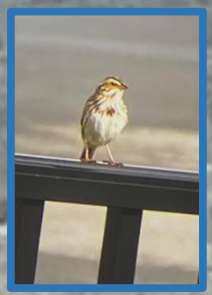
DRAFT
ENVIRONMENTAL ASSESSMENT
RUNWAY 6 EXTENSION PROJECT & 5 YEAR CIP IMPROVEMENTS
PLYMOUTH MUNICIPAL AIRPORT
PLYMOUTH, MA

EEA # 16692

MEPA DEIR SUPPLEMENTAL INFORMATION



DuBois & King inc.

December 13, 2023

MEPA PROJECT #16692 – DEIR SUPPLEMENTAL INFORMATION

TABLE OF CONTENTS

MEPA SUPPLEMENTAL INFORMATION RESPONSES

Project Description & Permitting

MEPA.SI-01 To the extent full details are not known of future projects, the DEIR should provide a conceptual description sufficient to estimate cumulative impacts associated with all projects. According to the DEIR, the wastewater treatment line and the two hangars proposed adjacent to Taxilane A are in conceptual phase (<30% design). The exact location and sizing, etc, have been approximated, as those elements of the Proposed Action are beyond the scope of the TMPU and Draft EA/EIR.

It is unclear how are these project components are beyond the scope of the TMPU if they are proposed within the TMPU?

The Proposed Projects are within the PYM Technical Master Plan Update (TMPU), and have been presented to MEPA for review in the draft EIR submitted April 26, 2023. We agree that the projects are within the scope of MEPA. They are also included within the PYM TMPU Table 6-1: Proposed 5-Year Capital Improvement Plan (2023-2027).

MEPA.SI-02 The DEIR should include plans of existing and proposed conditions at a legible scale that identify all major project components (existing and proposed buildings, access roadways, runways, taxiways, etc.), public areas, impervious areas, subsurface utilities, surface elevations, wetland resource areas, rare species habitat, ownership of parcels including easements, and stormwater and utility infrastructure.

Plans provided with the DEIR do not detail a number of the requested components (e.g., subsurface utilities, surface elevations, stormwater and utility infrastructure).

Attachment 3 – Four D&K early Conceptual Plans (Figures C1.1, C1.2, C1.3, C1.4) showing Alternatives 1-4 included in the MEPA Supplemental Information Response.

Alternatives Analysis

MEPA.SI-03 The alternatives analysis and project narrative should support the selection of the Preferred Alternative for each project component that includes all feasible measures to avoid Damage to the Environment, or to the extent Damage to the Environment cannot be avoided, to minimize and mitigate Damage to the Environment to the maximum extent practicable.

The alternatives analysis does not fully detail environmental impacts associated with each alternative considered.

Attachment 4 (revised tables) – Revised Table 3-1 includes rows that identify environmental impacts for wetlands, 100' wetland/BVW buffers, and Designated Habitat for rare species.

Environmental Justice

MEPA.SI-03 The DEIR should include a baseline assessment of any existing unfair or inequitable Environmental Burden and related public health consequences impacting EJ Populations in accordance with 301 CMR 11.07(6)(n)1 and the MEPA Interim Protocol for Analysis of EJ Impacts.

This information is not adequately presented or evaluated within the DEIR in accordance with the MEPA Interim Protocol for Analysis of EJ Impacts.

A detailed EJ and Public Health analysis has been prepared and included with this response. Please see MEPA Supplemental Information EJ/Public Health Analysis - Attachment 2.

MEPA.SI-04 Specifically, the DEIR should use the DPH EJ Tool to identify any census tract or municipality in which the EJ Populations are located as exhibiting "vulnerable health EJ criteria"; this term is defined in the DPH EJ Tool to include any one of four environmentally related health indicators that are measured to be 110% above statewide rates based on a five-year rolling average.

This information is not adequately presented or evaluated within the DEIR in accordance with the MEPA Interim Protocol for Analysis of EJ Impacts.

A detailed EJ and Public Health analysis has been prepared and included with this response. Please see MEPA Supplemental Information EJ/Public Health Analysis - Attachment 2.

MEPA.SI-05 In addition, sources of potential pollution should be identified within the identified EJ Populations, based on the mapping layers available in the DPH EJ Tool.

This information does not appear to be provided in the DEIR.

A detailed EJ and Public Health analysis including this information has been prepared and included with this response. Please see MEPA Supplemental Information EJ/Public Health Analysis - Attachment 2.

MEPA.SI-06 Other aspects of the Scope in the Certificate on the ENF do not appear to be adequately addressed in the DEIR, including:

- The DEIR should describe the **anticipated** routes of travel for project-generated vehicular traffic to determine whether such traffic would extend near EJ **Populations,** and should discuss whether air quality may be affected in those neighborhoods.

- Consistent with the Scope related to Climate Change and Land Alteration below, analysis of the stormwater management system should assess whether flooding risks may be exacerbated for nearby EJ Populations, including under future climate conditions, and whether existing conditions would be worsened or improved by the project design.
- The DEIR should assess whether tree removal near EJ Populations may affect urban heat island effects, and should discuss whether anticipated growth in airport operations may disproportionately affect EJ neighborhoods in terms of noise, air pollution, and traffic.
- The DEIR should analyze any other relevant short-term and long-term environmental or public health impacts of the project, including construction period activities.
- If any disproportionate adverse effects or increased risks of climate change are identified, the DEIR must include a discussion of proposed mitigation and include such measures in draft Section 61 findings. I note that generalized project benefits should not be analyzed to "net out" project impacts, unless the benefit serves to mitigate the specific impact analyzed. Particular focus should be given to benefits that serve to promote the equitable distribution of Environmental Burdens, or reduce any existing Environmental Burdens identified for the EJ Population.

Exact routes for project-generated traffic are not yet determined, as construction traffic volumes and traffic patterns will be coordinated with Town officials prior to construction to minimize impacts to local roadways, avoid sensitive areas, and to route construction vehicles on roads within the airport boundaries to the greatest extent possible. All airport access gates are on South Meadow Road in Plymouth. Otherwise, the project traffic will avoid neighborhood roads and will be confined to major routes.

See response to MEPA #50 for more details regarding anticipated truck traffic routes.

A detailed EJ and Public Health analysis has been prepared and included with this response. Please see MEPA Supplemental Information EJ/Public Health Analysis - Attachment 2.

<u>Public Health</u>

MEPA.SI-07 Any project impacts that could materially exacerbate such conditions should be analyzed.

The DEIR does not provide a sufficient analysis, as it relates to the ""vulnerable health EJ criteria" and other existing environmental burdens.

A detailed EJ and Public Health analysis has been prepared and included with this response. Please see MEPA Supplemental Information EJ/Public Health Analysis - Attachment 2.

Land Alteration, Impervious Surfaces, and Stormwater

MEPA.SI-08 The DEIR should provide an updated table which quantifies the land alteration and impervious area associated with each project component in the TMPU in a tabular format.

The DEIR only quantifies the alteration of previously undisturbed areas not previously disturbed areas. The DEIR does not fully quantify the land alteration or impervious surface associated with each TMPU component.

Attachment 4 (revised tables) – Revised Table 5-1 has been corrected to more accurately depict the differences between undisturbed areas and previously disturbed areas.

MEPA.SI-09 Other aspects of the Scope in the Certificate on the ENF do not appear to be adequately addressed in the DEIR, including:

The DEIR should describe how the proposed stormwater management system will fully comply with the SMS.

The following information lists the standards that must be met to satisfy MassDEP requirements and considers potential BMPs that may be utilized to comply with each standard. The proposed stormwater management system for the Project will be designed to comply with MassDEP's stormwater management standards that were incorporated into the Regulations on January 2, 2008 (see 310 CMR 10.05(6)(k)).

STANDARD 1 – *No untreated discharges or erosion to wetlands. Applicants must demonstrate that there are no new untreated discharges. To demonstrate that all new discharges are adequately treated, applicants may rely on the computations required to demonstrate compliance with Standards 4 through 6. No additional computations are required.*

The future stormwater management report will identify measures that will be employed to protect the water quality of the sole source aquifer such as vegetative strips, water quality devices, leaching catch basins or infiltration chambers. These devices will remove 80% of total suspended solids as required by DEP.

- Runway 6 Extension: There are no wetlands proximate to the location of the runway extension, thus there will be no discharge of untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth. Rather, this project will utilize leaching catch basins or underground infiltration chambers to infiltrate any increase in runoff due to increased impervious areas directly into the ground after treatment. Leaching basins and infiltration chambers have been extensively utilized throughout the airport on previous projects.

- Hangars/Apron Areas: There are no wetlands proximate to the location of the new hangars, therefore the hangars and apron areas will not discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth. Rather, the Proposed Action will have the opportunity to utilize leaching basins to dispose of runoff. Leaching basins and infiltration chambers have been used elsewhere on the airport as areas are reconstructed or developed (see Runway 33, Taxiway D prior projects).

STANDARD 2 - *Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.*

During the design of the project, the Proponent will model the stormwater runoff for the Project Area in accordance with the requirements of the Massachusetts Stormwater Handbook. The handbook requires projects to model the 2-year, 10-year and 100-year storms utilizing the TR-20/TR-55 methodologies for a 24-hour rain event. The rainfall data has historically been for a Type II storm as defined by the NRCS. However, NOAA Atlas 14 rainfall data has replaced the former NRCS data as an industry standard, and will be utilized on the proposed project.

Methods available to manage increased post development runoff include infiltration devices such as leaching basins and/or underground chamber systems or below ground detention basins.

STANDARD 3 – *Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices and good operation and maintenance. At a minimum, the annual recharge from the post development site shall approximate the annual recharge from the pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.*

There will be no loss of annual recharge to groundwater due to new taxiway pavement because future design will include using leaching basins and infiltration chambers. The stormwater management report will identify new pavement/impervious areas and pavement removal for each of the Projects. New impervious areas will be minimized to the maximum extent practicable while adhering to FAA guidelines. All infiltration systems will require registration under the MassDEP Underground Injection Control (UIC) program.

