic period subdivisions.

Ceramic Period	Temporal Association	Woodland Designation
Ceramic Period 1	2,150-3,050 B.P.	Early Woodland period
Ceramic Period 2	1,650-2,150 B.P.	early Middle Woodland period
Ceramic Period 3	1,350-1,650 B.P.	middle Middle Woodland period
Ceramic Period 4	950-1,350 B.P.	late Middle Woodland period
Ceramic Period 5	650-950 B.P.	early Late Woodland period
Ceramic Period 6	400-650 B.P.	late Late Woodland period
Ceramic Period 7	200-400 B.P.	Contact period

Research suggests that tropical cultigens maize, beans, squash and sunflower arrived in New England during Ceramic Period 4 around 1,000 B.P., spreading north into the region from the south and west (Bendremer et al. 1991:344; McBride and Dewar 1987). The introduction of these cultigens did not greatly alter the lifeways of ancient Native Americans in Maine, who continued to practice a subsistence system largely devoted to hunting and gathering (Spiess 1990). Ceramic Periods 5 and 6 post-date the regional incorporation of horticulture and are roughly equivalent to the Late Woodland period designation used in New Hampshire. Archaeologists primarily use diagnostic changes in ceramic vessel form, decoration, temper material and surface treatment to differentiate Ceramic Period 5 and 6 assemblages from earlier cultural phenomena.

Climatic and archaeological data indicates cooler temperatures, higher water levels and an increased diversification of both floral and faunal species during the Post-Archaic period in Maine (Mack et al. 2002). Research at Ceramic period sites suggests cultural adaptations to the use of locally available resources as well as established lines of communication and trade with often distant groups (Sanger 1988). Ceramic period sites are relatively common in Maine in a wide range of geographic settings, from coastal landforms to the interior forests (Spiess 1991). The wide and varied distribution of Ceramic period sites suggests a possibility for Post-Archaic archaeological resources within the Portland Jetport project area.

Contact Period (A. D. 1600 to present)

European exploration of the New World resulted in contact with Native American peoples beginning in the 1500s. The Contact period continued through the end of the Colonial Wars in the 1760s as indigenous groups struggled to accommodate new population pressures while assimilating the effects of decimating disease, new weaponry and metal technology. European manufactured goods such as iron or brass kettles, metal tools and utensils, sheet copper and brass, clay pipes, textiles and glass bottles begin to appear in the archaeological record of Native Americans, although many of these items were recycled into traditional forms. Levanna shaped projectile points made of brass were recovered from early Contact period components, along with their lithic counterparts, at both the Hormel and Rocks Road sites in New Hampshire (Robinson and Bolian 1987; Boisvert, Spiess, and Fulton 1994:6).

Early Euroamerican settlers who established contact with the Abenakis of Maine expanded the term to include the Abenakis themselves as well as the loosely affiliated but independent groups of Passamaquoddies, Maliseets, Amarascoggins, Kennebecs, Penobscots and Micmacs in neighboring territories to the east. Today these groups are collectively known as the Wabanaki and comprise a diverse but related cultural complex that is distinct from the Mohawks to the west, the Cree-Montagnais-Naskapi to the north and Algonquin-speaking groups to the south (Haviland and Power 1994).

The adoption of European materials had a profound impact on Native American lifestyles as the practice of traditional lithic tool production and ceramic manufacture dwindled. Stone tool use in northern New England virtually disappears from the archaeological record by 1630, although ceramic use persists for some time after the introduction of metal vessels. The loss of traditional technology translated to an increasing Native American dependence on economic ties to the Europeans. Palisaded villages first appear situated at strategic positions, perhaps as a result of trade-related warfare or to protect important tracts of territory. Epidemic disease between 1616 and 1617 exacerbated an extensive cultural collapse, virtually eradicating many Native American populations as evidenced by an estimated 98% mortality rate among Western Abenaki tribes of New England (Bunker 1994).

Early scholars assumed that Native Americans were quietly integrated into Euroamerican culture in the initial Post-Contact period, however, various avenues of research in northern New England revealed many examples of continued struggle, resistance and a Native American desire to maintain a separate cultural identity (e.g., Calloway 1990). These struggles often continue to the present day and take expression in the call for federal recognition of tribes.

Proximal Archaeological Surveys and Archaeological Sites

A review of the MHPC site file database revealed two previous archaeological surveys in close proximity to the current project area (Haugh 2007; Moore and Will 2002) that resulted in the identification of three Pre-Contact sites, all located along Long Creek south of the Portland Jetport project limits (Table 3). The three known sites include two Late Ceramic (950-450 B.P.) habitation sites as well as a third habitation site that lacked pottery sherds with diagnostic attributes and therefore remains associated with the general Ceramic Period from 3,000-500 B.P.). None of the documented sites are located within the present project limits, however, their proximity and presence provides an example of the type of buried resources anticipated within the Portland Jetport project limits.

Table 3. Known Pre-Contact archaeological sites within 2 km of the Portland Jetport project area.

Town	Site Number	Site Name	Time Period	Site Description
South Portland	8.022	N/A	Late Ceramic	Habitation
South Portland	8.023	N/A	Indeterminate Ceramic	Habitation
South Portland	8.024	N/A	Late Ceramic	Habitation

POST-CONTACT CULTURAL CONTEXT AND ARCHAEOLOGICAL EXPECTATIONS

The following section provides a general settlement history for Portland (Cumberland County), Maine. Until 1895, the land where the Portland Jet Port is located was part of Cape Elizabeth (Cumberland County), Maine, therefore a brief settlement history of Cape Elizabeth is included. Also presented are nineteenth century maps produced by Baker (1857) and Beers (1871) illustrating the approximate location of the Portland Jetport project area in relation to potential historic resources.

Portland, Cumberland County

The Portland International Jetport is located in the southwestern part of what is now Portland (Cumberland County), Maine. The city of Portland occupies an all-season harbor at Casco Bay and has become a major port of the Atlantic seaboard. Portland was originally part of a large grant made by the Council for New England to Sir Fernando Gorges and Captain John Mason in 1620. The first European settlement occurred in 1632 at the edge of Portland Harbor where a small community developed that came to be known as Casco. Fishing, agriculture, and trade with indigenous peoples were the mainstay of the settlement's existence. In 1658, Massachusetts assumed ownership of the settlement and the surrounding territory as part of their jurisdiction over all of Maine and renamed the area Falmouth (Varney 1881:461).

Although trade and settlement was frequently interrupted by the Indian Wars in the seventeenth and eighteenth centuries, Falmouth built up a lucrative trade in fish, lumber, and masts. The peninsula of Casco Neck, including the site of the original settlement, was renamed Portland upon its incorporation in 1786 (Varney 1881). Maine remained part of Massachusetts until it was admitted as a state in 1820 with Portland as its capital.

Sea trade quickly became a profitable endeavor in Portland, and, by the 1760s, local merchants had built up strong relations with England and the West Indies. Though the period of prosperity caused by this trade was briefly interrupted by the American Revolution, mercantilism exploded once more following the war. Wharves were introduced to Portland Harbor in 1793, the first brick store house was built by Nathaniel Deering in 1795, and, by 1800, Exchange Street (originally Fish Street) was considered the business center (Varney 1881: 463).

As the merchant class prospered, a number of stately houses were built from State Street to the water. At this time at least three such homes were constructed on High Street: the Matthew Cobb house at the corner of High and Free Streets, the Wingate mansion on the corner of High and Spring Streets, and the mansion built by Ebenezer Storer on the corner of High and Danforth Streets (Varney 1881: 462).

In 1806 the United States government adopted a non-intercourse policy which was followed by an embargo in 1807. As Portland commercial houses closed, all classes of workers lost their jobs. By 1812, many of those still suffering from the devastated economy became privateers in the war against Britain. When peace came in 1815, the city of Portland entered into a new period of growth, this time centered on railroads and steam-powered ships (Varney 1881: 463).

For three decades the city suffered as railroads carried to Boston goods that once would have passed through Portland. Fortunately for the city, the Atlantic and St. Lawrence Railroad to Canada which stopped in Portland opened in 1853. Manufacturers once again sprang up along Commercial Street, creating hundreds of jobs for residents. This era of prosperity continued through the American Civil War with little interruption (Varney 1881: 464).

The town of Cape Elizabeth shares a similar settlement history with the city of Portland as it was originally included in the land encompassed by the 1620 Gorges Grant. In 1765 the citizens of Cape Elizabeth petitioned for and were granted their own government. Throughout the nineteenth-century, much of Cape Elizabeth remained fairly rural, with the exception of the waterfront land along the Fore River in the northern part of town. Historic maps of Cape Elizabeth dating to the nineteenth-century show heavy commercial and industrial development along the river, similar to the development experienced in Portland along the Fore River. In 1895 the town line between Portland and Cape Elizabeth was redrawn and the northern part of Cape Elizabeth was renamed South Portland.

The Portland International Jetport is located in South Portland on a small peninsula extending into the Fore River, its bound to the north by the Stroudwater River and to the south by Long Creek. A review of nineteenth-century maps show the area remained undeveloped throughout much of the nineteenth-century. Dr. Clifford Strange (1891-1958), a Portland native, is attributed as the founder of the jetport. In 1922 Dr. Strange purchased several acres of farmland on the peninsula and set about constructing a runway for his personal use (anonymous 2015). By 1927 his runway was recognized by the U.S. Department of Commerce as the “Stroudwater Flying Field.” After he developed a second runway and built two hangers, a beacon and fueling facilities the airfield was renamed the “Portland Airport.” In 1937, Dr. Strange conveyed the property to the City of Portland. Development and expansion of the airport continued throughout the twentieth-century and is ongoing.

Map Review

Overlays of the Portland Jetport on the Baker (1857) and Beers (1871) maps of Cape Elizabeth show no historic resources within the proposed project area (Figures 4 and 5). A review of USGS Topographic maps of Portland post-dating 1895 show throughout the first quarter of the twentieth century the peninsula remained undeveloped. The airport first appears on USGS maps of Portland beginning in 1957.

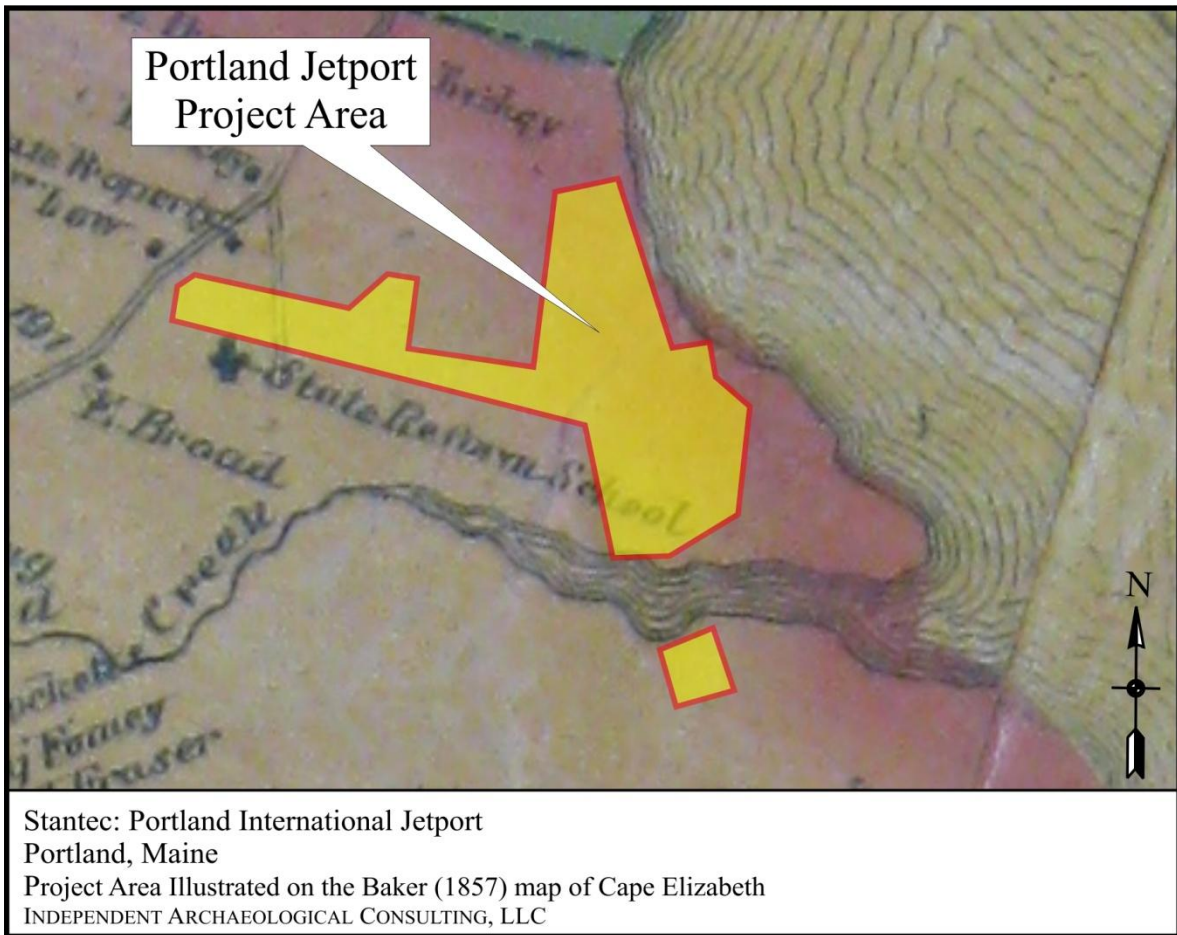


Figure 4. Portland Jetport Project area illustrated on the Baker (1857) map of Cape Elizabeth.