STANDARD 4 - *Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when (a) Suitable practices for source control and pollution prevention*

are identified in a long-term pollution prevention plan and thereafter are implemented and maintained; (b) Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with Massachusetts Stormwater Handbook; and (c) Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.

TSS removal can be accomplished by a long vegetative strip (> 50 ft) within the side runway safety area prior to discharge into leaching catch basins. Proprietary treatment units are also available for use to remove 80% TSS. These types of devices are currently in use throughout the airport.

STANDARD 5 – *Stormwater discharges from areas with higher potential pollutant loads require the use of specific stormwater management BMPs. The use of infiltration practices without pretreatment is prohibited.*

As defined by the Handbook, LUHHPL's include hangars, aprons or fueling facilities since they are subject to a NPDES Multisector General Permit (MSGP). As per the Handbook (Vol.1, Ch. 1, p. 12), since runoff from the proposed Project area of runway and taxiway extension will not mix or comingle with runoff from the existing hanger, apron or fueling areas, the Project does not require structural BMPs suitable for LUHHPL areas.

For the two new general aviation hangars, the proposed new apron areas are considered LUHPPLs. Oil/water separators will be installed as necessary.

STANDARD 6 - *Stormwater discharges to critical areas must utilize certain stormwater BMPs approved for critical areas. Critical areas are Outstanding Resource Waters (ORWs), shellfish beds, swimming beaches, cold water fisheries, and recharge areas for public water supplies.*

These projects are not subject to Standard 6 as the project area does not discharge to a critical area.

STANDARD 7 - *A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural stormwater best management practice requirements of Standards 4, 5 and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.*

The runway and taxiway extensions, as well as the new hangars, will be considered new development. Therefore Standard 7 does not apply and all standards will be met fully. The Runway 6/24 and Gate 3 Taxilane reconstruction projects will be designed to meet applicable redevelopment standards.

STANDARD 8 - *A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.*

Design during the future phases of the project will identify specific construction period activities. An erosion and sediment control program will minimize the risk of impacts to wetland resource areas during construction of the Project. The program will incorporate BMPs specified in the guidelines developed by MassDEP and the Environmental Protection Agency ("EPA") and will comply with the requirements of the 2022 National Pollution Discharge Elimination System Phase II Construction General Permit for Storm Water Discharges from Construction Activities ("2022 CGP") and the Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas.

STANDARD 9: *A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.*

The Proponent is committed to the proper operation, maintenance, and sustainability of proposed systems that will be installed to preserve and protect the watershed and stormwater management functions. Plymouth Municipal Airport has an existing Stormwater Pollution Prevention Plan (SWPPP). The SWPPP is on file at the Airport and a project specific operation and maintenance plan will be prepared for the final design of this project and incorporated into the SWPPP.

STANDARD 10: *All illicit discharges to the stormwater management system are prohibited.*

All known non-allowable non-stormwater discharges have previously been eliminated through the closure of hangar floor drains connected to leaching basins and the implementation of a zero-discharge policy. A new Illicit Discharge Compliance Statement will be prepared for the final design of this project.

MEPA.SI-10 The Proponent should take all feasible measures to manage stormwater runoff, including by exceeding stormwater management standards and incorporating Low Impact Design (LID) strategies and green infrastructure wherever practicable; such measures should be described in the DEIR.

Please see response to MEPA #30

MEPA.SI-11 Green infrastructure is an effective way to treat stormwater generated by impervious surfaces and provide cooling and other benefits for the community and should be incorporated to the maximum extent possible.

LID designs should be carefully considered, and where not used, the DEIR should provide a thoughtful explanation as to why they are infeasible for implementation on-site.

Please see response to MEPA #31

MEPA.SI-12 The DEIR should identify any infiltration systems that may require registration under MassDEP's Underground Injection Control (UIC) program.

Please see response to MEPA #32

MEPA.SI-13 Additionally, the DEIR should identify how the stormwater management system will conform to the guidelines and performance standards related to discharges of pollutants from airplane deicing operations and other discharges covered by the NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP).

Please see response to MEPA #33

MEPA.SI-14 As described further below, the DEIR should demonstrate the stormwater management system will be designed to accommodate larger storm events.

Please see response to MEPA #34

MEPA.SI-15 The DEIR should provide quantitative modeling and analysis to assess the rainfall volumes that will be accommodated by the stormwater design, including under current and future climate conditions.

Please see response to MEPA #35

MEPA.SI-16 It should include a plan showing the location of BMPs

Please see the MEPA Supplemental Information – Figure 1-2A - Attachment 5.

<u>Rare Species</u>

MEPA.SI-17 The DEIR should identify a suitable long-term net benefit for state-listed species and whether the proposed work will meet the performance standards of a CMP.

The Airport has a history of successful grassland habitat management for the benefit of state-listed grassland bird species. The Project Proponent has met with NHESP regulatory staff to discuss the project and identify potential mitigation options under the performance standards of the CMP, and anticipates that the proposed work and mitigation requirement will be fully met.

Please also see responses to MEPA #36 & 37.

MEPA.SI-18 The DEIR (section 5.5.4.1) notes that the project intends to demonstrate compliance with the CMP performance standards but does not appear to directly address how the TMPU projects comply with the standards.

The Airport intends to fully comply with requirements for mitigation and performance standards contained with the current Conservation and Management Permit (CMP), NHESP Application No. 17-36673, September 2018, and Conservation Permit No. 018-329.DFW/ NHESP FILE NO. 17-36673, dated September 19, 2018. Prior projects at the Airport have mitigated impacts in accordance with the required ratio associated with status of the listed species. In this case, the upland sandpiper has a required ratio of 3:1, the vesper sparrow, 2:1, and the grasshopper sparrow 2:1. Therefore all past projects provided mitigation at an impact ratio of 3:1, where at least 3 acres of managed grassland are credited for every 1 acre of grassland that has been impacted.

Relative to the proposed Project, we anticipate following a previously identified mitigation approach establishing ratios for mitigation with modifying factors depending upon habitat quality impacted. Modifiers to the mitigation ratio will take into consideration whether the impacted area is frequently or infrequently mown. Temporary impacts will be mitigated at a 1:1 ratio for the temporal loss of habitat should construction occur during the nesting season (May 1 – July 31) that is to be re-established upon project completion.

All proposed mitigation areas are to be mown on infrequent, (i.e. annual) basis. Therefore, no mitigation areas to be provided will be considered Frequently Mown. The conversion of infrequently mown to frequently mown will require a mitigation ratio of up to 3:1.

Additionally, consideration will be given to the potential for a project to impact viewsheds or increase habitat fragmentation such as building projects as determined in consultation with NHESP biologists. A mitigation ratio of up to 2.5:1 may be required for these projects. Areas which are impacted by fragmentation but not developed into a built environment may also require mitigation of up to 1:1.

It should be noted that the 2018 GHMP and CMP allowed for mitigation banking of grassland habitat for future projects. The Airport has sufficient mitigation already banked for the proposed projects within mapped Habitat based on the prescribed mitigation ratios detailed above.

MEPA.SI-18 The DEIR should provide updated wetlands calculations which reflect the most recent design of the Runway 6 project and identify all temporary and permanent impacts to wetland resource areas associated with the master plan.

No wetland resource areas nor buffer zones will be impacted as part of this project. Please see response to MEPA #05 and 38.

MEPA.SI-19 The DEIR indicates there will be no wetland impacts resulting from the projects proposed within the TMPU based on a finding by the FAA that the fence and Gate 6 access road will not need to be relocated. However, section 5.6.4.2 indicates the project is proposing to construct a wetlands replication area.

The reference noting a wetland replication area is inadvertently incorrect, as no wetlands will be impacted or replication area required. Please see response to MEPA #05 and 38.

Climate Change

MEPA.SI-20 There are certain aspects of the Scope in the Certificate on the ENF that do not appear to be adequately addressed in the DEIR, including:

The DEIR should describe the precipitation data used for the design of the stormwater management system and how the system will be sized to address future climate conditions.

Please see response to MEPA #40

MEPA.SI-21 The MA Resilience Design Tool provides rainfall volumes associated with a 24-hour storm for the project as input by the user.

The DEIR should discuss whether the proposed stormwater design is anticipated to meet the recommended 2050 10-year return period (24-hour rainfall volume of 6.1") from the MA Resilience Design Tool for the runway extension, as well as the 2070 recommendation for the aviation hangars corresponding to a 25-year return period as of 2070 (24-hour rainfall volume of 7.9").

During the design of stormwater systems, requirements to address future climate conditions utilizing MA Resilience Design Tool will be assessed. The stormwater report will inform how systems may accommodate the recommended 2070 100-Year 24-hour rainfall volume of eleven (11) inches as well as the 2050 recommendation for runway and taxiway projects corresponding to the 2050 10-Year 24-hour rainfall volume of 6.1 inches.

MEPA.SI-22 The DEIR should discuss whether the stormwater management system will attenuate peak flows and meet pollutant loading requirements based on future climate conditions in 2050 and 2070 and should provide a copy of the Stormwater Report for the project. Estimates can be provided in lieu of exact calculations, to the extent stormwater design is not advanced enough by the time of the DEIR.

Stormwater design information is provided in response to MEPA #40

MEPA.SI-23 To the extent the project is unable to accommodate future year storm scenarios, the DEIR should discuss whether the project has engaged in flexible adaptative strategies,

and whether current designs allow for future upgrades to be made to adapt to climate change.

See Response to MEPA #40, during the design of stormwater systems in future phases, flexible adaptative strategies, future upgrades to stormwater systems will be investigated to adapt to climate change.

Construction Period

MEPA.SI-24 The DEIR should describe truck routes and other mitigation measures that may be implemented to minimize impacts to residential areas by trucks travelling to the site during the construction period.

It does not appear that the DEIR estimates the specific truck routes to/from the project site or impacts to EJ populations from construction vehicles

Exact routes are not yet determined, as construction traffic volumes and traffic patterns will be coordinated with Town officials prior to construction to minimize impacts to local roadways, avoid sensitive areas, and to route construction vehicles on roads within the airport boundaries to the greatest extent possible. All airport access gates are on South Meadow Road in Plymouth.