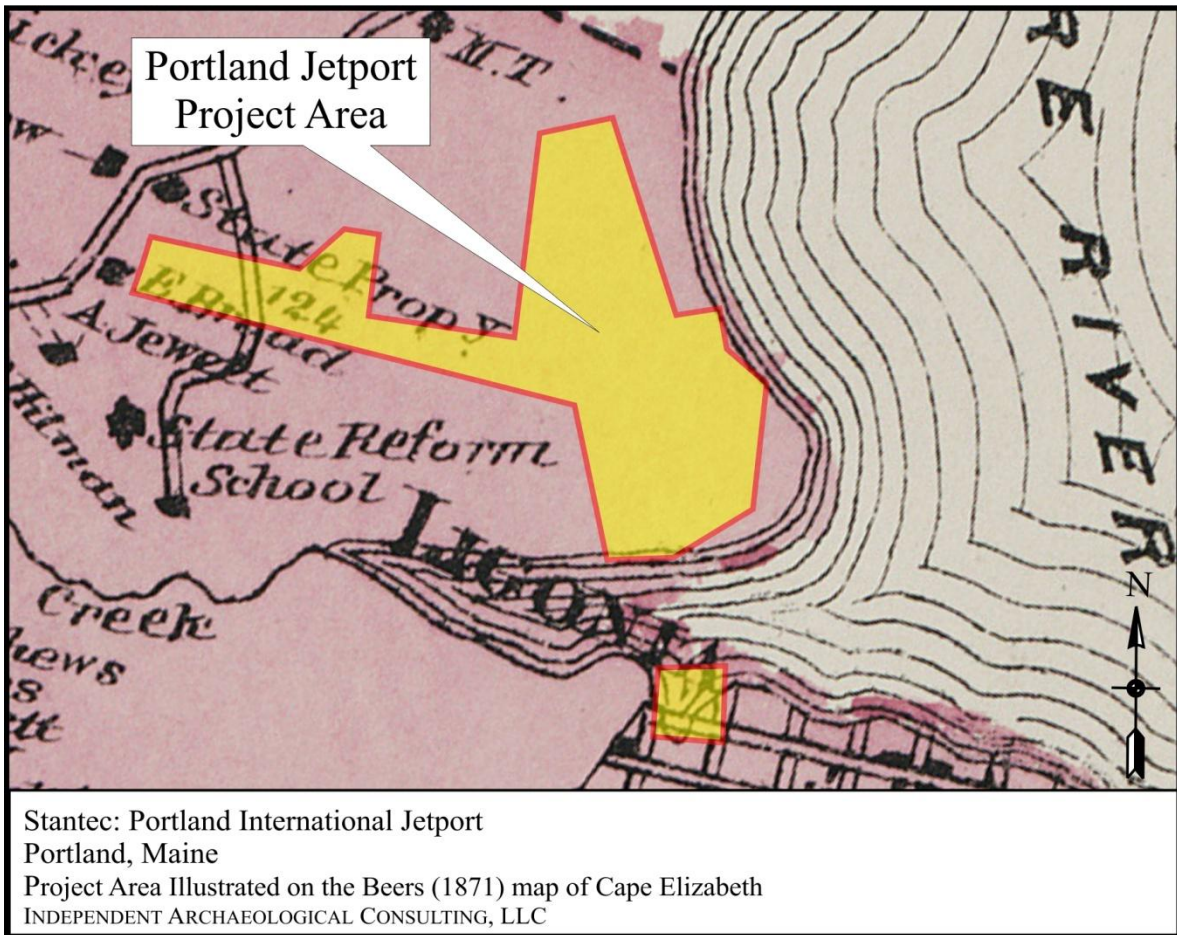


Figure 5. Portland Jetport Project area illustrated on the Beers (1871) map of Cape Elizabeth (map is highly stylized).

Known Post-Contact Archaeological Resources

Ms. Jessica Cofelice conducted a site file search on November 17, 2017 and confirmed there are no registered Post-Contact archaeological sites within the proposed Portland Jetport project area. However, the Maine Historic Archaeological Sites Inventory lists four registered Post-Contact sites within 1.6 km (1 mile) of the Jetport. One is a nineteenth-century mill site (ME-357-005) located on a brook which empties into Stroudwater River. Identified in 1979, the site consists of an earthen dam, fieldstone mill footings including a sluiceway, and evidence of a dwelling nearby. The second is the site of the Portland Brick Company in operation by 1871 on the Fore River east of the Portland Jetport (ME 357-038). As of 1988, extant features included building foundations, an old road bed, and remnants of the Cumberland and Oxford Canal. The Tate House (ME 357-016) and wharf remnants associated with the Maine State Reform School (ME 402-012) are also located within 1.6 km (1 mile) of the project area.

PHASE 0 ARCHAEOLOGICAL SURVEY METHODOLOGY AND RESULTS

The Phase 0 sensitivity assessment includes several components to establish the archaeological sensitivity of a project area. To evaluate the potential for ancient Native American cultural deposits, IAC used a combination of soil information, topography, proximity to water (or other natural resources), data from the current distribution of known Pre-Contact sites, background research and a walkover inspection of the project area that included limited subsurface testing to determine soil integrity. The Euroamerican sensitivity assessment involves these same steps but also includes a detailed review of historic maps (Baker 1857 and Beers 1871) to identify documented Post-Contact residential or commercial sites within the project area.

The distribution of known Pre-Contact sites in Maine indicates that level terrain, well drained soils and access to natural resources are primary variables in observed patterns of ancient Native American land use. The Portland International Jetport property is located along the Fore River which would have provided Pre-Contact Native Americans with a wealth of floral and faunal consumables, and convenient access to a water-based transportation corridor leading from the Fore River headwaters to the Atlantic Ocean. Based on the proximity of the project area to the Fore River and other hydrologic features, the initial stages of the sensitivity assessment suggested a high potential for Pre-Contact archaeological deposits within the proposed project area.

For the Pre-Contact site file search, Mr. Tumelaire submitted the project location to Dr. Arthur Spiess – Senior Archaeologist for the Maine Historic Preservation Commission (MHPC) – who provided data about all archaeological surveys and known Pre-Contact sites in close proximity to the project area. The Post-Contact background research included a cartographic resource study as well as a review of the MHPC Historic Site Inventory files to identify known archaeological sites in the vicinity of the project area, both of which suggest no archaeological sensitivity for the current project area.

IAC completed the Phase 0 assessment for the jetport project area to identify archaeologically sensitive areas and used this data to determine which management units are located within areas of Pre-Contact or Post-Contact archaeological sensitivity. Principal Investigator Jacob Tumelaire and Project Archaeologist Jessica Cofelice performed the Phase 0 walkover survey on November 1, 2017. Archaeologists documented the inspection results with photographs, detailed notes and GPS points collected using a Trimble Juno® handheld data collector and Pro 6H GPS receiver. The survey crews hand-excavated sixteen soil tests atop archaeologically sensitive landforms within the project area to identify subsurface soil conditions and generate a more accurate assessment of archaeological sensitivity based on the degree of disturbance to the natural soil strata (see Figure 3).

The Phase 0 survey resulted in the identification of two areas of Pre-Contact Native American archaeological sensitivity, designated as Sensitive Areas 1-2 (SA-1 and SA-2). Archaeologists found the proposed project area not archaeologically sensitive for Post-Contact archaeological resources. IAC recommends a Phase I Reconnaissance Survey to confirm the presence or absence of ancient Native American archaeological resources within SAs 1 and 2.

Phase 0 Archaeological Survey Results

As part of the initial desktop survey, IAC designated the five project area segments as Management Units 1-5 (MU-1 through MU-5) (see Figure 2). MUs 1-4 include the four potential development areas within the jetport facility while MU-5 is the potential tree removal area south of Long Creek. Following the desktop review, Project Archaeologists Jacob Tumelaire and Jessica Cofelice conducted a walkover inspection of the five MUs on November 1, 2017. The inspection included the excavation of 16 soil tests to identify subsurface soil conditions and generate a more accurate assessment of archaeological sensitivity based on the degree of disturbance to the natural soil strata. IAC generated shapefiles of the five MUs to guide the survey crew and used GPS data to record the locations of soil tests (STs) as well as areas of archaeological sensitivity. The Phase 0 survey confirmed that MU-3 and MU-5 encompass landforms sensitive for Pre-Contact archaeological resources, while construction and maintenance of the jetport has reduced or eliminated any potential for undisturbed cultural deposits within MUs 1, 2 and 4. The following pages present the Phase 0 survey results, separated by Management Unit for ease of interpretation.

Management Unit 1 (MU-1)

Management Unit 1 (MU-1) encompasses about 3.6 hectares (9.0 acres) within the westernmost potential development area near the western periphery of the jetport (see Figure 2). Initial map review suggested a potential for Pre-Contact cultural deposits based on the proximity of several unnamed streams and drainages that once flowed across the landscape in and around the facility. Existing pavement dominates MU-1, leaving only thin slivers of grass exposed along the MU periphery. In addition to the pavement, a sound wall, several manhole covers, lights and other infrastructure suggest significant disturbance to the landscape even in unpaved areas (Plates 5-7). Mr. Tumelaire excavated ST-4 along the southern MU edge and exposed a thin A Horizon of very dark grayish brown sandy loam atop a fill deposit of yellowish brown medium to coarse sand with 50% gravels and stones. The fill stratum terminated at dense rock just 22 centimeters below surface (cmbs). The inspection results suggest that construction of the extant runways, taxiways, utilities and other ground features caused significant disturbance to the natural landscape and eliminated any possibility for intact archaeological resources. IAC recommends no further archaeological survey for MU-1.



Plate 5. MU-1 overview, view west.



Plate 6. Buried utilities and sound wall in MU-1, view west.



Plate 7. Section of extant taxiway and lighting system that dominates MU-1, view southwest.

Management Unit 2 (MU-2)

Management Unit 2 (MU-2) includes 4.0 hectares (9.8 acres) of potential development area just west of the main terminal building (see Figure 2). An unnamed drainage off the Stroudwater River terminates at a wetland just north of the jetport boundary fence, indicating a possibility for cultural deposits associated with Pre-Contact land use. Like MU-1, MU-2 exhibits evidence for widespread topographic modification in the form of runways, buried utilities, artificial landforms and other ground features (Plates 8-11). Archaeologists excavated STs 1-3 within MU-2, all three of which revealed similar profiles of a brown to dark brown sandy loam A Horizon over a dense layer of rocky, sandy fill atop a rockbound base at less than 30 cmbs. The soil tests indicate that the elevated topographic features in MU-2 are artificial landforms with a nonexistent potential for undisturbed archaeological resources. IAC recommends no additional archaeological investigation for MU-2.



Plate 8. Overview of MU-2 within the jetport facility, view west.



Plate 9. Drainage features in MU-2, view west.



Plate 10. Artificial drainage channel in MU-2, view north.



Plate 11. Artificial landforms and drainages in MU-2, view northeast.

Management Unit 3 (MU-3)

IAC designated Management Unit 3 (MU-3) as the largest potential development area that encompasses 36 hectares (89 acres) east of the main terminal and north of Runway 11-29 along the west bank of the Fore River (see Figure 2). The proximity of the Fore River and several drainages suggested sensitivity for Pre-Contact archaeological resources during desktop review, although Post-Contact development has altered the natural topography. Wide grassy areas abound across the MU, generally level and low with few elevated landforms (Plates 12-14). Six soil tests excavated in MU-3 exposed similar profiles of a silty loam A Horizon atop either olive brown sandy fill or dense clay, and all six tests terminated at a rockbound base less than 30 cmbs. Based on the observed extent and impact of ground disturbance associated with the jetport's construction, IAC recommends no further archaeological survey for the majority of MU-3, however, archaeologists delineated Sensitive Area 2 (SA-2) to include a strip of land along the eastern MU edge (see Figure 3).

Although STs 10-12 exposed the same dense fill seen across the rest of MU-3, the current ground surface within the jetport fence line appears noticeably higher than the wooded shoreline terrace between the fence and the Fore River to the east (Plates 15-16). The observed elevation difference between the fill and terrace surface suggests a potential for intact natural soils beneath the fill deposit. If present, the natural soils have a high potential to contain cultural deposits related to Pre-Contact activity or occupation along the Fore River. Jetport staff indicated that SA-2 encompasses a former low, wet area that was filled and graded to form a continuous level ground surface along the jetport periphery. Unfortunately, IAC could not secure engineering plans to confirm the landscape modification. In the absence of documentary evidence for the filling, IAC recommends a Phase I reconnaissance survey of SA-2 to establish the presence or absence of Pre-Contact archaeological resources. Phase I testing typically includes 0.5-m-x-0.5-m shovel test pits (STPs), however, larger testholes may be required for archaeologists to excavate through the fill and confirm whether natural soils remain within the potential development area. Minimally, IAC recommends the excavation of up to 25 STPs in SA-2.



Plate 12. Overview of low, grassy areas that abound across SA-3, view west.



Plate 13. Large drainage swale in MU-3, view northwest, one of many such drainage features within the project limits.



Plate 14. View of the Fore River from the eastern edge of MU-3, view east.



Plate 15. Overview of SA-2 in MU-3, view northeast.



Plate 16. Terrace edge outside the jetport fence in SA-2, view east.

Management Unit 4 (MU-4)

Management Unit 4 (MU-4) encompasses 14 hectares (35 acres) of potential development area that straddles Runway 18-36 south of Runway 11-29 (see Figure 2). The grassy areas between the runways and taxiways are generally low, with standing water at the time of survey and few elevated landscape features (Plates 17-19). The presence of three known Pre-Contact sites just south of the MU edge indicates a potential for additional Pre-Contact cultural deposits, however, five soil tests excavated within MU-4 revealed the same A Horizon-on-fill profile observed across MUs 1-3. Mr. Tumelaire placed ST-8 at the southern limits of MU-4 as close to the known site locations as possible within the current project area. ST-8 displayed a surface horizon of brown sandy fill atop a second fill stratum of silty clay loam and gravel. The absence of natural soils suggests a low probability for undisturbed cultural deposits associated with either known or undocumented archaeological resources and IAC recommends no additional survey for MU-4.



Plate 17. Example of the low-lying, generally level grassy areas in MU-4, view northeast.



Plate 18. Example of extant runways, taxiways and infrastructure in MU-4, view southwest.



Plate 19. Holding pond at the southern edge of MU-4, view south.
The three known Pre-Contact sites are located southeast of pond outside current project area.

Management Unit 5 (MU-5)

Management Unit 5 (MU-5) includes 6.2 hectares (15 acres) of potential tree removal area along the southern bank of Long Creek south of the jetport facility (see Figure 2). Young mixed-growth forest covers the gently undulating landscape of MU-5, with Long Creek along its northern edge and an unnamed drainage along its southern periphery (Plate 20). Desktop review revealed an absence of obvious Post-Contact development as well as the presence of proximal hydrological features and well drained sandy soils that suggested sensitivity for Pre-Contact archaeological resources. Walkover inspection confirmed that despite isolated areas of disturbance, MU-5 encompasses level, well drained landforms between two water bodies with a significant potential for Pre-Contact cultural deposits. ST-16 excavated in MU-5 exposed a natural soil sequence comprised of a dark yellowish brown sandy loam A Horizon and yellowish brown loamy sand B Horizon atop a C Horizon of yellow medium sand.

IAC delineated Sensitive Area 1 (SA-1) to include all of MU-5 and recommends a Phase I reconnaissance survey of MU-5 to establish the presence or absence of Pre-Contact cultural deposits. The Phase I survey should include 50 STPs, with 40 testholes in two transects along the northern MU edge nearest Long Creek and one transect of 10 STPs along the unnamed drainage near the southern MU boundary.



Plate 20. Overview of wooded undeveloped landscape in MU-5, view south.

CONCLUSION AND RECOMMENDATIONS

In November 2017, IAC completed a Phase 0 archaeological survey of the proposed Portland International Jetport development and improvement project area. Archaeologists identified two areas of Pre-Contact archaeological sensitivity, designated as SAs 1-2 (see Figure 3). IAC recommends a Phase I Reconnaissance Survey of SAs 1-2 to establish the presence or absence of Pre-Contact cultural resources within the proposed impact areas. The Phase I survey will require approximately 75 hand-excavated STPs between the two SAs (Table 4). In SA-2, larger testholes may be required for archaeologists to excavate through fill and confirm whether archaeological deposits are present.

Table 4. Phase I recommendations for the Portland International Jetport project.

Sensitive Area (SA #)	Pre-Contact Sensitivity	Post-Contact Sensitivity	Phase IB STP Estimate
1	X		50
2	X		25*
Total	2	0	75

*some testholes may need to be enlarged to penetrate fill

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**Phase I Reconnaissance Survey
Portland International Jetport (MHPC #1050-17)
Portland (Cumberland County), Maine
IAC Report No. 1379**

October 8, 2018

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Introduction

Independent Archaeological Consulting, LLC (IAC) conducted a Phase I Reconnaissance Survey for a section of the Portland Jetport development and improvement project area (MHPC #1050-17) in Portland (Cumberland County), Maine (Figure 1). IAC completed a Phase 0 archaeological survey of the overall project limits in 2017 and identified two areas of Pre-Contact archaeological sensitivity designated as Sensitive Areas 1 and 2 (SA-1 and SA-2)(Cofelice et al. 2017). Project plans for SA-2 include the construction of a new road segment to extend south from the terminus of Yellowbird Road as well as a water quality filter and associated outfall pipe, all situated atop terraces along the western bank of the Fore River (Figure 2). Ground-disturbing impacts associated with the proposed construction include excavations and grading to accommodate the roadway, water quality filter and outfall pipe. The project area has an approximate center point located at the following UTM coordinates (Zone 19, WGS 1984 Datum): 4833428N 395202E.

IAC excavated several soil tests in SA-2 during the Phase 0 survey to identify subsurface conditions and the potential for intact archaeological deposits. All soil tests revealed dense fill to the base of excavation and geotechnical borings in the area in July of 2018 yielded similar results, showing 0.6-5.5 m (2-18 ft) of fill (Haley & Aldrich Inc. 2018). Although the soil tests and borings suggested past disturbance to the riverside landforms in SA-2, the highly variable thickness of the fill deposits and potential for buried cultural strata beneath the fill prompted IAC's Phase I survey to establish the presence or absence of Pre-Contact Native American archaeological resources. IAC conducted the Phase I survey under Section 106 of the National Historic Preservation Act (NHPA) (16 US §470f), coordinated at the state level by the State Historic Preservation Officer (SHPO, represented in Maine by the MHPC). Archaeologists excavated 22 shovel test pits (STPs) and one test unit (TU) during the Phase I survey on September 20, 2018. In addition to the hand-excavated testholes, IAC returned on September 27 to monitor the mechanical excavation of two trenches to extend the maximum excavation depth in areas of deep fill. All Phase I testholes and trenches exposed significant disturbance in the form of fill atop truncated Presumpscot clay with no evidence of cultural deposits or potential buried occupation horizons. IAC recommends no further archaeological survey for SA-2.

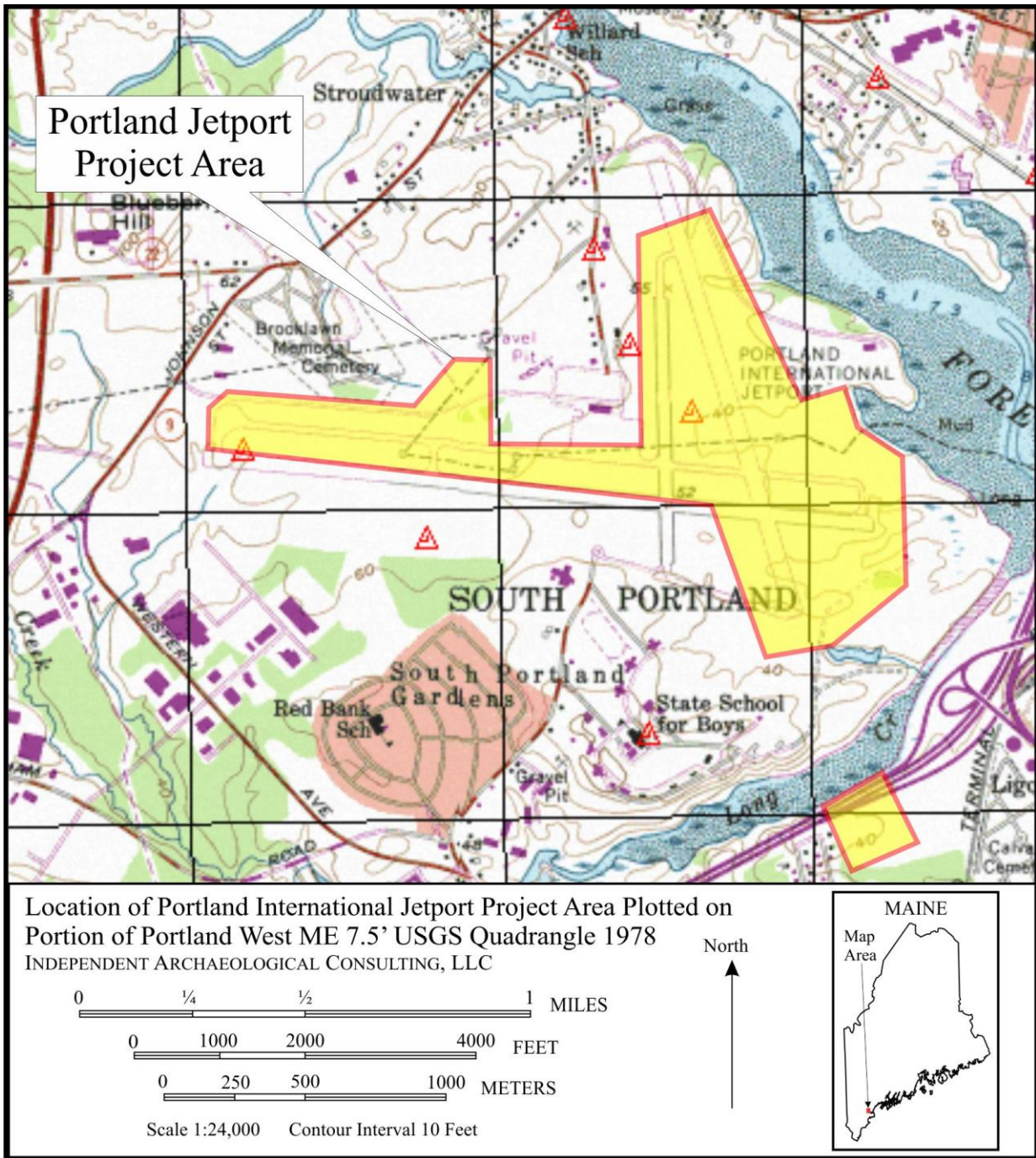


Figure 1. The overall Portland Jetport project area plotted on the Portland West 7.5' USGS quadrangle (after USGS 1978).

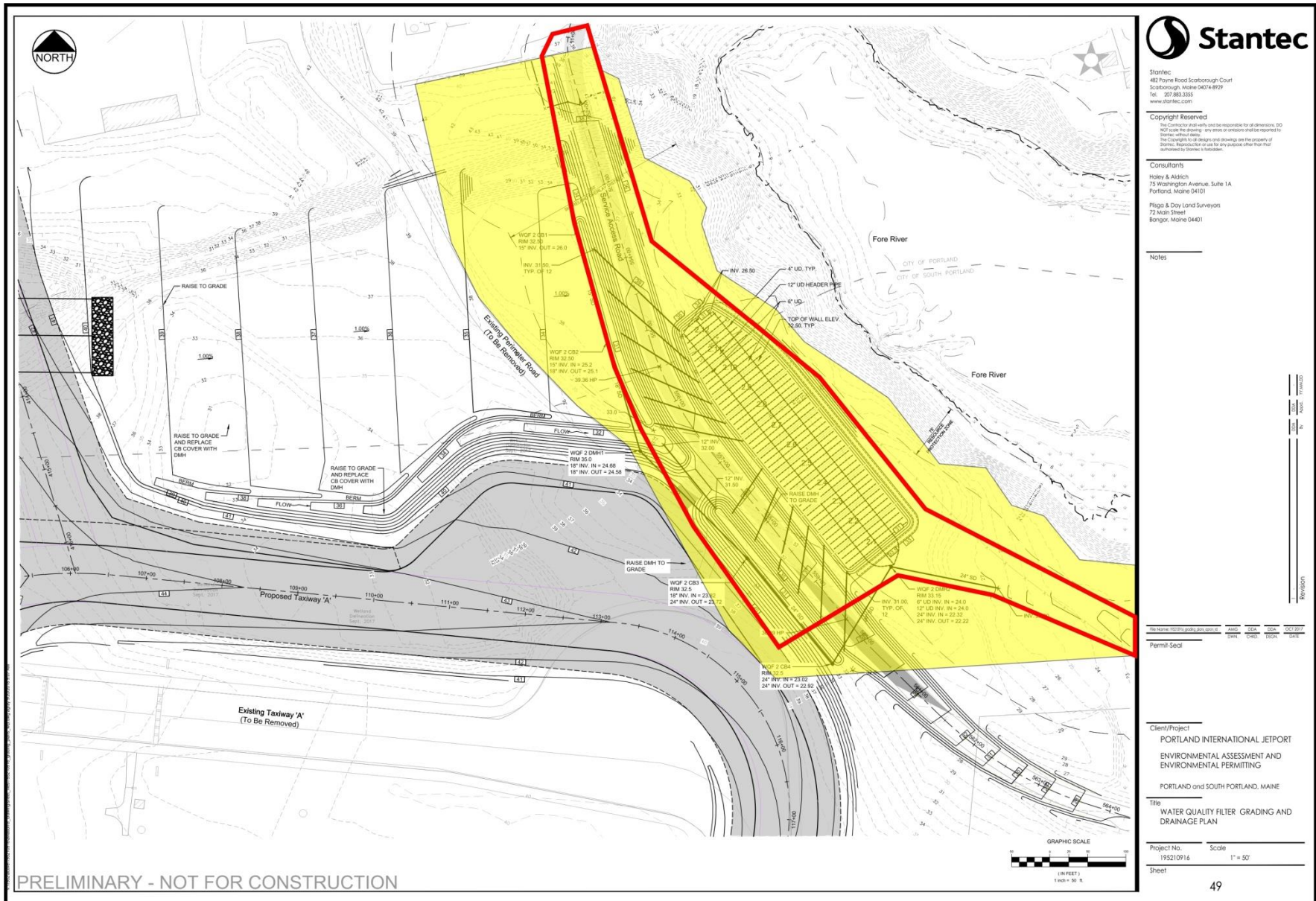


Figure 2. SA-2 (shaded yellow) and the direct impact area (the red polygon) overlaid on project plans (after Stantec 2017).