See response to MEPA #50 for more details.

Mitigation & Section 61 Findings

MEPA.SI-25 The DEIR should include a comprehensive list of all commitments made by the Proponent to avoid, minimize and mitigate the environmental and related public health impacts of the project, and should include a separate section outlining mitigation commitments relative to EJ Populations.

No specific EJ mitigation commitments are included in the DEIR.

Please see MEPA Supplemental Information EJ/Public Health Analysis - Attachment 2, Section 1.7 – Mitigation for mitigation commitments relative to EJ Populations.

MEPA.SI-26 The filing should clearly indicate which mitigation measures will be constructed or implemented based upon project phasing to ensure that adequate measures are in place to mitigate impacts associated with each development phase.

It is unclear from the DEIR if the various mitigation commitments will be implemented in phases as the work will take place over a five-year period.

All mitigation will be implemented as appropriate within the anticipated 5-year Project schedule. To the extent that certain components require mitigation commitments beyond

the 5-year period (e.g., grassland bird monitoring and reporting), the Proponent is committed to funding these efforts. Additional information on mitigation for is provided in response to MEPA #55, 56, and 57.

Response to Comments

MEPA.SI-27 It should include a comprehensive response to comments on the DEIR that specifically address each issue raised in the comment letter; references to a chapter or sections of the DEIR alone are not adequate and should only be used, with reference to specific page numbers, to support a direct response.

The DEIR does not include a response to the Certificate on the ENF as required by 301 CMR 11.07(I)

A detailed response has been prepared as part of this supplemental submittal. Please see the MEPA Supplemental Information – Response to Comments - Attachment 1.

ATTACHMENT 1 MEPA Annotated ENF Certificate & [Numbered] Responses

SCOPE

General

The DEIR should follow Section 11.07 of the MEPA regulations for outline and content and additional information and analyses required by this Scope. It should clearly demonstrate that the Proponent will pursue all feasible measures to avoid, minimize and mitigate Damage to the Environment to the maximum extent feasible.

Project Description and Permitting

As discussed above, the ENF was filed as to the Runway 6 project only, even though it is part of a larger master plan (TMPU) that governs work at the Airport over a common time frame. Consistent with prior reviews of other airport master plans (EEA #15964, 16128, 16640), the DEIR should reframe the project under review as the TMPU (the "project" will be re-named in the DEIR), and provide a description of all projects proposed under the TMPU. All impacts calculations should be updated to reflect the full master plan. To the extent full details are not known of future projects, the DEIR should provide a conceptual description sufficient to estimate cumulative impacts associated with all projects. The DEIR should also describe a mechanism for conducting more detailed reviews of future projects through the filing of NPCs. MEPA.01

The DEIR should include plans of existing and proposed conditions at a legible scale that identify all major project components (existing and proposed buildings, access roadways, runways, taxiways, etc.), public areas, impervious areas, subsurface utilities, surface elevations, wetland resource areas, rare species habitat, ownership of parcels including easements, and stormwater and utility infrastructure. Conceptual plans should be provided for on-site work as well as any proposed off-site work for transportation or utility improvements that will benefit the project. The DEIR should clearly describe the number, location and size of existing avigation easements and proposed avigation easements that will be acquired. It should identify any changes to activities contemplated under the TMPU, including changes in proposed phasing or additional proposed activities, since the filing of the ENF. MEPA.02 MEPA.03 MEPA.04

The DEIR should identify any additional MEPA thresholds met/exceeded and/or additional permits or approvals needed, and should identify thresholds and Agency Actions associated with the entire TMPU and not just the Runway 6 project. The DEIR should identify and describe applicable state, federal and local permitting and review requirements associated with each project and provide an update on the status of each of these pending actions. The DEIR should include a description and analysis of applicable statutory and regulatory standards and requirements, and a discussion of the project's consistency with those standards. MEPA.05 MEPA.06

To provide context for the proposed activities under the TMPU, the DEIR should provide an overview of the Airport's functions and activities related to general aviation and commercial services, with a focus on the role each of the project components plays in the operation of the Airport. It should provide a general description of Airport operations, including hours of operation, conditions under which each runway is used, airplane taxiing and parking, and use of hangars and other Airport buildings. MEPA.07

It should include data on past (at least for the last 15 years), current and projected levels of passenger volumes and aircraft operations on both an annual basis and for peak summer months, so as to provide a clear and full justification for the need to expand runway and taxiway capacity to accommodate projected airport and passenger growth over time. The DEIR should clarify which project components are intended to support a growth in airport operations, and how implementation of each project component will be phased to accommodate growth projections over a specified time horizon. It should clearly identify relevant FAA design guidelines or standards to be addressed by each project, as applicable. MEPA.08 MEPA.09

Alternatives Analysis

The DEIR should identify the purpose and need of each project proposed in the TMPU, and provide an alternatives analysis for all major components and not just the Runway 6 extension. Several of the proposed improvements will be designed to meet FAA safety guidelines; however, improvements are also intended to facilitate future growth in airport operations. If projects are intended to support expansion, the DEIR should estimate the increase in flight activity and associated impacts that will result from such expansion; less impactful alternatives to such expansion should also be described The DEIR should describe the relevant safety guidelines and how the proposed design will achieve safety goals. For improvements that are not directly safety-related, the DEIR should identify any alternative configurations or locations that would avoid or minimize impacts to land alteration and impervious area. The alternatives analysis and project narrative should support the selection of the Preferred Alternative for each project component that includes all feasible measures to avoid Damage to the Environment, or to the extent Damage to the Environment cannot be avoided, to minimize and mitigate Damage to the Environment to the maximum extent practicable. MEPA.10 MEPA.11 MEPA.12

Environmental Justice (EJ)

The DEIR should include a separate section on "Environmental Justice," and contain a full description of measures the Proponent intends to undertake to promote public involvement by such EJ Populations during the remainder of the MEPA review process, including a discussion of any of the best practices listed in the MEPA EJ Public Involvement Protocol that the project intends to employ. The DEIR, or a summary thereof, should be distributed to the EJ Reference List that was used to provide notice of the ENF. The Proponent should obtain a revised EJ Reference List from the MEPA Office to ensure that contact information is updated. As noted above, an updated EJ Screening Form should be circulated making clear that the entire TMPU is undergoing MEPA review, and indicating opportunities for public involvement as to both current and future work. MEPA.13 MEPA.14

The DEIR should include a baseline assessment of any existing unfair or inequitable Environmental Burden and related public health consequences impacting EJ Populations in accordance with 301 CMR 11.07(6)(n)1 and the MEPA Interim Protocol for Analysis of EJ Impacts. Specifically, the DEIR should use the DPH EJ Tool to identify any census tract or municipality in which the EJ Populations are located as exhibiting "vulnerable health EJ criteria"; this term is defined in the DPH EJ Tool to include any one of four environmentally related health indicators that are measured to be 110% above statewide rates based on a five-year rolling average. In addition, sources of potential pollution should be identified within the identified EJ Populations, based on the mapping layers available in the DPH EJ Tool. MEPA.15 MEPA.16

The DEIR should provide an estimate the total number of adt of diesel vehicles that the project is MEPA.17

anticipated to generate during construction. The DEIR should describe the anticipated routes of travel for project-generated vehicular traffic to determine whether such traffic would extend near EJ Populations, and should discuss whether air quality may be affected in those neighborhoods. The DEIR should discuss the extent to which Transportation Demand Management (TDM) measures will serve to reduce vehicle traffic, associated with project operations and construction. To the extent construction traffic for future projects other than the Runway 6 project is unknown, the DEIR should provide estimates based on current work. MEPA.18 MEPA.19

The DEIR should also analyze land alteration and impervious surfaces added by the master plan project, including implications for potential stormwater flooding and urban heat island effects in the surrounding neighborhoods. Consistent with the Scope related to Climate Change and Land Alteration below, analysis of the stormwater management system should assess whether flooding risks may be exacerbated for nearby EJ Populations, including under future climate conditions, and whether existing conditions would be worsened or improved by the project design. The DEIR should assess whether tree removal near EJ Populations may affect urban heat island effects, and should discuss whether anticipated growth in airport operations may disproportionately affect EJ neighborhoods in terms of noise, air pollution, and traffic. The DEIR should analyze any other relevant short-term and long-term environmental or public health impacts of the project, including construction period activities. If any disproportionate adverse effects or increased risks of climate change are identified, the DEIR must include a discussion of proposed mitigation and include such measures in draft Section 61 findings. I note that generalized project benefits should not be analyzed to "net out" project impacts, unless the benefit serves to mitigate the specific impact analyzed. Particular focus should be given to benefits that serve to promote the equitable distribution of Environmental Burdens, or reduce any existing Environmental Burdens identified for the EJ Population. MEPA.20 MEPA.21

Public Health

The DEIR should include a separate section on "Public Health," and discuss any known or reasonably foreseeable public health consequences that may result from the environmental impacts of the project. Particular focus should be given to any impacts that may materially exacerbate "vulnerable health EJ criteria," in accordance with the MEPA Interim Protocol for Analysis of EJ Impacts. In addition, other publicly available data, including through the DPH EJ Tool, should be surveyed to assess the public health conditions in the immediate vicinity of the project site, in accordance with 301 CMR 11.07(6)(g)10. Any project impacts that could materially exacerbate such conditions should be analyzed. To the extent any required Permits for the project contain performance standards intended to protect public health, the DEIR should contain specific discussion of such standards and how the project intends to meet or exceed them. The DEIR should discuss whether Per- and Polyfluorinated Substances (PFAS) remediation will be included as part of any projects proposed under the TMPU, and describe any ongoing efforts to address PFAS releases that may have been identified during Airport operations. MEPA.22 MEPA.23 MEPA.24

Noise

The ENF and TMPU indicate that the proposed improvements are intended increase safety and efficiency for both airport users and the surrounding communities as well as to support future growth of airport operations. Such growth will likely result in increased noise impacts on surrounding neighborhoods. The TMPU notes that the noise contour map generated for the base year (Year 2007) was based on existing aircraft operations, fleet mix, and runway orientation at the time and is still an accurate portrayal of current noise at the airport. However, the TMPU also notes that additional aircraft

forecasted to utilize the airfield could have some adverse noise impacts to the surrounding residential community, particularly on the final approach. Additionally, the TMPU states that implementation of the Preferred Alternative for the Runway 6 extension project could reduce noise above the properties northeast of the airfield.