Pre-Contact Cultural Context and Expected Archaeological Resources

This section presents a short summary of regional Pre-Contact Native American culture history and known archaeological sites near the project limits as a context for potential archaeological resources in SA-2. Researchers have established five general cultural units of Maine prehistory that span from the end of the Pleistocene to the modern era. Currently recognized primary cultural periods per Spiess (1990) include the Paleoindian (11,500-10,000 B.P.), Late Paleoindian (10,100-8,000 B.P.), Archaic (10,000-3,000 B.P.), Ceramic (3,000-400 B.P.) and Contact (1600 A.D. [400 B.P.] to present). Native American settlement patterns, primary subsistence strategies, occupation tenure and group mobility shifted through time. However, early inhabitants of Maine subsisted as hunter-gatherers through the Paleoindian and Archaic periods, with trends toward more sedentary settlement beginning in the Ceramic period.

Pre-Contact Native American groups employed a range of technologies and strategies to survive the often harsh northern New England climate as they moved across the landscape in pursuit of seasonally available natural resources. Archaeologists identify five Pre-Contact site types in Maine: habitation and workshop sites, lithic quarries, cemeteries, rock art locations and waterlogged sites that can preserve wood and other perishables. Of these types, habitation and workshop sites account for over 95% of the known Pre-Contact archaeological sites in the state. The absence of quality tool stone or large rock formations suggest a low probability for a quarry or rock art site, however, the project area offers an excellent location for a habitation and workshop site.

Cultural deposits at workshop or occupation sites typically consist of stone tools, waste material (debitage) from stone tool manufacture, maintenance or use, and ceramics should the site post-date pottery development. Additional archaeological resources could include fire-cracked rock, hearths, roasting platforms or postholes (structural remains) dependant on the length and purpose of the activity episode. As the name implies, shell midden sites are characterized by a significant deposit of food waste, largely comprised of discarded shells, and account for the majority of the known Pre-Contact coastal sites in Maine.

The Phase I survey included a review of MHPC site files to identify proximal known archaeological sites as analogs for potential Pre-Contact cultural resources within the current project area. The site file search results have been redacted from this report for confidentiality.

Phase I Methods

Principal Investigator Jacob Tumelaire directed the Phase I survey on September 20 and 27, 2018. Additional IAC staff present during the survey included Archaeologist Ned Moore along with Archaeological Technicians Maya Carter, Anthony Viola and Nadia Kline. The direct impact area encompasses a series of level terraces along the west bank of the Fore River on both the interior and exterior of the existing perimeter fence. Drainage features and artificial topography indicate previous disturbance to isolated sections of the project area, however, the majority of the landscape shows little surficial evidence of previous landscape modification (Plates 1 and 2). Mr. Tumelaire placed two 0.5-m-x-0.5-m (1.6-ft-x-1.6-ft) STPs at an interval of 10 m (33 ft) along Transect 1 atop a terrace outside the perimeter fence near the northern project limits (Plates 3 and 4). Transect 2 (six STPs), Transect 3 (four STPs) and Transect 4 (two STPs) extend across level landforms within the water quality filter area just inside the perimeter fence (Plates 5-8).

Boring logs indicate thinner fill deposits along the eastern edge of the project area and Transects 2-4 lined the eastern project boundary to provide the best chance to penetrate the fill layers. In addition, past construction plans show an old runway (now demolished) that once stretched across the western edge of the water quality filter area. The alignment of Transects 2-4 offered the highest probability to avoid debris and disturbances associated with the former runway and expose potentially buried natural soil strata. MHPC archaeological guidelines require 10-m intervals between testholes, however, the evidence

for past disturbance (boring logs and previous jetport construction plans) prompted MHPC to grant permission for 20-m intervals within the perimeter fence.

Mr. Tumelaire placed the 1.0-m-x-1.0-m (3.3-ft-x-3.3-ft) TU T5-1 in a low area at the southeastern corner of the project area along the proposed outfall pipe alignment. In addition, Transects 6 (three STPs) and 7 (six STPs, five excavated) extend along an extant drainage swale that will be expanded and improved to connect the outfall pipe to an existing drainage feature just south of T7-6 (Plates 9-11; Figures 3 and 4). The Transect 6 and 7 testholes are located at the standard 10-m interval since the current available data do not include any information about soil conditions outside the perimeter fence.

In addition to the hand-excavated testholes, Mr. Tumelaire and Mr. Moore monitored the mechanical excavation of two trenches – Trench 1 and Trench 2 – in areas of thick fill deposits to extend the maximum excavation depth and establish the presence or absence of buried natural soils or occupation horizons between the fill and underlying clay. Stantec provided an operator and Takeuchi™ TB285 tracked excavator to conduct the trenching (Plate 12). The monitoring team documented the results with maps and photographs of the exposed soil profiles.

Archaeologists excavated all testholes in arbitrary 10-cm levels within natural and cultural strata, passing displaced soils through 1/4-inch hardware mesh to separate artifacts for collection. IAC staff recorded the exposed soil stratigraphy with detailed profiles including soil color, compaction and composition, and supplemented the written data with digital photography. Mr. Tumelaire used a combination of GPS data and tape-and-compass techniques to draft a scaled site plan of the project area showing testhole locations, landscape features, surface vegetation and changes in topography. To supplement the map, crewmembers used a handheld Trimble Juno 3B® data collector and Pro 6H GPS receiver to record the location of testholes and pertinent ground features. Finally, archaeologists documented the project area with extensive photographs.



Plate 1. Drainage features in SA-2, view northwest.



Plate 2. Level riverside landforms in water quality filter area in SA-2, view north.



Plate 3. Transect 1 location atop terrace outside perimeter fence, view southeast.



Plate 4. Drainage swale and river south of Transect 1 terrace, view east.



Plate 5. Transect 2 location (T2-5 circled) along fence at base of fill prism, view south.



Plate 6. View east to Fore River from Transect 2.



Plate 7. Transect 3 location in water quality filter area, view south-southwest.



Plate 8. Transect 4 location (T4-2 circled), view north-northeast. Note the elevation change from Transect 3 location (beneath arrow).



Plate 9. Test unit T5-1 location in low area along outfall pipe alignment, view north-northeast.



Plate 10. Transects 6 and 7 location along outfall pipe and swale outside perimeter fence, view south.



Plate 11. Transects 6 and 7 location along drainage swale (the yellow line), view north. The mouth of the existing drainage cut is visible in the bottom right corner.



Plate 12. Trenching in progress in water quality filter area, view south-southeast.

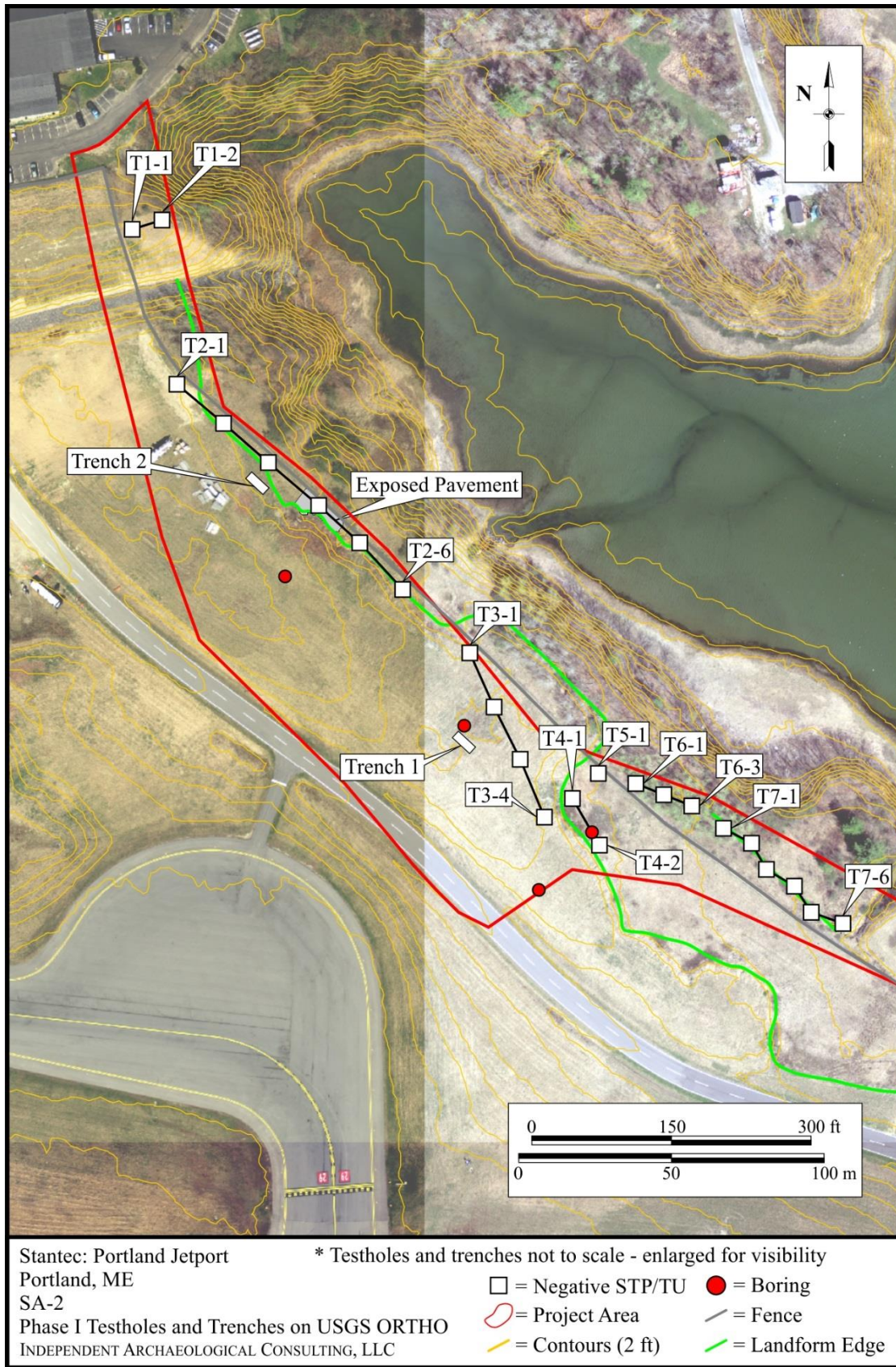


Figure 3. Plan view of Phase I testholes and trenches overlaid onto an ortho image of the project area.

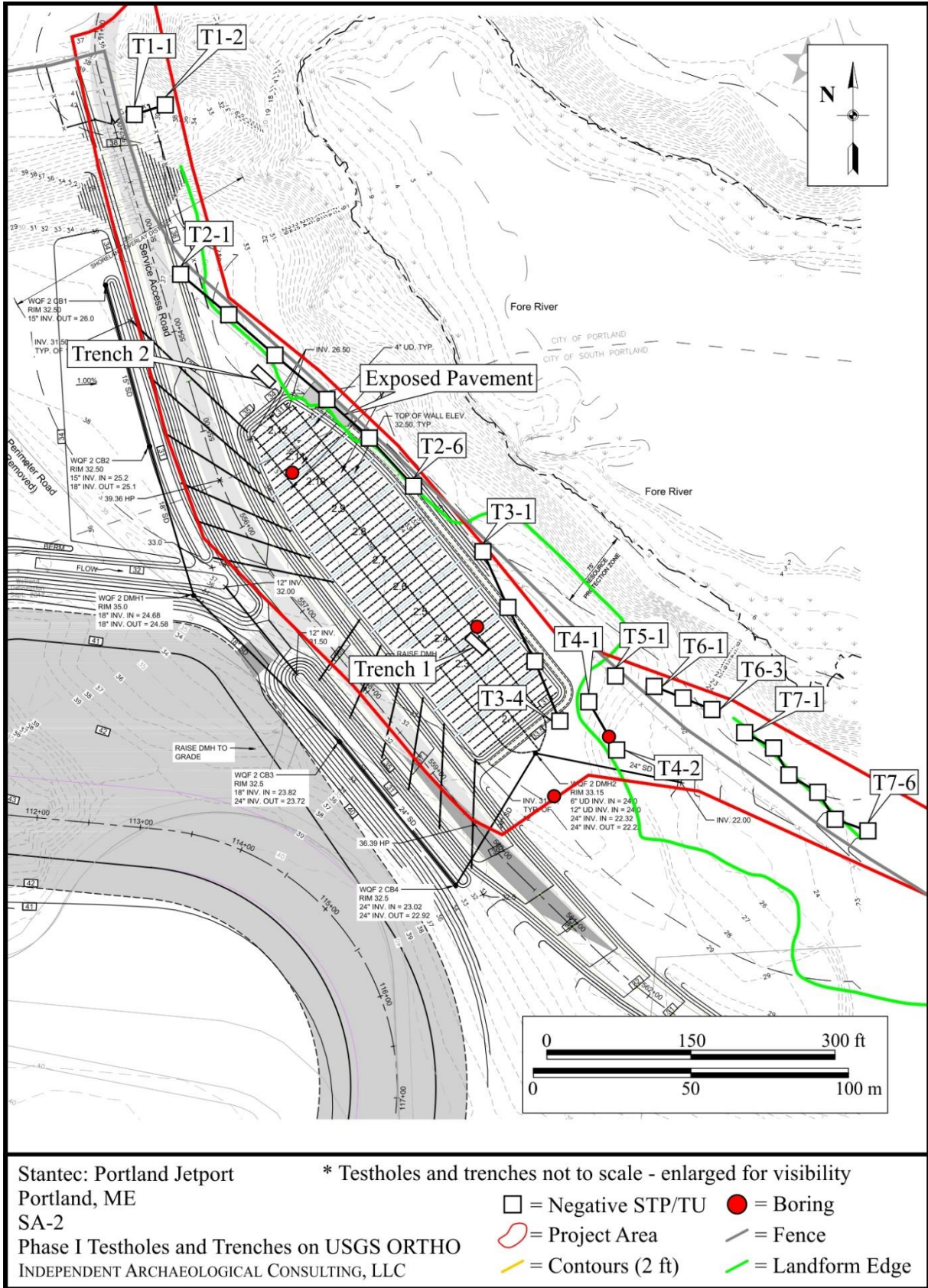


Figure 4. Plan view of Phase I testholes and trenches overlaid onto project plans.

Phase I Results

IAC excavated 22 STPs and one TU (total excavated area of 6.5 m² [70 ft²]), all of which were negative for Pre-Contact cultural material (Table 1). In addition to the hand-excavated testholes, archaeologists monitored the mechanical excavation of two 0.6-m-5.0-m (2.0-ft-x-16-ft) trenches (combined excavated area of 6.0 m² [65 ft²]) to establish the presence or absence of natural soils or cultural strata in areas of deep fill as indicated by boring logs and hand-testing results. Both trenches and all testholes revealed similar profiles of modern fill deposits directly atop a truncated C horizon of Presumpscot clay with no evidence of intact A or B horizons between the fill and underlying C horizon.

Testholes along Transects 1-3 exposed 15-155 cm (6-60 in) of modern fill material directly atop the clay C horizon. The fill strata range from dark olive brown to olive yellow in color (2.5Y 3/3-6/6) and include fine sandy clay, silty clay and silty clay loam with from 30-70% subangular gravels and cobbles (Figures 5 and 6). Archaeologists noted asphalt chunks, plastic and other modern material in the fill to indicate relatively recent deposits. Testholes were excavated into the C horizon to confirm that the clay is a natural deposit with an absence of cultural material rather than a separate, highly homogenous fill episode. Mr. Tumelaire placed Trenches 1 and 2 in areas of thick fill near Transects 2 and 3 to extend the maximum excavation depth and verify the presence or absence of buried cultural strata. The trenches revealed similar results, showing 100-130 cm (40-52 in) of fill atop a truncated C horizon of Presumpscot clay (Figures 7 and 8). The interface between the fill and underlying clay often displayed an extremely sharp, flat boundary (Plates 13 and 14). Such a boundary is consistent with mechanical grading and indicates that past disturbances in SA-2 included cutting the natural landforms down into the C horizon, removing all overlying natural soils and using fill to create the current topography.

In contrast to the deep fill along Transects 1-3, Transects 4-7 along the outfall pipe and drainage swale area (including the TU T5-1) revealed a thin, 2-15-cm (1-6-in) developing A horizon of olive brown to grayish brown (2.5Y 4/3-5/2) silty clay loam atop the Presumpscot clay C horizon with little to no filling evident (Figures 9; Plate 15). The shallow C horizon indicates that the outfall pipe area was similarly stripped of natural A and B horizons but was not subject to subsequent filling as were landforms within the perimeter fence.

IAC found no artifacts or other evidence of Pre-Contact activity within the project area. Furthermore, testholes and trenches revealed evidence for significant previous landscape modification and disturbance that has reduced or eliminated any potential for intact Pre-Contact cultural deposits within the current project limits.

Table 1. Phase I testhole tally for the Portland Jetport project.

#	Testhole	Testhole Size	Pos	Neg	Post-C	Pre-C	Artifact Total
1	T1-1	0.5-m-x-0.5-m		X	0	0	0
2	T1-2	0.5-m-x-0.5-m		X	0	0	0
3	T2-1	0.5-m-x-0.5-m		X	0	0	0
4	T2-2	0.5-m-x-0.5-m		X	0	0	0
5	T2-3	0.5-m-x-0.5-m		X	0	0	0
6	T2-4	0.5-m-x-0.5-m		X	0	0	0
7	T2-5	0.5-m-x-0.5-m		X	0	0	0
8	T2-6	0.5-m-x-0.5-m		X	0	0	0
9	T3-1	0.5-m-x-0.5-m		X	0	0	0
10	T3-2	0.5-m-x-0.5-m		X	0	0	0
11	T3-3	0.5-m-x-0.5-m		X	0	0	0
12	T3-4	0.5-m-x-0.5-m		X	0	0	0
13	T4-1	0.5-m-x-0.5-m		X	0	0	0
14	T4-2	0.5-m-x-0.5-m		X	0	0	0
15	T5-1	1.0-m-x-1.0-m		X	0	0	0
16	T6-1	0.5-m-x-0.5-m		X	0	0	0
17	T6-2	0.5-m-x-0.5-m		X	0	0	0
18	T6-3	0.5-m-x-0.5-m		X	0	0	0
19	T7-1	0.5-m-x-0.5-m		X	0	0	0
20	T7-2	0.5-m-x-0.5-m		X	0	0	0
21	T7-4	0.5-m-x-0.5-m		X	0	0	0
22	T7-5	0.5-m-x-0.5-m		X	0	0	0
23	T7-6	0.5-m-x-0.5-m		X	0	0	0
24	Trench 1	0.6-m-x-5.0		X	0	0	0
25	Trench 2	0.6-m-x-5.0		X	0	0	0
Total		12.5 m²	0	23	0	0	0

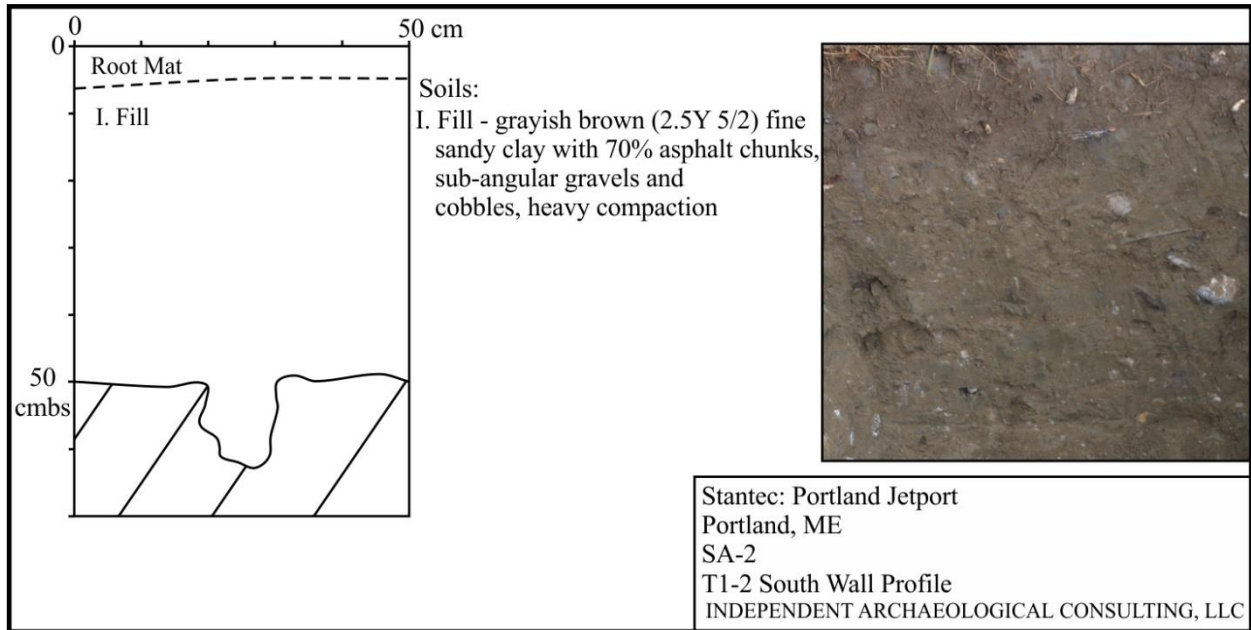


Figure 5. South profile of T1-2 showing compact fill to the base of excavation.

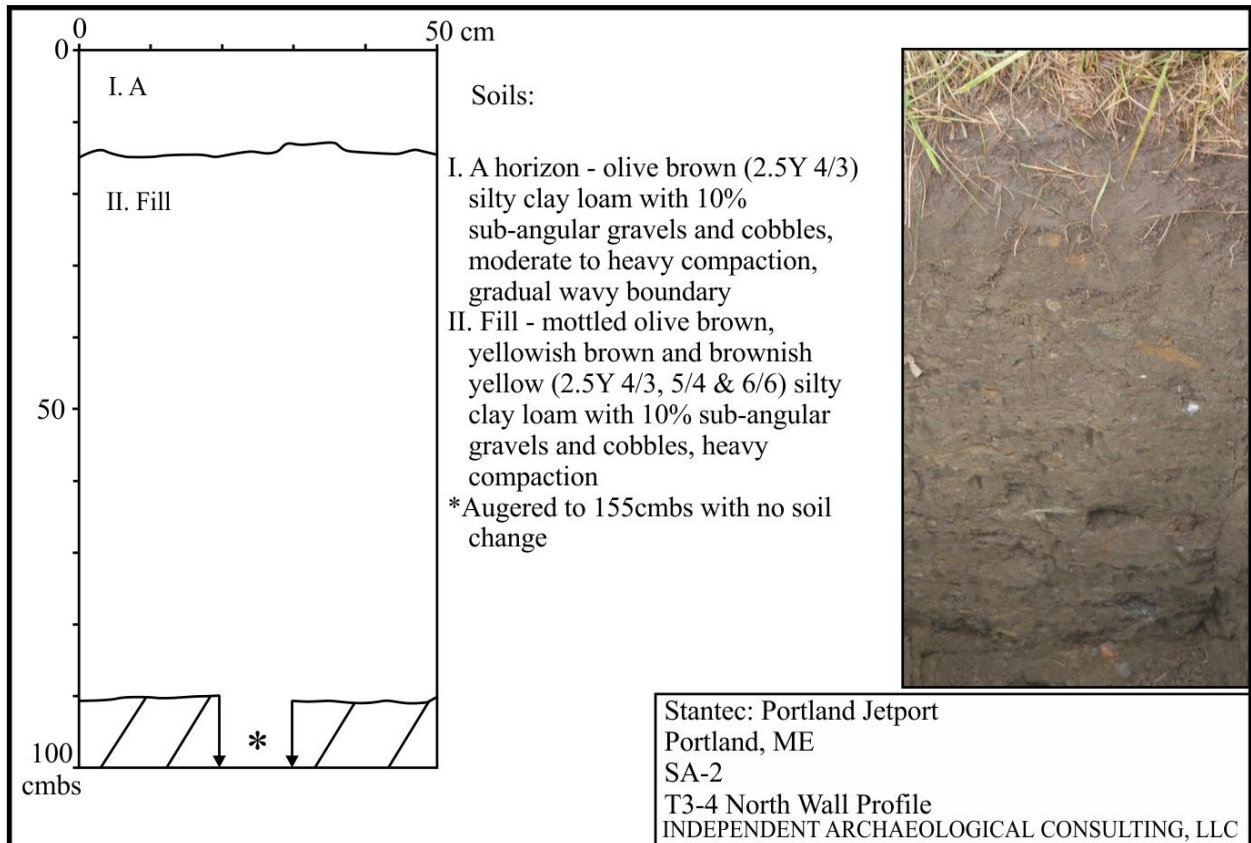


Figure 6. North profile of T3-4 showing deep fill to over 150 cmbs.

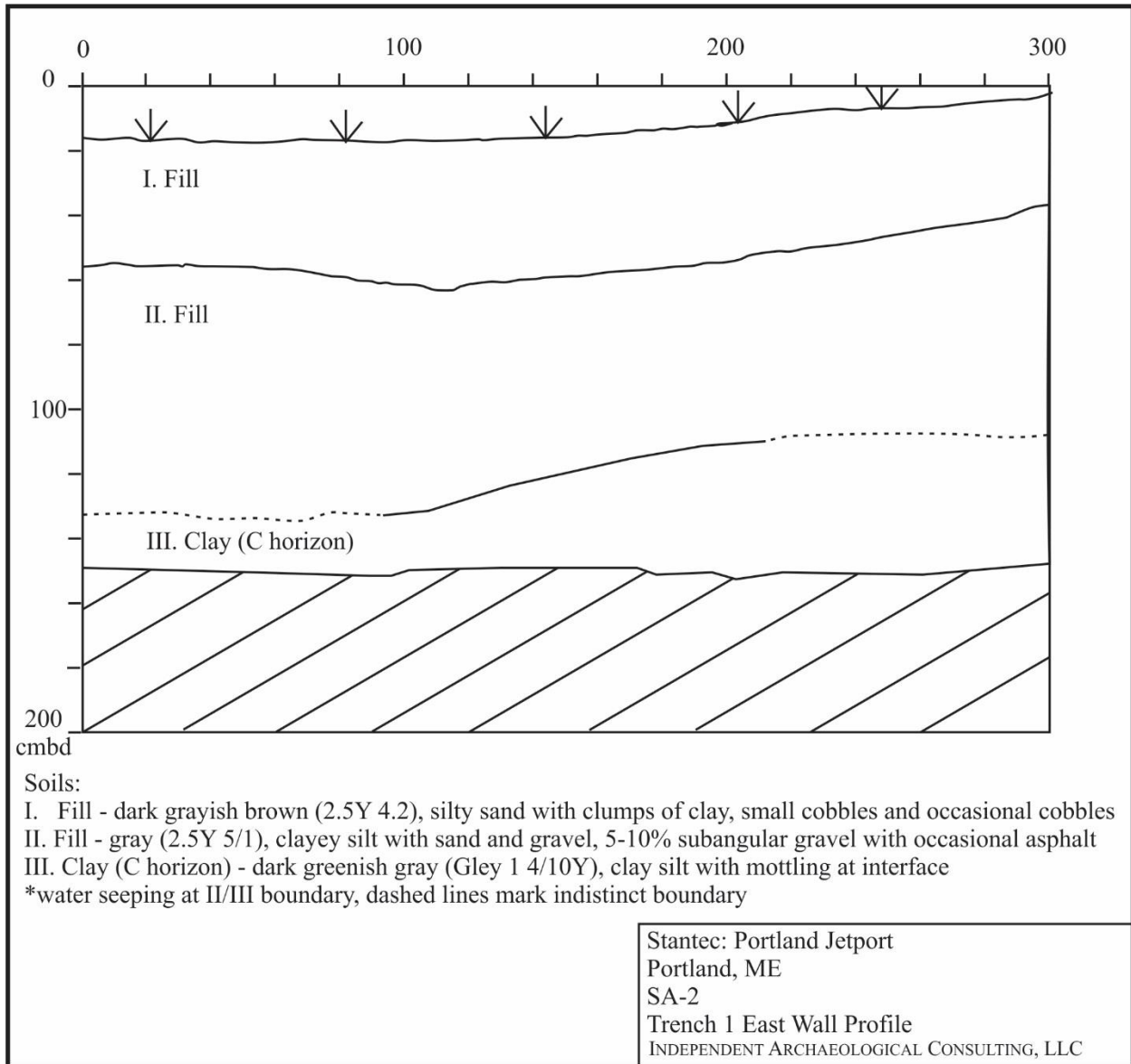


Figure 7. East profile of Trench 1 showing fill atop the Presumpscot clay C horizon.