The DEIR should include an assessment of noise levels associated with existing airport operations, as well as anticipated increases that are projected as a result of future expansion of the Airport. It should describe existing noise levels, identify all noise-generating activities and components of the project and model noise levels under proposed conditions. The DEIR should discuss what regulatory requirements, such as FAA guidelines or MassDEP regulations or policies, apply to noise impacts of airport operations. The DEIR should discuss whether noise impacts are likely to disproportionately affect surrounding EJ neighborhoods or other vulnerable populations (including those that may be considered "sensitive receptor") and what mitigation could be considered to minimize the noise impacts of airport operations. For instance, the DEIR should discuss whether hours of operations could be adjusted to minimize noise impacts, particularly during nighttime hours. MEPA.25 MEPA.26

Land Alteration, Impervious Area and Stormwater

The DEIR should provide an updated table which quantifies the land alteration and impervious area associated with each project component in the TMPU in a tabular format. The DEIR should clarify the amount of alteration including the type of vegetation that will be cleared (i.e., mature trees, scrub shrub, etc.). It should clarify the location, type and amount of alteration in previously undisturbed areas. The DEIR should identify how each project is designed to avoid and minimize land alteration and impervious area. The DEIR should quantify open space that will remain undisturbed and/or restored upon completion of construction. The DEIR should include site plans that clearly locate and delineate areas proposed for development and those to be left undisturbed. MEPA.27 MEPA.28

The DEIR should identify all measures that will be employed to protect the water quality of the SSA, provide a description of the proposed stormwater management system for each project/phase and identify BMPs that will be incorporated into its design. The DEIR should describe how the proposed stormwater management system will fully comply with the SMS. The Proponent should take all feasible measures to manage stormwater runoff, including by exceeding stormwater management standards and incorporating Low Impact Design (LID) strategies and green infrastructure wherever practicable; such measures should be described in the DEIR. Green infrastructure is an effective way to treat stormwater generated by impervious surfaces and provide cooling and other benefits for the community and should be incorporated to the maximum extent possible. LID designs should be carefully considered, and where not used, the DEIR should provide a thoughtful explanation as to why they are infeasible for implementation on-site. The DEIR should identify any infiltration systems that may require registration under MassDEP's Underground Injection Control (UIC) program. Additionally, the DEIR should identify how the stormwater management system will conform to the guidelines and performance standards related to discharges of pollutants from airplane deicing operations and other discharges covered by the NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP). MEPA.29 MEPA.30 MEPA.31 MEPA.32 MEPA.33

As described further below, the DEIR should demonstrate the stormwater management system will be designed to accommodate larger storm events. The DEIR should provide quantitative modeling and analysis to assess the rainfall volumes that will be accommodated by the stormwater design, including under current and future climate conditions. It should include a plan showing the location of MEPA.34 MEPA.35

BMPs.

Rare Species

Prior to filing the DEIR, the Proponent should continue consulting with NHESP and through said coordination determine whether the existing CMP will be amended, or if a new CMP will be required. MEPA.36
The DEIR should identify the full scope of impacts to state-listed species and their habitats resulting from the Runway 6 extension project and other work proposed as part of the TMPU. MEPA.37 The DEIR should identify a suitable long-term net benefit for state-listed species and whether the proposed work will meet the performance standards of a CMP. The DEIR should also demonstrate compliance with the existing CMP(s) for the Airport and identify whether the Proponent intends to request a Certificate of Permit Compliance from NHESP.

Wetland Resources

The DEIR should provide updated wetlands calculations which reflect the most recent design of the Runway 6 project and identify all temporary and permanent impacts to wetland resource areas MEPA.38 associated with the master plan. The DEIR should demonstrate how the project will comply with performance standards outlined in the WPA for each resource area. It should provide an updated summary table of all wetland resource area and Buffer Zone impacts. The DEIR should consider impacts associated with surface and subsurface hydrology, wildlife habitat, and describe compliance with BMPs for stormwater management and sedimentation and erosion control. The DEIR should ensure that estimates for impacts to wetland resource areas are conservative and account for all temporary impacts.

Climate Change

Adaptation and Resiliency

The DEIR should include a comprehensive discussion of the potential effects of climate change MEPA.39 on the Airport and describe features incorporated into the project design (including climate-related design specifications and standards) that will increase the resiliency of the site to these changes. The DEIR should include information about the potential adaptation of the project to future conditions.

The DEIR should describe the precipitation data used for the design of the stormwater MEPA.40 management system and how the system will be sized to address future climate conditions. The MA Resilience Design Tool provides rainfall volumes associated with a 24-hour storm for the project as MEPA.41 input by the user. The DEIR should discuss whether the proposed stormwater design is anticipated to meet the recommended 2050 10-year return period (24-hour rainfall volume of 6.1") from the MA Resilience Design Tool for the runway extension, as well as the 2070 recommendation for the aviation hangars corresponding to a 25-year return period as of 2070 (24-hour rainfall volume of 7.9"). The MEPA.42 DEIR should discuss whether the stormwater management system will attenuate peak flows and meet pollutant loading requirements based on future climate conditions in 2050 and 2070 and should provide a copy of the Stormwater Report for the project. Estimates can be provided in lieu of exact calculations, to the extent stormwater design is not advanced enough by the time of the DEIR. To the extent the MEPA.43 project is unable to accommodate future year storm scenarios, the DEIR should discuss whether the project has engaged in flexible adaptative strategies, and whether current designs allow for future upgrades to be made to adapt to climate change.

The MA Resilience Design Tool also identified the site as exposed to "High" risk for riverine flooding, and portions of the site have been identified as located in a 100-year flood plain (FEMA Zone A). The DEIR should discuss whether the elevation of Airport infrastructure currently meets applicable standards for flood plain development, and whether efforts will be taken as part of the proposed work under the TMPU to improve resiliency to future climate conditions. The DEIR should specify any base flood elevations (BFEs) that may been determined for the site or nearby locations, and compare the elevations of proposed infrastructure to the BFE. The values generated from the MA Resilience Tool (such as "riverine peak flood elevation") can be used as a resource in estimating a future BFE for a 2070 planning horizon, assuming effects of climate change. If the Airport is not taking steps as part of the TMPU to address climate change, the DEIR should discuss the reasons why and address overall planning efforts under way to improve resiliency to future conditions. MEPA.44

Solid and Hazardous Waste

The DEIR should identify the nature and volume of solid waste to be generated by the project. It should describe handling, reuse, recycling and disposal of solid waste. The Proponent should review MassDEP's comment letter for solid waste handling and disposal requirements. The DEIR should describe how the project will comply with all applicable requirements. MEPA.45

The DEIR should describe if proposed improvements will be located within any of the disposal sites previously or currently regulated under the MCP. The DEIR should include a plan that clearly identifies the location of disposal sites and project elements. The DEIR should describe any potential excavation or disturbance in disposal sites and identify any necessary mitigation measures or handling and disposal requirements. MEPA.46 MEPA.47 MEPA.48

Construction Period

The DEIR should describe how construction activities will be managed in accordance with applicable MassDEP regulations regarding Air Pollution Control (310 CMR 7.01, 7.09-7.10), and Solid Waste Facilities (310 CMR 16.00 and 310 CMR 19.00, including the waste ban provision at 310 CMR 19.017). The DEIR should describe all construction-period impacts and mitigation relative to state-listed species, wetlands, stormwater, noise, air quality, water quality, and traffic. It should describe truck routes and other mitigation measures that may be implemented to minimize impacts to residential areas by trucks travelling to the site during the construction period. Construction equipment should use engines meeting Tier 4 federal emissions standards, or if unavailable, confirm that the project will require its construction contractors to use Ultra Low Sulfur Diesel fuel, and discuss the use of after-engine emissions controls, such as oxidation catalysts or diesel particulate filters. MEPA.49 MEPA.50 MEPA.51

The DEIR should provide detailed information regarding the project's generation, handling, recycling, and disposal of construction and demolition debris (C&D) and identify measures to reduce solid waste generated by the project. I strongly encourage the Proponent to commit to C&D recycling activities as a sustainable measure for the project. The Proponent is reminded that any contaminated material encountered during construction must be managed in accordance with the MCP and with prior notification to MassDEP. The project will be required to develop a Stormwater Pollution Prevention Plan (SWPPP) in accordance with its NPDES CGP to manage stormwater during the construction period. The DEIR should describe stormwater management measures that will be implemented during construction. It should describe potential construction period dewatering activities and associated permitting (i.e., NPDES) and identify mitigation measures. All construction-period mitigation measures MEPA.52 MEPA.53 MEPA.54

should be listed in the draft Section 61 Findings. I refer the Proponent to the comprehensive review of construction-period regulatory requirements in MassDEP's letter. The DEIR should describe how the project will comply with all applicable requirements.

Mitigation and Draft Section 61 Findings

The DEIR should include a separate chapter summarizing proposed mitigation measures including construction-period measures. This chapter should also include a comprehensive list of all commitments made by the Proponent to avoid, minimize and mitigate the environmental and related public health impacts of the project, and should include a separate section outlining mitigation commitments relative to EJ Populations. The filing should contain clear commitments to implement these mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation. The list of commitments should be provided in a tabular format organized by subject matter (traffic, water/wastewater, GHG, EJ, etc.) and identify the Agency Action or Permit associated with each category of impact. Draft Section 61 Findings should be separately included for each Agency Action to be taken on the project. The filing should clearly indicate which mitigation measures will be constructed or implemented based upon project phasing to ensure that adequate measures are in place to mitigate impacts associated with each development phase. MEPA.55 MEPA.56

Responses to Comments

The DEIR should contain a copy of this Certificate and a copy of each comment letter received. It should include a comprehensive response to comments on the DEIR that specifically address each issue raised in the comment letter; references to a chapter or sections of the DEIR alone are not adequate and should only be used, with reference to specific page numbers, to support a direct response. This directive is not intended, and shall not be construed, to enlarge the scope of the DEIR beyond what has been expressly identified in this certificate. MEPA.57 MEPA.58

Circulation

In accordance with 301 CMR 11.16(3), the Proponent should circulate the DEIR to those parties who commented on the ENF, each Agency from which the Project will seek Permits, Land Transfers or Financial Assistance, and to any other Agency or Person identified in the Scope. Per 301 CMR 11.16(5), the Proponent may circulate copies of the DEIR to commenters in CD-ROM format, by directing commenters to a project website address, or electronically. However, the Proponent must make a reasonable number of hard copies available to accommodate those without convenient access to a computer and distribute these upon request on a first-come, first-served basis. A copy of the DEIR should be made available for review in the Plymouth and Carver Public Library. MEPA.59 MEPA.60

May 26, 2023
Date

Rebecca L. Tepper

ATTACHMENT 1: RESPONSE TO COMMENTS

MEPA.01 Consistent with prior reviews of other airport master plans (EEA #15964, 16128, 16640), the DEIR should reframe the project under review as the TMPU (the "project" will be re-named in the DEIR), and provide a description of all projects proposed under the TMPU. All impacts calculations should be updated to reflect the full master plan. To the extent full details are not known of future projects, the DEIR should provide a conceptual description sufficient to estimate cumulative impacts associated with all projects. The DEIR should also describe a mechanism for conducting more detailed reviews of future projects through the filing of NPCs.

The "Project" has been redefined as the "Runway 6 Extension and Five Year Capital Improvement Plan (CIP)"/Technical Master Plan Update (TMPU) to encompass all Projects associated with the Airport's 2022 Technical Master Plan Update[1]. Please refer to Table 2-1 on page 15 for a description of the purpose and need of each of the future projects included in the Airport's 5-Year CIP.

In Section 3, beginning on page 16 of the Draft EA/EIR, an Alternative Analysis and Proposed Action description is provided along with anticipated impacts associated with all projects. The Draft EA/EIR provides an alternatives analysis for all major components, including the Runway 6 extension. Projects involving reconstruction of existing impervious surfaces, e.g., Gate 3 taxilane reconstruction and Runway 6/24 Rehabilitation, do not have feasible alternatives as they are existing airport infrastructure that is beyond its useful life and will need to be repaved within its existing footprint. The Gate 3 Taxilane Reconstruction and Runway 6/24 Reconstruction are both considered "Routine Maintenance" and/or "Replacement" under MEPA definitions (301 CMR 11.02) and are not included in the full alternatives analysis, as no other location is feasible. The proposed wastewater treatment line and the two hangars proposed adjacent to Taxilane A are shown in Table 1-1 and Table 2-1.

As noted in the Draft EA/EIR, and shown in Figure 1-2, the proposed new emergency generator is planned for a small footprint (<~100 SF) adjacent to the easterly side of the Cape Cod Community College Aviation Maintenance Technology Program building in the vicinity of existing power generation infrastructure. The emergency generator is shown in a 10'x10' area in a disturbed sand/gravel area immediately adjacent to the flight school near existing energy infrastructure. The impacts from that necessary equipment are considered *de minimis* and not expected to result in damage to the environment. Similarly, the water/wastewater line will occur as shown in Figure 1-2 within the existing footprint of the Gate 6 access road to minimize and avoid environmental impacts. There is not any tree cutting or vegetation removal associated with either project.

Please refer to Section 5.3.4, Table 5-1 for a summary of impacts from land alteration and impervious area associated with the TMPU.

[1] The Plymouth Airport Technical Master Plan Update (TMPU) has been undertaken to review existing conditions, formulate an aviation demand forecast, develop a runway length analysis with corresponding alternatives and assist the Airport by developing financial and proposed project implementation considerations. A Technical Master Plan Update only address particular components of the airport (e.g., runway length) and requires a reduced level of effort as opposed to an "Airport Master Plan" (AMP or AMPU) which describes and depicts the short, intermediate, and long-term goals of an airport. An AMPU study is needed to address key issues, objectives, and goals pertinent to the airport's development over a 20-year planning period.

MEPA.02 The DEIR should include plans of existing and proposed conditions at a legible scale that identify all major project components (existing and proposed buildings, access roadways, runways, taxiways, etc.), public areas, impervious areas, subsurface utilities, surface elevations, wetland resource areas, rare species habitat, ownership of parcels including easements, and stormwater and utility infrastructure.

The DEIR has provided existing and proposed plans for all major project components within Appendix A. Also, see information provided in the MEPA Supplemental Information Response: Attachment 5 (Figure 1-2A). The existing avigation easements are presented in Section 5.17 (Table 5-10) of the DEIR.

MEPA.03 Conceptual plans should be provided for on-site work as well as any proposed off-site work for transportation or utility improvements that will benefit the project. The DEIR should clearly describe the number, location and size of existing avigation easements and proposed avigation easements that will be acquired.

Plans for the proposed on-site work have been provided in Appendix A of the DEIR. The plans provided include all on-site improvements, both temporary and permanent. The existing avigation easements are presented in Section 5.17 (Table 5-10) of the DEIR.

MEPA.04 It should identify any changes to activities contemplated under the TMPU, including changes in proposed phasing or additional proposed activities, since the filing of the ENF.

The phasing of the proposed Projects is included in Table 1-1 on page 6 and in Table 3-4, page 25. No changes to proposed activities under the TMPU have occurred since the filing of the ENF.

MEPA.05 The DEIR should identify any additional MEPA thresholds met/exceeded and/or additional permits or approvals needed, and should identify thresholds and Agency Actions associated with the entire TMPU and not just the Runway 6 project.

MEPA thresholds relevant to the project are discussed in Section 1.4.1, page 11. No additional MEPA thresholds are anticipated to be met/exceeded and/or additional permits or approvals needed.

Following submittal of the ENF, FAA provided the Airport a decision relative to its analysis of the glideslope location in conjunction with a proposed extension of RW 6 approach end. Based on the outcome of this analysis, the Airport does not have to relocate the existing fence (and roadway) as it does not cause interference with the glideslope equipment and accuracy. No impacts to wetland resource areas will occur as a result of the Projects.

The ENF Certificate indicated "*the Runway 6-24 extension currently under design exceeds review thresholds at 301 CMR 11.03(2)(b) for greater than two acres of disturbance of designated habitat, as defined in 321 CMR 10.02, that results in a take of a state listed endangered or threatened species or species of special concern and 301 CMR 11.03(6)(b)(3) for the expansion of an existing runway at an airport."* Neither state-listed species nor runway expansions fall within "*Mandatory EIR*" thresholds, but rather under "ENF and Other MEPA Review if the Secretary So Requires". All other relevant MEPA thresholds as discussed within the ENF are accurate.

Please refer to Section 5.17, page 103, for information on anticipated permits.

MEPA.06 The DEIR should identify and describe applicable state, federal and local permitting and review requirements associated with each project and provide an update on the status of each of these pending actions. The DEIR should include a description and analysis of applicable statutory and regulatory standards and requirements, and a discussion of the project's consistency with those standards.

Please refer to Table 5-8, page 102 for descriptions of the local, state, and federal permitting

MEPA.07 To provide context for the proposed activities under the TMPU, the DEIR should provide an overview of the Airport's functions and activities related to general aviation and commercial services, with a focus on the role each of the project components plays in the operation of the Airport. It should provide a general description of Airport operations, including hours of operation, conditions under which each runway is used, airplane taxiing and parking, and use of hangars and other Airport buildings.

A description of the airport, its current operations, and proposed operations is provided in Sections 1.2.1 (airport description), 1.2.2 (general project description), and 2.2 (proposed operations) of the DEIR.

MEPA.08 It should include data on past (at least for the last 15 years), current and projected levels of passenger volumes and aircraft operations on both an annual basis and for peak summer months, so as to provide a clear and full justification for the need to expand runway and taxiway capacity to accommodate projected airport and passenger growth over time.

A full breakdown of the airport's previous, current, and projected volume and operations has been provided in Section 1.2.3 of the DEIR.

MEPA.09 The DEIR should clarify which project components are intended to support a growth in airport operations, and how implementation of each project component will be phased to accommodate growth projections over a specified time horizon. It should clearly identify relevant FAA design guidelines or standards to be addressed by each project, as applicable.

The proposed Projects are needed to improve safety by providing, to the extent practicable, runway and taxiway lengths that meet FAA standards for the design/critical aircraft. The Projects are not proposed to accommodate significant growth in airport operations. Tables 1-2, 1-3, and 1-4 in the DEIR show *de minimus* forecasted increase (4 additional operations per year over each period for the next 20 years). Relevant FAA design guidelines and standards are provided in Table 2-1.

MEPA.10 The DEIR should identify the purpose and need of each project proposed in the TMPU, and provide an alternatives analysis for all major components and not just the Runway 6 extension. Several of the proposed improvements will be designed to meet FAA safety guidelines; however, improvements are also intended to facilitate future growth in airport operations.

A full breakdown of each project proposed in the TMPU has been provided under Sections 2.1 and 2.2 of the DEIR. Table 2-1 summarizes each relevant FAA standard by project.

MEPA.11 If projects are intended to support expansion, the DEIR should estimate the increase in flight activity and associated impacts that will result from such expansion; less impactful alternatives to such expansion should also be described The DEIR should describe the relevant safety guidelines and how the proposed design will achieve safety goals.

The Airport is not proposing to expand its footprint; in other words, the property bounds are not increasing. The Runway 6 extension is a minimal extension to improve safety margins. As described in Sections 2.1 and 2.2., the Projects are intended to support the Airport's need to operate safely and efficiently. No significant increase in flight activity is anticipated due to the runway extension.

MEPA.12 For improvements that are not directly safety-related, the DEIR should identify any alternative configurations or locations that would avoid or minimize impacts to land alteration and impervious area.