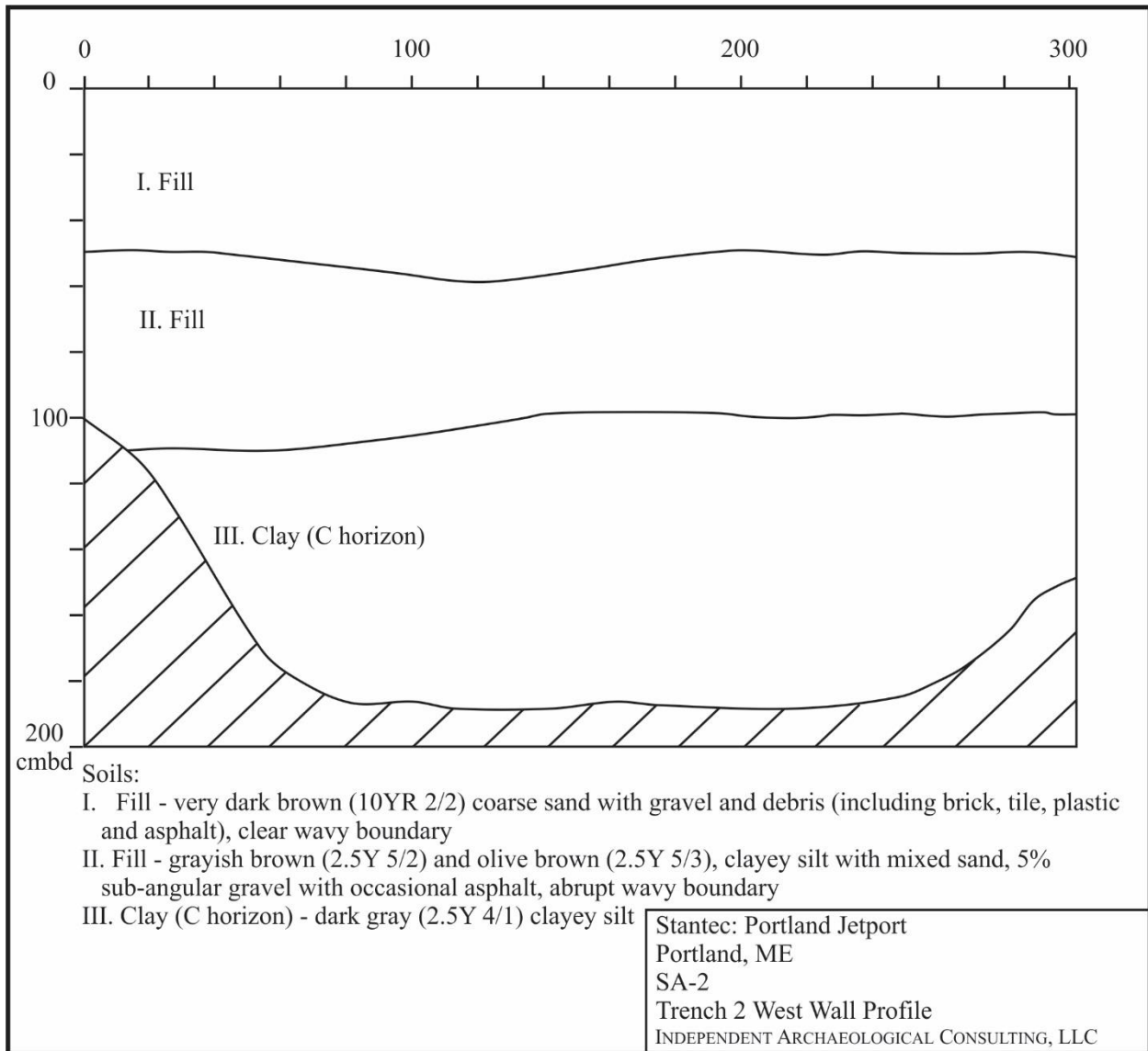


Figure 8. West profile of Trench 2 showing fill atop the Presumpscot clay C horizon.



Plate 13. East profile of Trench 1 showing thick fill deposits directly atop Presumpscot clay.



Plate 14. West wall detail of Trench 2 showing the unnaturally sharp, level boundary between the clay C horizon and the overlying fill (beneath the arrow).

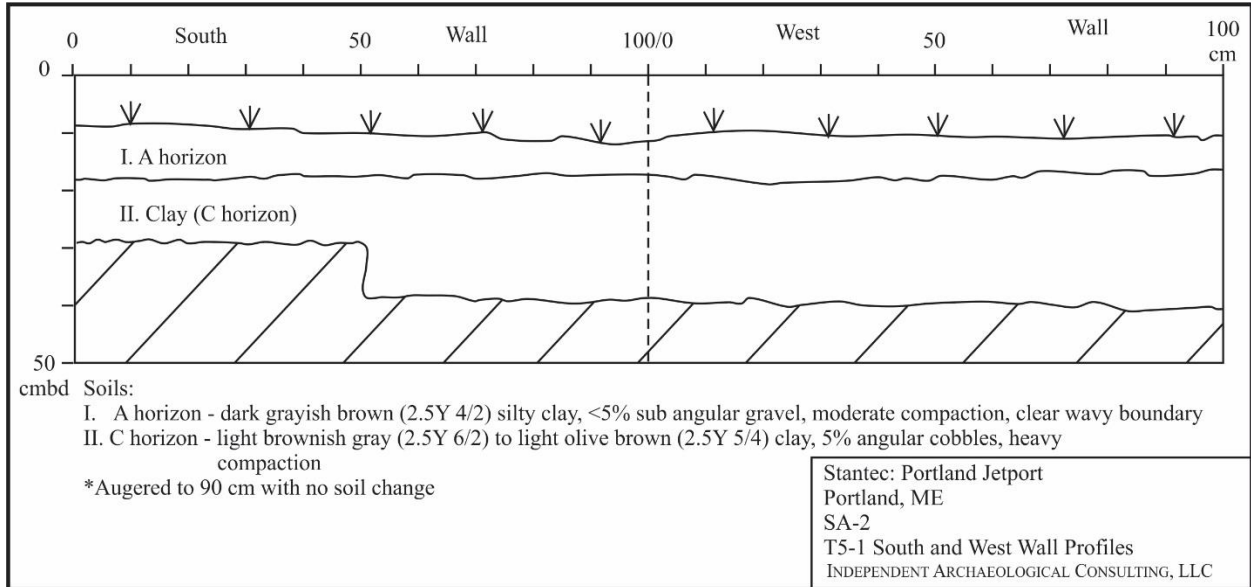


Figure 9. South and west profiles of T5-1 showing shallow, truncated C-horizon clay.



Plate 15. East profile of T7-4 showing a thin, developing A horizon on clay.

Summary and Recommendations

IAC completed a Phase I survey of the Portland Jetport project area in SA-2 in September of 2018, including the excavation of 22 shovel test pits, one test unit and two mechanically excavated trenches. The survey produced no evidence of Pre-Contact land use and confirmed significant and widespread disturbance to natural landforms within the project limits. Past soil removal, grading and filling associated with construction and maintenance of the Portland Jetport has eliminated any potential for undisturbed Pre-Contact cultural deposits and IAC recommends no further archaeological survey for the proposed impacts in SA-2.

References Cited

Cofelice, Jessica, Jacob Tumelaire and Kathleen Wheeler

2017 *Phase 0 Archaeological Survey Portland International Jetport (Cumberland County), Maine.* Report submitted to Stantec Consulting Services, Topsham, Maine.

Haley & Aldrich, Inc.

2018 *Geotechnical Data Report, Master Plan Improvements Portland International Jetport, Portland, Maine.* Report submitted to Stantec Consulting Services, Scarborough, Maine.

Haugh, Sarah M.

2007 *Phase I Archaeological Investigation Report Portland Jetport Stormwater Treatment Pond Project City of Portland Cumberland County, Maine. MHPC File No. 1010-06.* Report submitted to Stantec Consulting Services, Portland, Maine.

Moore, Edward and Richard Will

2002 *Phase I Archaeological Survey of the Portland International Jetport Project, South Portland, Cumberland County, Maine.* Report submitted to Coffman Associates, Kansas City, Missouri.

Spiess, Arthur E.

1990 *Maine's Unwritten Past: State Plan for Prehistoric Archaeology.* Report on file, Maine Historic Preservation Commission, Augusta.

Stantec Consulting Services, Inc.

2017 *Water Quality Filter Grading and Drainage Plan, Portland International Jetport.* Stantec, Inc., Scarborough, Maine.

United States Geological Survey

1978 *Portland West, Maine, Quadrangle Map.* 7.5-minute series. U. S. Geological Survey, Washington D.C.



Appendix D

**NOTICE OF AVAILABILITY OF
DRAFT ENVIRONMENTAL ASSESSMENT
AND COMMENTS RECEIVED**



You're on your way.

Paul H. Bradbury, P.E.
Airport Director

Zachary R. Sundquist, A.A.E.
Assistant Airport Director

November 14, 2018

Kimberly Damon-Randall
Acting Deputy Regional Administrator, Protected Resources Division
National Marine Fisheries Service
Greater Atlantic Regional Fisheries Office
55 Great Republic Drive
Gloucester, MA 01930

RE: Notice of Availability of a Draft Environmental Assessment for Future Projects at Portland International Jetport, Portland, ME

Dear Ms. Damon-Randall:

Notice is hereby given that the City of Portland, Maine, proposes to seek Federal Aviation Administration (FAA) approval to implement capital improvements and other safety-related actions listed as high priority (i.e., completion within five to seven years) in its recently approved Sustainable Airport Master Plan. These proposed projects are depicted on the Jetport's Airport Layout Plan (ALP) and will require federal funding and approvals by the FAA. Federal actions are subject to the *National Environmental Policy Act (NEPA) of 1969* (Title 42 United States Code [USC] Sections 4321 et seq.). FAA is the Lead Agency to ensure compliance with NEPA for airport development actions.

A Draft Environmental Assessment (EA) has been prepared to evaluate the potential environmental impacts of the Proposed Action described below and has been prepared pursuant to the requirements of Section 102(2)(c) of NEPA, as well as in accordance with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. The Draft EA includes an analysis of prudent or feasible alternatives, potential impacts, and mitigation measures, as appropriate.

The Proposed Action involves the following safety, efficiency, and sustainability improvements: expansion of a long-term hold/deicing/remain overnight apron; construction of a Runway 11 end taxiway bypass and realignment of a perimeter service road; tree removal to clear the glideslope qualification surface for the Runway 36 end; construction of Phase 2 of an air cargo taxiway;

Ms. Damon-Randall
November 14, 2018
Page 2

realignment of Taxiway C; relocation of Taxiway A east of Runway 18-36; relocation of a service access road east of the cargo area; and construction of Taxiway B from the Runway 36 end to the Runway 29 end.

Beginning **November 16, 2018**, a copy of the Draft EA will be available for review at: www.thejetport.airportstudy.com, or at the following locations during normal business hours through **December 17, 2018**:

- FAA, New England Region, Airports Division - 1200 District Avenue, Burlington, MA
- Portland International Jetport Administration Office, 1001 Westbrook Street, Portland, ME
- Portland City Hall, 389 Congress Street, Portland, ME
- South Portland Library - Memorial Branch, 155 Wescott Road, South Portland, ME

Anyone wishing to comment on the Draft EA may submit written comments by letter or email to the following physical or email addresses:

Stantec Consulting Services, Inc.
482 Payne Road
Scarborough, ME 04074
Attn: Dwight Anderson, P.E.
dwight.anderson@stantec.com

The cutoff date for comment submission is not later than **5:00 PM – Eastern Standard Time, December 17, 2018**. Please allow enough time for mailing. All comments must be **received** by the deadline, not simply postmarked by that date.