An alternatives analysis is provided in Chapter 3, and includes a full breakdown of all alternative configurations and their proposed land impacts. Additionally, a summary of land alteration and impervious area has been provided in Table 5-1.

MEPA.13 The DEIR should include a separate section on "Environmental Justice," and contain a full description of measures the Proponent intends to undertake to promote public involvement by such EJ Populations during the remainder of the MEPA review process, including a discussion of any of the best practices listed in the MEPA EJ Public Involvement Protocol that the project intends to employ.

Environmental Justice information is provided in the DEIR in Section 4.3.8.6. The Proponent has also included a separate Environmental Justice analysis in the Supplemental Information response to MEPA on December 13, 2023 to respond to MEPA's request for additional information not found in the October 31, 2023 draft DEIR. Past and planned outreach activities are described in the Supplemental Response.

Please see MEPA Supplemental Response, Attachment 2.

MEPA.14 The DEIR, or a summary thereof, should be distributed to the EJ Reference List that was used to provide notice of the ENF. The Proponent should obtain a revised EJ Reference List from the MEPA Office to ensure that contact information is updated. As noted above, an updated EJ Screening Form should be circulated making clear that the entire TMPU is undergoing MEPA review and indicating opportunities for public involvement as to both current and future work.

All individuals and members of the EJ reference list have been notified of the Draft EIR submission to MEPA along with a link to download the document, per compliance with the MEPA's EJ public involvement protocol. The Proponent will continue to include all EJ reference list contacts, as well as individuals who have provided comments on the ENF, in all subsequent future filings with MEPA relevant to the Projects.

Please see Appendix C of the DEIR for the Airport's Final Public Participation Plan.

MEPA.15 The DEIR should include a baseline assessment of any existing unfair or inequitable Environmental Burden and related public health consequences impacting EJ Populations in accordance with 301 CMR 11.07(6)(n)1 and the MEPA Interim Protocol for Analysis of EJ Impacts. Specifically, the DEIR should use the DPH EJ Tool to identify any census tract or municipality in which the EJ Populations are located as exhibiting "vulnerable health EJ criteria";

The DPH Tool was used to assess background vulnerabilities in the EJ communities. The tool provided information on four different vulnerable health criteria: heart attack hospitalizations, childhood blood lead exposure, low birth weight (LBW), and childhood asthma for the most recent five-year period. These data are available at different geographies. Heart attack hospitalizations and childhood asthma are available at the community or town level, while low birth weight and

childhood blood lead exposure are available at both the town level and the census tract level. The results indicate that both Plymouth and Carver have elevated rates of heart attacks compared to the state. It should also be noted that the Plymouth CDP ("census designated place") and Town of Carver also have higher rates of residents over the age of 65 as compared to the state according to the US Census Bureau (21.1% and 21.8% vs 18.1%; https://www.census.gov/quickfacts/fact/table/plymouthcdpmassachusetts,US/AGE775222; accessed most recently on 12/12/23). At the town level, Carver also meets the health criterion for elevated rates of LBW and at the census tract level, some tracts in both Carver and Plymouth meet the LBW criterion. The asthma and blood lead level criteria were below state rates. Although vulnerabilities were identified, the proposed Project will not exacerbate these vulnerabilities, as any impacts will be temporary and mitigation will serve to minimize impacts.

Please see MEPA Supplemental Response, December 13, 2023, Attachment 2.

MEPA.16 In addition, sources of potential pollution should be identified within the identified EJ Populations, based on the mapping layers available in the DPH EJ Tool.

Layers from the DPH EJ Tool were downloaded into ArcGIS and a one-mile buffer drawn around the Project site boundary. Each of the resulting layers were used to quantify the number of types of facilities and infrastructure for the EJ populations in the DGA. See Table 1-4 in the Supplemental Response.

Please see MEPA Supplemental Response, December 13, 2023, Attachment 2.

MEPA.17 The DEIR should provide an estimate the total number of adt of diesel vehicles that the project is anticipated to generate during construction.

An estimated number of average daily trips for diesel vehicles during construction has been provided in Table 5-6 of the DEIR. Approximately 9 diesel dump trucks trips per day over the course of the 3-year construction period are anticipated. The peak period is estimated to be during the reconstruction of Runway 6-24 in 2026, resulting in approximately 22 adt over a 90-day timeframe (equivalent of 11 truck trips per day going in two directions, to and from the Airport).

MEPA.18 The DEIR should describe the anticipated routes of travel for project-generated vehicular traffic to determine whether such traffic would extend near EJ Populations, and should discuss whether air quality may be affected in those neighborhoods.

The anticipated routes of travel for project-generated vehicular traffic have been provided in Section 5.13.1. and 5.13.2. Pending the determination of material suppliers and their locations and logistics, the route is anticipated to go either northerly on South Meadow Road to Federal Furnace Road towards Route 3 or southerly along South Meadow Road to Route 58. Construction vehicle traffic will not otherwise be utilizing neighborhood streets, and there would be no disproportionate impacts to EJ communities.

MEPA.19 The DEIR should discuss the extent to which Transportation Demand Management (TDM) measures will serve to reduce vehicle traffic, associated with project operations and construction. To the extent construction traffic for future projects other than the Runway 6 project is unknown, the DEIR should provide estimates based on current work.

Transportation Demand Management (TDM) measures are not proposed as minimal vehicle traffic is anticipated; however, the Proponent has committed to transportation related mitigation

measures in Appendix P, Table P-2. anticipated due to construction. See a summary of mitigation measures in the MEPA Supplemental Response, Attachment 2.

MEPA.20 The DEIR should also analyze land alteration and impervious surfaces added by the master plan project, including implications for potential stormwater flooding and urban heat island effects in the surrounding neighborhoods. Consistent with the Scope related to Climate Change and Land Alteration below, analysis of the stormwater management system should assess whether flooding risks may be exacerbated for nearby EJ Populations, including under future climate conditions, and whether existing conditions would be worsened or improved by the project design.

The TMPU's land impacts and impervious area impacts have been identified in Table 5-1 of the DEIR.

No floodplains are proposed to be affected by the Proposed Action. No rivers are nearby that could flood the Airport in the vicinity of the Proposed Action. The Runway 6 project, impervious surfaces, stormwater BMPs, and aircraft hangars, will be designed according to the latest FAA requirements and federal, state, and local building regulations for minimizing impacts on the assets due to storm events. Figures 4-6, 4-7, and 4-10 (Appendix A of DEIR) and Figures 4-8 and 4-9 (Appendix F) indicates that there are no rivers or water bodies in the vicinity of the Proposed Action that would flood using the latest climate prediction models.

No urban heat island effects are expected in the surrounding neighborhoods from the proposed Project. See Section 5.6 – Climate Change for details.

MEPA.21 The DEIR should assess whether tree removal near EJ Populations may affect urban heat island effects, and should discuss whether anticipated growth in airport operations may disproportionately affect EJ neighborhoods in terms of noise, air pollution, and traffic. The DEIR should analyze any other relevant short-term and long-term environmental or public health impacts of the project, including construction period activities. If any disproportionate adverse effects or increased risks of climate change are identified, the DEIR must include a discussion of proposed mitigation and include such measures in draft Section 61 findings.

Under the preferred alternative, there are no tree removals anticipated as part of the proposed project. Thus, the Projects are not anticipated to result in short-term or long-term environmental or public health impacts, including construction period activities. A supplemental response assessing impacts on EJ neighborhoods has been prepared. Please see MEPA Supplemental Information Response, Attachment 2.

MEPA.22 The DEIR should include a separate section on "Public Health," and discuss any known or reasonably foreseeable public health consequences that may result from the environmental impacts of the project. Particular focus should be given to any impacts that may materially exacerbate "vulnerable health EJ criteria," in accordance with the MEPA Interim Protocol for Analysis of EJ Impacts.

Please refer to Table 5-8, page 102. for descriptions of the local, state, and federal permitting. The only standards that are health-based include the National Ambient Air Quality Standards. These standards are in compliance in all of Massachusetts. Background levels of air pollution were evaluated and are well below these standards (see Section 4.3.1.1).

Please see MEPA Supplemental Information Response, Attachment 2.

MEPA.23 In addition, other publicly available data, including through the DPH EJ Tool, should be surveyed to assess the public health conditions in the immediate vicinity of the project site, in accordance with 301 CMR 11.07(6)(g)10. Any project impacts that could materially exacerbate such conditions should be analyzed. To the extent any required Permits for the project contain performance standards intended to protect public health, the DEIR should contain specific discussion of such standards and how the project intends to meet or exceed them.

Please see MEPA Supplemental Information Response, Attachment 2.

MEPA.24 The DEIR should discuss whether Per- and Polyfluorinated Substances (PFAS) remediation will be included as part of any projects proposed under the TMPU, and describe any ongoing efforts to address PFAS releases that may have been identified during Airport operations.

No Per- and Polyfluorinated Substances (PFAS) remediation is required as part of any projects proposed under the TMPU. The Airport does not have any records of PFAS releases on the property.

MEPA.25 The DEIR should include an assessment of noise levels associated with existing airport operations, as well as anticipated increases that are projected as a result of future expansion of the Airport. It should describe existing noise levels, identify all noise-generating activities and components of the project and model noise levels under proposed conditions. The DEIR should discuss what regulatory requirements, such as FAA guidelines or MassDEP regulations or policies, apply to noise impacts of airport operations.

The Project will not result in any expansion of the noise contours beyond the Airport property at the Runway 6 end. Based aircraft and resulting operations may increase slightly at the airport over the long-term as shown in Tables 1-2, 1-3, 1-4. The impacts are *de minimus*. Noise impacts associated with construction will be short-term and last only as long as the construction project. Impacts will be minimized through conscientious construction management and implementation of BMPs. Construction of the reasonably foreseeable future projects, of which the majority of the projects are pavement reconstruction, would have temporary noise impacts minimized through project planning with no long-term adverse impacts. Please refer to Sections 5.14 and Appendix J-L for additional information pertaining to noise. The mitigation measures to minimize noise are summarized in the MEPA Supplemental Information Response, Attachment 2.

MEPA.26 The DEIR should discuss whether noise impacts are likely to disproportionately affect surrounding EJ neighborhoods or other vulnerable populations (including those that may be considered "sensitive receptor") and what mitigation could be considered to minimize the noise impacts of airport operations. For instance, the DEIR should discuss whether hours of operations could be adjusted to minimize noise impacts, particularly during nighttime hours.

The Project will not result in any expansion of the noise contours beyond the Airport property at the Runway 6 end. Based aircraft and resulting operations may increase slightly at the airport over the long-term as shown in Tables 1-2, 1-3, 1-4. Noise impacts associated with construction will be short term and last only as long as the construction project. Impacts will be minimized through conscientious construction management and implementation of BMPs. Construction of the reasonably foreseeable future projects, of which the majority of the projects are pavement reconstruction, would have temporary noise impacts minimized through project planning with no long-term adverse impacts. Please refer to Sections 5.14 and Appendix J-L for additional information pertaining to noise.

Due to the Project not anticipating noise impacts above what is experienced under existing conditions, it is not anticipated that EJ populations would be adversely impacted by the Project. The mitigation measures to minimize noise are summarized in the Supplemental Response.

MEPA.27 The DEIR should provide an updated table which quantifies the land alteration and impervious area associated with each project component in the TMPU in a tabular format. The DEIR should clarify the amount of alteration including the type of vegetation that will be cleared (i.e., mature trees, scrub shrub, etc.). It should clarify the location, type and amount of alteration in previously undisturbed areas.

The Project's land impacts and impervious area impacts have been provided in Table 5-1.

MEPA.28 The DEIR should identify how each project is designed to avoid and minimize land alteration and impervious area. The DEIR should quantify open space that will remain undisturbed and/or restored upon completion of construction. The DEIR should include site plans that clearly locate and delineate areas proposed for development and those to be left undisturbed.

The Project has been designed to accomplish safety and efficiency goals stated herein while also limiting land and environmental impacts to the maximum extent practicable. Temporary and permanent impacts have been identified within Appendix A on Figure 5-2 and 5-3. As shown, the impacts to undeveloped land have been designed to only what has been deemed necessary for the extension of the runway. Attachment 4 to the MEPA Supplement includes the Revised Table 5-1 with clarifications on temporary and permanent impact areas.

MEPA.29 The DEIR should identify all measures that will be employed to protect the water quality of the SSA, provide a description of the proposed stormwater management system for each project/phase and identify BMPs that will be incorporated into its design.

Information regarding the SSA has been provided in Section 4.2.8. As discussed, the Project is not anticipated to impact the Plymouth-Carver Aquifer (PCA). Hydrologic studies indicate that groundwater in the PCA generally moves in a north to south direction from Middleborough toward Wareham, and in an east to west direction, toward Plymouth Harbor. There are no Interim Wellhead Protection Areas nor Zone II Protection areas as mapped by MassDEP on Airport property.

The Airport maintains a Groundwater Management Plan. The Groundwater Management Plan includes procedures and policies to minimize potential impact on groundwater from Airport activities and addresses the following topics: (1) storage, handing, and disposal of hazardous materials, (2) aircraft fueling, (3) maintenance of septic systems and stormwater systems, and (4) a groundwater monitoring program. The Airport is served by the municipal water supply. It has its own on-site wastewater treatment plant located to the west of Runway 33. This plant was constructed in 2003 and is permitted under a Groundwater Discharge Permit from MassDEP to operate at a capacity of 25,000 gpd (Permit No. 720-0). It currently handles approximately 5,000 gpd, well below its permitted capacity.

Please see response to MEPA #30-35 below for a discussion of stormwater management design of the projects.

MEPA.30 The DEIR should describe how the proposed stormwater management system will fully comply with the SMS. The Proponent should take all feasible measures to manage stormwater runoff, including by exceeding stormwater management standards and incorporating Low Impact Design (LID) strategies and green infrastructure wherever practicable; such measures should be described in the DEIR.

Because of the FAA safety and hazard mitigation requirements of the airport setting, certain Best Management Practices (BMPs) are not allowed. Per Advisory Circular (AC) No. 1501.5200-33 "Hazardous Wildlife Attractants on and Near Airports", new stormwater management practices that feature a permanent pool of water (i.e., wet ponds and constructed wetlands) are prohibited and underground facilities are encouraged. FAA's siting criteria for potential wildlife attractants state that wildlife attractants should not be within 10,000 feet of an airport's aircraft movement areas (including loading ramps and parking areas) or within 5 miles of approach or departure airspace. When BMPs are designed to temporarily pond water on the surface, this guidance requires that they drain within 24 hours following a 1- or 2-year storm event and within 48 hours following a 10-year storm event.

Stormwater design for the project is proposed in accordance with all FAA design standards to meet or exceed requirements, including Low Impact Design and green infrastructure, where appropriate, and will be consistent with the Massachusetts Stormwater Management Standards.

MEPA.31 Green infrastructure is an effective way to treat stormwater generated by impervious surfaces and provide cooling and other benefits for the community and should be incorporated to the maximum extent possible. LID designs should be carefully considered, and where not used, the DEIR should provide a thoughtful explanation as to why they are infeasible for implementation on-site.

Stormwater BMP and LID measures, as appropriate for the airport/airfield environment (i.e., not wildlife attractants), will continue to be studied to minimize impacts to the maximum extent practicable during the future design phases of the Project and contingent on funding availability from federal and state aviation funding agencies.

MEPA.32 The DEIR should identify any infiltration systems that may require registration under MassDEP's Underground Injection Control (UIC) program.

The specific stormwater management systems, at this stage of the Project, conceptual (<30%) design phase, and not yet determined. Any infiltration systems would be appropriately registered with the MassDEP UIC program prior to and post construction.

MEPA.33 Additionally, the DEIR should identify how the stormwater management system will conform to the guidelines and performance standards related to discharges of pollutants from airplane deicing operations and other discharges covered by the NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP).

A Stormwater Pollution Prevention Plan (SWPPP) exists for the Airport and was most recently updated in September 2022 in accordance with the National Pollutant Discharge Elimination System (NPDES) requirements that controls maintenance activities and operations on the site that have the potential to impact stormwater. However, all stormwater discharges remain on site and no direct or indirect discharges to Waters of the US occur.

The Airport conducts snow removal operations for measurable snowfall events. Snow removal operations at the Airport comply with MassDEP's Snow Removal Guidance (December 2020). Snow removed from runways, taxiways, and aprons is stored in upland areas. Some snow pile consolidation may occur as necessary. No chemicals or salt are used on the runways, taxiways, or aprons. Approximately 20 yards of "FAA sand" (very fine, 2 mm screen) are used annually. The Airport's SWPPP prohibits the use of deicing chemicals on aircraft which are deiced by heat in hangers instead.

Additionally, a series of deep sump catch basins and oil water grit separators will be constructed to collect the runoff from Taxiway D and Taxiway E. The oil water and grit separators will target runoff from areas with higher pollutant loads such as the fueling station and apron adjacent to Taxiway E.

Please refer to Figure 1-2A in Attachment 5.

MEPA.34 As described further below, the DEIR should demonstrate the stormwater management system will be designed to accommodate larger storm events.

The FAA states that, "Climate Change is leading to an increase in the intensity and frequency of severe weather events, higher temperatures, and more frequent heat waves that will severely impact some airports…" (FAA Action Plan 2021). The projects under the Proposed Action are in line with the efforts of the Airport to be safer, more efficient, and responsive to Climate Change from both an internal outward and an external inward perspective.

Accordingly, the Project will be designed to include stormwater management systems able to accommodate future storms. In future phases, identified for 2024, based on completion of the environmental review and permitting phases, stormwater management systems will be designed to comply with state SMS and investigate the feasibility to accommodate future storm conditions within the overall system to be construction as the airport redevelops existing infrastructure

MEPA.35 The DEIR should provide quantitative modeling and analysis to assess the rainfall volumes that will be accommodated by the stormwater design, including under current and future climate conditions. It should include a plan showing the location of BMPs.

The stormwater management systems have not yet been designed, as the project is still at conceptual (<30%) design phase. The Proponent has committed to a system that will be designed to meet FAA design standards and other applicable state and federal stormwater management standards and requirements.

MEPA.36 Prior to filing the DEIR, the Proponent should continue consulting with NHESP and through said coordination determine whether the existing CMP will be amended, or if a new CMP will be required.

The Airport's Grassland Habitat Management Plan (GHMP), Updated September, 2018, and associated Conservation Management Permit (CMP) provides a rare species management strategy that sets forth how the Airport will manage future impacts and provide mitigation within the scope of the Massachusetts Endangered Species Act (MESA) and its implementing regulations. The Airport has met with NHESP prior to filing the Draft EA/EIR on June 14, 2023 to discuss the updated permitting approach.

The Airport will continue to coordinate with NHESP to provide an amendment to the GHMP demonstrating a net-benefit to listed grassland bird species and identify mitigation areas (including the use of "banked" surplus areas) for the following habitat alterations:

- Temporary Impact (Grading): 4.18 acres total
- Permanent Impact (Pavement): 2.49 acres total
- Change from Infrequently to Frequently Mown of 3.06 acres

To minimize impacts, the temporarily impacted areas will be restored to existing conditions and seeded with an airport-approved grass seed mix.

MEPA.37 The DEIR should identify the full scope of impacts to state-listed species and their habitats resulting from the Runway 6 extension project and other work proposed as part of the TMPU. The DEIR should identify a suitable long-term net benefit for state-listed species and whether the proposed work will meet the performance standards of a CMP. The DEIR should also demonstrate compliance with the existing CMP(s) for the Airport and identify whether the Proponent intends to request a Certificate of Permit Compliance from NHESP.

As shown in TABLE 5-1 of the DEIR (and MEPA Supplement Attachment 4; Revised Table 5-1), the Proposed Action will result in the direct alteration of 6.67 acres of undisturbed land (consisting of grassland habitat), which consists of 4.18 acres total TEMPORARY impacts over the three year period from 2024-2026 and 2.49 acres of impervious surface (net increase after 0.89 acres pavement removals for glideslope and existing taxiways).