Thank you for your consideration and timely response.

Sincerely,



Paul Bradbury
Director

CC: Michelle Ricci, Environmental Protection Specialist, FAA New England Region
Dwight Anderson, Sr. Project Manager, Stantec
Judi Krauss, Environmental Planner, Coffman Associates

FILE: 17-EA-01

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for Proposed Future Projects at the Portland International Jetport**

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Before including your name and telephone number, email, or other personal identifying information in your comment, be advised that your entire comment - including your personal identifying information - may be made publicly available at any time. While you can ask FAA in your comment to withhold from public review your personal identifying information, FAA cannot guarantee that it will be able to do so.

I, Joan M. Jensen, Legal Advertising Representative of the Portland Press Herald and Maine Sunday Telegram newspapers of Portland, Maine, do hereby certify that the attached advertisement appeared in the November 16, 2018 edition of the Portland Press Herald.


Legal Advertising Representative

Subscribed and sworn to before me
this 17th day of December 2018


Notary Public

My commission expires

RICHARD W. DeBRUIN
Notary Public, Maine
My Commission Expires February 4, 2021

NOTICE OF PUBLIC INFORMATION WORKSHOP

regarding the Draft Environmental Assessment
for Future Projects at



Thursday, November 29, 2018
5:30 - 7:00 P.M.

Portland International Jetport
(lower level concourse of passenger terminal
building between ticketing and baggage)
1001 Westbrook Street
Portland, Maine 04102

EVERYONE WELCOME!

OPEN HOUSE FORMAT... DROP IN ANYTIME
For more information, please call the Jetport:
207-874-8877
or visit: www.thejetport.airportstudy.com

I, Joan M. Jensen, Legal Advertising Representative of the Portland Press Herald and Maine Sunday Telegram newspapers of Portland, Maine, do hereby certify that the attached advertisement appeared in the November 16, 2018 edition of the Portland Press Herald.


Legal Advertising Representative

Subscribed and sworn to before me
this 17th day of December 2018


Notary Public

My commission expires
RICHARD W. DeBRUIN
Notary Public, Maine
My Commission Expires February 4, 2021

PUBLIC NOTICES

Public Notices

Public Notices are a permanent and independent record of government and court actions. These include state and local government meetings, rule making, available contracts, zoning changes, and many more as required by law. In addition, parties to some court proceedings, such as foreclosures, probate, and estate actions are required to publish notices to ensure notification of affected parties, as well as the general public. These notices also alert business owners, large and small, to potential government contractual jobs, relating to ensure economic activity across a level playing field. Public notices have existed to ensure transparency in all levels of government since the founding of the United States.

State and local notices are published in Maine newspapers and are also recorded at mainenotices.com, which anyone can browse or search notices, and sign up to receive email alerts when relevant notices appear.

Public Notice

NOTICE OF AGENCY EMERGENCY RULE-MAKING

AGENCY: Department of Marine Resources
CHAPTER NUMBER AND TITLE: Chapter 36.01 Herring Management Plan

CONCISE SUMMARY:

Atlantic herring may only be landed from Management Area 1A on days that have been designated landing days by the Atlantic States Marine Fisheries Commission (ASMFC). The Atlantic Herring Section held a Days Out conference call on November 13, 2018 to amend the landing days for Management Area 1A (October 1 - December 31) and designated seven landing days for all vessels. All vessels landing herring caught in Management Area 1A in any Maine port are limited to one landing per 24 hour period (6:00 p.m. to 6:00 p.m.). The Commissioner has determined that it is necessary to take emergency action to implement these limitations to comply with the changes to the interstate management of the Atlantic herring resource. The Commissioner hereby adopts this emergency regulation as authorized by 12 M.R.S. §617(3)(C).

EFFECTIVE DATE:

November 16, 2018

AGENCY CONTACT PERSON:

Melissa Smith (207-624-6558)

AGENCY NAME:

Department of Marine Resources
ADDRESS: State House Station 21
Augusta, Maine 04333-0021

WEB SITE:

<http://www.maine.gov/dmr/rulemaking/>
E-MAIL: Melissa.Smith@maine.gov

FAX:

(207) 624-6024
TTY: (888) 577-6690 (Deaf/Hard of Hearing)

Public Notice

Public Comment on Portland METRO DBE Methodology and Goal

Greater Portland Transit District is updating its Disadvantaged Business Enterprise (DBE) Program and Goal in the prospective federal fiscal years 2019

through 2021. METRO is holding a public meeting to receive input on our prospective (federal fiscal years 2019-2021) Disadvantaged Business Enterprise (DBE) program goal of 2% for Federal Transit Administration funded projects.

A completed draft is available on our web site at www.gpmetro.org. This meeting will be held on Tuesday, November 20th at 4:00 p.m. in the METRO Conference Room at 114 Valley Street. If you are unable to attend but would like to provide comments, you can email them to gpmtrn@maine.gov. Written comments will be received until December 29, 2018.

Public Notice

STATE OF MAINE PROBATE COURT CUMBERLAND, SS

LOCATION: PORTLAND

DOCKET NO: 2017-1323

In re: ESTATE OF PRISCILLA M. CHANCE

ORDER FOR SERVICE BY PUBLICATION

This notice is directed to All Interested Parties, last of Brunswick, County of Cumberland, State of Maine, whereabouts unknown.

This cause came to be heard on a Motion of the Petitioner whose address is: 1 Riverbend Drive, Yarmouth, ME 04096 for Service by Publication. This Motion has been submitted for the following reasons: For the appointment of co-trustees of the Decedent's trust.

Petitioner believes that All Interested Persons is most likely located at the following address: In the County of Cumberland.

Petitioner believes the newspaper in which public notice is most likely to reach All Interested Persons.

The Portland Press Herald, 295 Gannett Drive, South Portland, Maine 04106 for the following reasons: This is where the Decedent resided at the time of her death.

It is hereby ORDERED that All Interested Persons appear and defend the cause and serve a response to the Petition upon Petitioner, on or before December 20, 2018 @ 12:00.

All interested persons is notified that if he/she shall fail to do so, the petition for Appointment of Co-trustees will proceed without objection. His/her response should also be filed with the Cumberland County Probate Court, 142 Federal Street, Portland, ME 04101. If it is FURTHER ORDERED that this Order be published in the above named newspaper of general circulation on or before November 9, 2018, once a week for 3 successive weeks. November 2, 2018 Joseph R. Mazzotti Judge of Probate

NOTICE OF PUBLIC INFORMATION WORKSHOP

regarding the Draft Environmental Assessment for Future Projects at



Portland International Jetport

Thursday, November 29, 2018

5:30 - 7:00 P.M.

Portland International Jetport

(lower level concourse of passenger terminal building between ticketing and baggage)

1001 Westbrook Street

Portland, Maine 04102

EVERYONE WELCOME!

OPEN HOUSE FORMAT... DROP IN ANYTIME

For more information, please call the Jetport:

207-874-8877

or visit: www.thejetport.airportstudy.com

Notice of Availability of a Draft Environmental Assessment

for Proposed Future Projects at the Portland International Jetport

Notice is hereby given that the City of Portland, Maine, proposes to seek Federal Aviation Administration (FAA) approval to implement capital improvements and other safety-related actions listed as high priority (i.e., completion within five to seven years) in its recently approved Sustainable Airport Master Plan. These proposed projects are depicted on the Jetport's Airport Layout Plan (ALP) and will require federal funding and approvals by the FAA. Federal actions are subject to the *National Environmental Policy Act (NEPA)* (Title 42 United States Code [USC] Sections 4321 et seq.). FAA is the Lead Agency to ensure compliance with NEPA for airport development actions.

A Draft Environmental Assessment (EA) has been prepared to evaluate the potential environmental impacts of the Proposed Action described below and has been prepared pursuant to the requirements of Section 102(2)(c) of NEPA, as well as in accordance with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures Instructions for Airport Actions*. The Draft EA includes an analysis of prudent or feasible alternatives, potential impacts, and mitigation measures, as appropriate.

The Proposed Action involves the following safety, efficiency, and sustainability improvements: expansion of a long-term hold/decide/remain overnight apron; construction of a Runway 11 end taxiway bypass and realignment of a perimeter service road; noise removal to clear the glide slope qualification surface for the Runway 36 end; construction of Phase 2 of an air cargo taxiway; realignment of Taxiway C; relocation of Taxiway A east of Runway 18-36; relocation of a service access road east of the cargo area; and construction of Taxiway B from the Runway 36 end to the Runway 29 end.

Beginning November 16, 2018, a copy of the Draft EA will be available for review at: www.thejetport.airportstudy.com, or at the following locations during normal business hours through December 17, 2018:

- FAA, New England Region, Airports Division - 1200 District Avenue, Burlington, MA
- Portland International Jetport Administration Office, 1001 Westbrook Street, Portland, ME
- Portland City Hall, 389 Congress Street, Portland, ME
- South Portland Library - Memorial Branch, 155 Wescott Road, South Portland, ME

Anyone wishing to comment on the Draft EA may submit written comments by letter or email to the following physical or email addresses:

Stantec Consulting Services, Inc.
483 Payne Road
Scarborough, ME 04074
Attn: Dwight Anderson, P.E.
dwight.anderson@stantec.com

The cutoff date for comment submission is not later than 5:00 PM - Eastern Standard Time, December 17, 2018. Please allow enough time for mailing. All comments must be received by the deadline, not simply postmarked by that date.

Before including your name and telephone number, email, or other personal identifying information in your comment, be advised that your entire comment - including your personal identifying information - may be made publicly available at any time. While you can ask FAA in your comment to withhold from public review your personal identifying information, FAA cannot guarantee that it will be able to do so.

E AND A LENGTH OF 26.79 FEET, TO A POINT, SAID POINT BEING N 15° 15' 17" E 0.19 FEET FROM AN IRON ROD; THENCE, S 15° 15' 17" W A DISTANCE OF 413.14 FEET TO AN IRON ROD; THENCE, S 79° 40' 48" E A DISTANCE OF 74.64 FEET TO AN IRON PIPE; THENCE, N 15° 08' 31" E A DISTANCE OF 408.62 FEET TO A POINT, SAID POINT BEING N 15° 08' 31" E 0.13' FROM AN IRON PIPE; THENCE, S 75° 41' 30" E A DISTANCE OF 204.97 FEET TO A CONCRETE BOUND; THENCE, N 13° 44' 59" E A DISTANCE OF 4.90 FEET TO A CONCRETE BOUND; THENCE, S 76° 01' 52" E A DISTANCE OF 50.23 FEET TO A POINT; THENCE, S 77° 36' 10" E A DISTANCE OF 150.08 FEET TO A POINT; THENCE, S 75° 41' 37" E A DISTANCE OF 192.49 FEET TO A POINT; THENCE, ALONG A CURVE TO THE LEFT WITH A RADIUS OF 574.65 FEET, A DISTANCE OF 290.59 FEET, MAKING AN INCLUDED ANGLE OF 2° 53' 00", SAID CURVE HAVING A CHORD WITH A BEARING OF S 77° 08' 07" E AND A LENGTH OF 290.56 FEET, TO A POINT; THENCE, S 78° 34' 17" E A DISTANCE OF 3.12 FEET TO A POINT; THENCE, ALONG A TANGENT CURVE TO THE RIGHT WITH A RADIUS OF 1387.69 FEET, A DISTANCE OF 42.50 FEET, MAKING AN INCLUDED ANGLE OF 1° 45' 17", SAID CURVE HAVING A CHORD WITH A BEARING OF S 77° 41' 59" E AND A LENGTH OF 42.49 FEET, TO THE POINT OF BEGINNING, CONTAINING 39.19 ACRES.

WESTBROOK TAX MAP 42B, LOT 14:
A CERTAIN LOT OR PARCEL OF LAND LOCATED ON THE EASTERLY SIDE OF LARRABEE ROAD AND THE NORTHERLY SIDE OF WESTBROOK ARTERIAL IN THE CITY OF WESTBROOK BOUNDED AND DESCRIBED AS FOLLOWS: BEGINNING AT A POINT, AT THE MOST NORTHWESTERLY CORNER OF THE WITHIN DESCRIBED PARCEL, BEING THE INTERSECTION OF THE EASTERLY SIDELINE OF LARRABEE ROAD, SO-CALLED, AND THE SOUTHERLY SIDELINE OF THE PORTLAND TERMINAL COMPANY RAILROAD; THENCE, RUNNING S 60° 58' 29" E ALONG THE SAID SOUTHERLY SIDELINE OF THE PORTLAND TERMINAL COMPANY RAILROAD A DISTANCE OF 1076.62 FEET TO A POINT ON THE TOWN LINE BETWEEN WESTBROOK AND PORTLAND, SAID POINT BEING N 60° 58' 29" W 0.89 FEET FROM AN IRON PIPE; THENCE, TURNING AND RUNNING S 14° 03' 36" W BY THE SAID TOWN LINE BETWEEN WESTBROOK AND PORTLAND A DISTANCE OF 864.32 FEET TO AN IRON ROD ON THE NORTHERLY SIDELINE OF THE WESTBROOK ARTERIAL, SO-CALLED; THENCE, TURNING AND RUNNING S 57° 12' 11" W ALONG THE NORTHERLY SIDELINE OF THE WESTBROOK ARTERIAL, SO-CALLED, A DISTANCE OF 147.65 FEET TO A CONCRETE BOUND; THENCE, RUNNING WESTERLY, ALONG A NON-TANGENT CURVE TO THE RIGHT, CONTINUING ALONG THE NORTHERLY SIDELINE OF THE WESTBROOK ARTERIAL, SO-CALLED, HAVING A RADIUS OF 305.00 FEET, AN INCLUDED ANGLE OF 43° 29' 50", A DISTANCE OF 231.55 FEET, A CHORD OF S 78° 58' 25" W 226.03 FEET TO A CONCRETE BOUND; THENCE, RUNNING WESTERLY, ALONG A NON-TANGENT CURVE TO THE RIGHT, CONTINUING ALONG THE NORTHERLY SIDELINE OF THE WESTBROOK ARTERIAL, SO-CALLED, HAVING A RADIUS OF 595.00 FEET, AN INCLUDED ANGLE OF 22° 50' 02", A DISTANCE OF 237.12 FEET, A CHORD OF N 68° 00' 01" W 235.56 FEET TO A POINT; THENCE, RUNNING N 67° 33' 48" W, CONTINUING ALONG THE NORTHERLY SIDELINE OF THE WESTBROOK ARTERIAL, SO-CALLED, A DISTANCE OF 104.20 FEET TO A CONCRETE BOUND; THENCE, RUNNING N 55° 21' 41" W, CONTINUING ALONG THE NORTHERLY SIDELINE OF THE WESTBROOK ARTERIAL, SO-CALLED, A DISTANCE OF 187.24 FEET TO A POINT, SAID POINT BEING S 81° 12' 52" W 0.48 FEET FROM AN IRON ROD AT THE CORNER OF LAND NOW OR FORMERLY OF THE DEVICES OF LLEWELLYN A. RANDALL SR; THENCE, TURNING AND RUNNING N 18° 12' 52" E A DISTANCE OF 123.29 FEET TO A POINT; THENCE, RUNNING N 14° 44' 46" E A DISTANCE OF 84.56 FEET TO A POINT; THENCE, RUNNING N 13° 21' 04" E A DISTANCE OF 189.80 FEET TO AN IRON PIPE; THENCE, TURNING AND RUNNING N 84° 40' 14" W A DISTANCE OF 139.26 FEET TO A POINT; THENCE, RUNNING N 67° 42' 19" W A DISTANCE OF 88.28 FEET TO A CONCRETE BOUND; THENCE, RUNNING N 68° 25' 34" W A DISTANCE OF 25.35 FEET TO A CONCRETE BOUND ON THE EASTERLY SIDELINE OF LARRABEE ROAD, SO-CALLED; THENCE, TURNING AND RUNNING N 15° 23' 23" E ALONG THE EASTERLY SIDELINE OF SAID LARRABEE ROAD, SO-CALLED, A DISTANCE OF 826.52 FEET TO THE POINT OF BEGINNING, CONTAINING 25.41 ACRES.

ALSO INCLUDING A CERTAIN LOT OR PARCEL OF LAND, SITUATED ON THE SOUTHERLY SIDE OF MAIN STREET IN THE CITY OF WESTBROOK CUMBERLAND COUNTY, MAINE, BOUNDED AND DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON SAID SOUTHERLY SIDE OF SAID STREET, SAID IRON PIPE BEING THE NORTHEASTERLY CORNER OF THE WITHIN DESCRIBED PARCEL; THENCE, N 75° 41' 30" W ON THE SOUTHERLY SIDE OF SAID STREET A DISTANCE OF 7.48 FEET TO A BOUND; THENCE, WESTERLY ON THE SOUTHERLY SIDE OF SAID STREET, ALONG A NON-TANGENT CURVE TO THE LEFT WITH A RADIUS OF 2782.76 FEET, HAVING A CENTRAL ANGLE OF 09° 01' 20", AN ARC LENGTH OF 1.08 FEET, A CHORD OF N 75° 37' 02" W 1.08 FEET TO A POINT; THENCE, S 15° 15' 17" W A DISTANCE OF 103.26 FEET TO A POINT; THENCE, S 75° 40' 56" E A DISTANCE OF 8.76 FEET TO A POINT; THENCE, N 15° 08' 31" E A DISTANCE OF 103.25 FEET TO THE POINT OF BEGINNING, CONTAINING 0.02 ACRES

SOURCE DEED 2
BEING THE SAME PROPERTY AS DESCRIBED IN A WARRANTY DEED FROM L.L. LATHROP, INC. TO DIRIGO CENTERS DEVELOPERS, LLC DATED JULY 11, 2017 AND RECORDED AT THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 34161, PAGE 294, SAID PARCEL DESCRIPTION BEING AS FOLLOWS: A CERTAIN LOT OR PARCEL OF LAND, WITH THE BUILDINGS THEREON, SITUATED ON THE SOUTHERLY SIDE OF MAIN STREET IN THE CITY OF WESTBROOK, CUMBERLAND COUNTY, MAINE, BOUNDED AND DESCRIBED AS FOLLOWS, TO WIT: BEGINNING AT A POINT ON SAID SOUTHERLY SIDE OF SAID STREET, SAID POINT BEING 26 FEET EASTERLY FROM LAND OF ONE LUFKIN; THENCE SOUTHERLY ALONG A LINE PARALLEL WITH SAID LUFKIN, 125 FEET TO A POINT; THENCE EASTERLY ON A LINE PARALLEL WITH SAID STREET 65 FEET TO A POINT; THENCE NORTHERLY ON A LINE PARALLEL WITH THE FIRST NAMED BOUNDS 125 FEET TO SAID MAIN STREET; THENCE WESTERLY ALONG THE LINE OF SAID STREET 65 FEET TO THE POINT OF BEGINNING. ALSO ANOTHER CERTAIN LOT OR PARCEL OF LAND ADJOINING THE SOUTHERLY BOUNDARY LINE OF THE ABOVE-DESCRIBED PARCEL, SAID LOT BEING 74 FEET WIDE, AND BEING ALL THAT LAND CONTAINED BETWEEN THE EASTERLY AND WESTERLY BOUNDARY LINE OF THE ABOVE-DESCRIBED PARCEL EXTENDED SOUTHERLY TO A POINT WHICH IS 435 FEET DISTANT SOUTHERLY FROM SAID SOUTHERLY SIDE LINE OF MAIN STREET AND THE LAND NOW OR FORMERLY OF FRANZ M. HANSEN, ALSO QUICLY CLAIMING AND RELEASING UNTO THE GRANTEE, WITHOUT WARRANTY COVENANTS OR TITLE REPRESENTATIONS OF ANY TYPE OR DESCRIPTION, SUCH RIGHTS, IF ANY, AS GRANTEE MAY HAVE IN AND TO AN APPROXIMATELY 9 FOOT BY 103 FOOT STRIP OF LAND ON THE EASTERLY BOUNDARY OF THE PROPERTY ABOVE DESCRIBED AS MAY BE SHOWN ON AN "ALTA/NSPS LAND TITLE SURVEY, 80 MAIN STREET, WESTBROOK, MAINE" DATED APRIL 6, 2016 BY JONES & BEACH ENGINEERS, INC. REFERENCE IS MADE TO A WARRANTY DEED TO L.L. LATHROP, INC. DATED AUGUST 2, 2004 RECORDED IN THE CUMBERLAND COUNTY REGISTRY OF DEEDS IN BOOK 21632, PAGE 224.


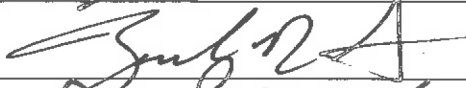

PORTLAND INTERNATIONAL JETPORT - Draft Environmental Assessment for Future Projects

Public Information Workshop Meeting Attendance Record



Meeting: Public Information Workshop #2 **Date:** November 29, 2018 **Time:** 5:30-7:00 pm

Location: Portland International Jetport (lower level concourse between ticketing and baggage)

Name/Representing	Please Sign	Phone/e-mail
Dwight Anderson / Stantec		
ZACH SUNDQUIST / PJM		
Paul Braggins / PJM		
Amie Gray / Stantec	Amie Gray	

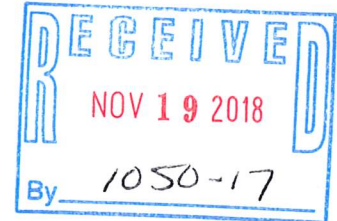


You're on your way.

Paul H. Bradbury, P.E.
Airport Director

Zachary R. Sundquist, A.A.E.
Assistant Airport Director

November 14, 2018



Earle G. Shettleworth, Jr., State Historian
Maine Historic Preservation Commission
55 Capitol Street
Augusta, ME 04333

RE: Notice of Availability of a Draft Environmental Assessment for Future Projects at Portland International Jetport, Portland, ME

Dear Mr. Shettleworth:

Notice is hereby given that the City of Portland, Maine, proposes to seek Federal Aviation Administration (FAA) approval to implement capital improvements and other safety-related actions listed as high priority (i.e., completion within five to seven years) in its recently approved Sustainable Airport Master Plan. These proposed projects are depicted on the Jetport's Airport Layout Plan (ALP) and will require federal funding and approvals by the FAA. Federal actions are subject to the *National Environmental Policy Act (NEPA) of 1969* (Title 42 United States Code [USC] Sections 4321 et seq.). FAA is the Lead Agency to ensure compliance with NEPA for airport development actions.

A Draft Environmental Assessment (EA) has been prepared to evaluate the potential environmental impacts of the Proposed Action described below and has been prepared pursuant to the requirements of Section 102(2)(c) of NEPA, as well as in accordance with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. The Draft EA includes an analysis of prudent or feasible alternatives, potential impacts, and mitigation measures, as appropriate.

The Proposed Action involves the following safety, efficiency, and sustainability improvements: expansion of a long-term hold/deicing/remain overnight apron; construction of a Runway 11 end taxiway bypass and realignment of a perimeter service road; tree removal to clear the glideslope qualification surface for the Runway 36 end; construction of Phase 2 of an air cargo taxiway; realignment of Taxiway C; relocation of Taxiway A east of Runway 18-36; relocation of a service access road east of the cargo area; and construction of Taxiway B from the Runway 36 end to the Runway 29 end.

Mr. Shettleworth
November 14, 2018
Page 2

Beginning **November 16, 2018**, a copy of the Draft EA will be available for review at: www.thejetport.airportstudy.com, or at the following locations during normal business hours through **December 17, 2018**:

- FAA, New England Region, Airports Division - 1200 District Avenue, Burlington, MA
- Portland International Jetport Administration Office, 1001 Westbrook Street, Portland, ME
- Portland City Hall, 389 Congress Street, Portland, ME
- South Portland Library - Memorial Branch, 155 Wescott Road, South Portland, ME

Anyone wishing to comment on the Draft EA may submit written comments by letter or email to the following physical or email addresses:

Stantec Consulting Services, Inc.
482 Payne Road
Scarborough, ME 04074
Attn: Dwight Anderson, P.E.
dwight.anderson@stantec.com

The cutoff date for comment submission is not later than **5:00 PM – Eastern Standard Time, December 17, 2018**. Please allow enough time for mailing. All comments must be **received** by the deadline, not simply postmarked by that date.

Thank you for your consideration and timely response.

Sincerely,

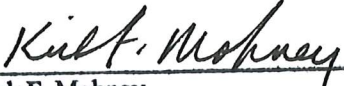


Paul Bradbury
Director

CC: Michelle Ricci, Environmental Protection Specialist, FAA New England Region
Dwight Anderson, Sr. Project Manager, Stantec
Judi Krauss, Environmental Planner, Coffman Associates

FILE: 17-EA-01

Based on the information submitted, I have concluded that there will be no historic properties affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act. Consequently, pursuant to 36 CFR 800.4(d)(1), no further Section 106 consultation is required unless additional resources are discovered during project implementation pursuant to 36 CFR 800.13.


Kirk F. Mohney,
State Historic Preservation Officer
Maine Historic Preservation Commission

11/30/18
Date

MHPC 81050-17

Judi Krauss

From: Anderson, Dwight <Dwight.Anderson@stantec.com>
Sent: Thursday, December 13, 2018 11:56 AM
To: Judi Krauss
Subject: FW: Environmental Assessment (EA) for the Proposed Future Projects at the Portland International Jetport (Jetport) in the City of Portland, Cumberland County, Maine

From: Timmermann, Timothy <Timmermann.Timothy@epa.gov>
Sent: Thursday, December 13, 2018 1:33 PM
To: Anderson, Dwight <Dwight.Anderson@stantec.com>; richard.doucette@faa.gov
Cc: Timmermann, Timothy <Timmermann.Timothy@epa.gov>; LeClair, Jacqueline <Leclair.Jackie@epa.gov>; Kern, Mark <kern.mark@epa.gov>
Subject: Environmental Assessment (EA) for the Proposed Future Projects at the Portland International Jetport (Jetport) in the City of Portland, Cumberland County, Maine

Dear Mr. Anderson:

We have reviewed the EA for the Proposed Future Projects at the Portland International Jetport and have no comments. Thank you for the opportunity to review the EA.

Sincerely,

Timothy L. Timmermann, Director
Office of Environmental Review
EPA New England-Region 1
5 Post Office Square, Suite 100
Mail Code OEP 06-3
Boston, MA 02109-3912

Email: timmermann.timothy@epa.gov
Telephone: 617-918-1025
E-Fax: 617-918-0025



KANSAS CITY
(816) 524-3500

237 N.W. Blue Parkway
Suite 100
Lee's Summit, MO 64063

PHOENIX
(602) 993-6999

4835 E. Cactus Road
Suite 235
Scottsdale, AZ 85254