Proponent acknowledges presence of four state-listed grassland bird species and continues to manage the airfield's grassland habitat under existing MESA CMPs with an updated CMP anticipated following the completion of the draft EA/EIR and final EA/EIR, public and agency comment periods, and required MESA filing materials are submitted.

MEPA.38 The DEIR should provide updated wetlands calculations which reflect the most recent design of the Runway 6 project and identify all temporary and permanent impacts to wetland resource areas associated with the master plan. The DEIR should demonstrate how the project will comply with performance standards outlined in the WPA for each resource area. It should provide an updated summary table of all wetland resource area and Buffer Zone impacts.

The Proposed Action does not currently include any impacts to wetlands.

MEPA.39 The DEIR should include a comprehensive discussion of the potential effects of climate change on the Airport and describe features incorporated into the project design (including climate-related design specifications and standards) that will increase the resiliency of the site to these changes. The DEIR should include information about the potential adaptation of the project to future conditions.

The Runway 6 extension will improve safety minimums by providing more distance for the existing critical aircraft to takeoff and approach/land, especially as climate change is anticipated to increase heat and negatively affect takeoff distances. The Proponent is actively investigating the potential for climate related impacts on the airport and how future impacts may change. The FAA is committed to making aviation cleaner, quieter, and more sustainable. It is the intent of the Airport to fulfill the obligations required by the FAA regulations, public expectations regarding Airport availability, and efforts to remain resilient and economically viable into the future.

For additional information on climate change, please refer to Sections 4.3.3 and 5.6.

MEPA.40 The DEIR should describe the precipitation data used for the design of the stormwater management system and how the system will be sized to address future climate conditions.

During the design of the project, the Project Team will model the stormwater runoff for the project area in accordance with the requirements of the Massachusetts Stormwater Handbook. The handbook requires us to model the 2-year, 10-year and 100-year storms utilizing the TR-20/TR-55 methodologies for a 24-hour rain event. The rainfall data has historically been for a Type II storm as defined by the NRCS. However, NOAA Atlas 14 rainfall data has replaced the former NRCS data as an industry standard, and will be utilized on the proposed project.

MEPA.41 The DEIR should discuss whether the proposed stormwater design is anticipated to meet the recommended 2050 10-year return period (24-hour rainfall volume of 6.1") from the MA Resilience Design Tool for the runway extension, as well as the 2070 recommendation for the aviation hangars corresponding to a 25-year return period as of 2070 (24-hour rainfall volume of 7.9").

See response to MEPA #40

MEPA.42 The DEIR should discuss whether the stormwater management system will attenuate peak flows and meet pollutant loading requirements based on future climate conditions in 2050 and 2070 and should provide a copy of the Stormwater Report for the project.

See response to MEPA #40

MEPA.43 To the extent the project is unable to accommodate future year storm scenarios, the DEIR should discuss whether the project has engaged in flexible adaptative strategies, and whether current designs allow for future upgrades to be made to adapt to climate change.

See response to MEPA #40

MEPA.44 The MA Resilience Design Tool also identified the site as exposed to "High" risk for riverine flooding, and portions of the site have been identified as located in a 100-year flood plain (FEMA Zone A). The DEIR should discuss whether the elevation of Airport infrastructure currently meets applicable standards for flood plain development, and whether efforts will be taken as part of the proposed work under the TMPU to improve resiliency to future climate conditions. The DEIR should specify any base flood elevations (BFEs) that may been determined for the site or nearby locations, and compare the elevations of proposed infrastructure to the BFE. The values generated from the MA Resilience Tool (such as "riverine peak flood elevation") can be used as a resource in estimating a future BFE for a 2070 planning horizon, assuming effects of climate change. If the Airport is not taking steps as part of the TMPU to address climate change, the DEIR should discuss the reasons why and address overall planning efforts under way to improve resiliency to future conditions.

There are no other floodplain areas indicated beyond the ends of any of the runways or taxiways/taxilanes. Therefore, in these areas no impact to any of the 100-year floodplains or surrounding areas are anticipated. See Section 4.2.7. for additional information on flooding impacts.

MEPA.45 The DEIR should identify the nature and volume of solid waste to be generated by the project. It should describe handling, reuse, recycling and disposal of solid waste. The DEIR should describe how the project will comply with all applicable requirements.

The Projects relate only to airfield development (runways, taxiways, and related improvements) and do not normally include any direct relationship to solid waste collection, control, or disposal other than that associated with the construction itself. General aviation (GA) airports are not typically large generators of solid waste. Airport buildings include hangars for storage and maintenance of aircraft, office space and public terminal buildings.

MEPA.46 The DEIR should describe if proposed improvements will be located within any of the disposal sites previously or currently regulated under the MCP.

There is one closed disposal site, regulated under MGL c 21E, and the Massachusetts Contingency Plan located on the property and upgradient of the Runway 6 project area. The historic release (RTN 4-0026005) was due to a plane crash in February 2016 that resulted in the sudden release of approximately 25 gallons of aviation fuel. The release impacted surficial soils, but groundwater and surface water impacts were not observed. The impacted soil was removed, and the site achieved a Permanent Solution with no Conditions under the MCP.

If contaminated media is encountered, an LSP will be employed or engaged to manage, supervise or actually perform the necessary response actions at the site for excavating, removing and/or disposing of contaminated soil or contaminated media (which includes contaminated sediment) to be conducted under the provisions of Massachusetts General Law Chapter 21E (and, potentially, c 21C) and all other applicable federal (including the Environmental Protection Agencies Toxic Substance Control Act - TSCA), state, and local laws, regulations, and bylaws. Contaminated media cannot be managed without prior submittal of appropriate plan to MassDEP (such as a Release Abatement Measure [RAM] Plan), which describes the proposed handling and disposal approach for any contaminated media encountered and health and safety precautions for those conducting the work.

Please refer to Section 5.7 of the DEIR for additional information.

MEPA.47 The DEIR should include a plan that clearly identifies the location of disposal sites and project elements.

Materials will be maintained on site to the greatest extent possible, and minimal disposal offsite is anticipated. The use of fill for construction is detailed in Section – 5.9.1 Natural Resource Materials and indicates that materials are to be imported to the site, not exported. To the extent that solid wastes are generated, all will be managed consistent with applicable state solid waste management regulations, policies, and guidance.

MEPA.48 The DEIR should describe any potential excavation or disturbance in disposal sites and identify any necessary mitigation measures or handling and disposal requirements.

If contaminated media is encountered, an LSP will be employed or engaged to manage, supervise or actually perform the necessary response actions at the site for excavating, removing and/or disposing of contaminated soil or contaminated media (which includes contaminated sediment) to be conducted under the provisions of Massachusetts General Law Chapter 21E (and, potentially, c 21C) and all other applicable federal (including the Environmental Protection Agencies Toxic Substance Control Act - TSCA), state, and local laws, regulations, and bylaws. Contaminated media cannot be managed without prior submittal of appropriate plan to MassDEP (such as a Release Abatement Measure [RAM] Plan), which describes the proposed handling and disposal approach for any contaminated media encountered and health and safety precautions for those conducting the work.

MEPA.49 The DEIR should describe how construction activities will be managed in accordance with applicable MassDEP regulations regarding Air Pollution Control (310 CMR 7.01, 7.09-7.10), and Solid Waste Facilities (310 CMR 16.00 and 310 CMR 19.00, including the waste ban provision at 310 CMR 19.017).

The primary demolition waste associated with the Proposed Action will be asphalt removed as part of the Gate 3 taxilane reconstruction and Runway 6 reconstruction projects. Any asphalt, brick, or concrete (ABC) rubble associated with the Proposed Action must be handled in accordance with the MassDEP Solid Waste regulations. These regulations allow, "and MassDEP encourages", the recycling/reuse of ABC rubble. The Airport will utilize the guidelines in the MassDEP information sheet, entitled "Using or Processing Asphalt Pavement, Brick and Concrete Rubble" (updated February 27, 2017)[2].

Any remaining waste construction materials (i.e. scrap material, etc.) will be disposed of in accordance with state and local regulations. The Proposed Action will comply with the Solid Waste Regulations, including 310 CMR 19.017: Waste Ban, which prohibits the disposal, transfer for disposal, or contracting for disposal of certain hazardous, recyclable, or compostable items. The Airport continues its commitment to seeking ways to promote reuse, reduce waste, recycle, and reduce adverse impacts of solid waste on the environment.

Please refer to Section 5.7 of the DEIR for additional information.

MEPA.50 The DEIR should describe all construction-period impacts and mitigation relative to state-listed species, wetlands, stormwater, noise, air quality, water quality, and traffic. It should describe truck routes and other mitigation measures that may be implemented to minimize impacts to residential areas by trucks travelling to the site during the construction period.

All construction-period impacts can be found in Section 5.13 and mitigation can be found in Appendix P of the DEIR.

See response to MEPA #18

MEPA.51 Construction equipment should use engines meeting Tier 4 federal emissions standards, or if unavailable, confirm that the project will require its construction contractors to use Ultra Low Sulfur Diesel fuel, and discuss the use of after- engine emissions controls, such as oxidation catalysts or diesel particulate filters.

The airport will encourage contractors to use EPA Tier 4 construction equipment or equipment retrofitted with diesel emission control devices, to the greatest extent practicable.

MEPA.52 The DEIR should provide detailed information regarding the project's generation, handling, recycling, and disposal of construction and demolition debris (C&D) and identify measures to reduce solid waste generated by the project. I strongly encourage the Proponent to commit to C&D recycling activities as a sustainable measure for the project.

The primary demolition waste associated with the Proposed Action will be asphalt removed as part of Gate 3 taxilane reconstruction and Runway 6 reconstruction projects. Any asphalt, brick, or concrete rubble associated with the Proposed Action must be handled in accordance with the

[2] https://www.mass.gov/files/documents/2018/03/19/abc-rubble.pdf.

MassDEP Solid Waste regulations. These regulations allow, "and MassDEP encourages", the recycling/reuse of ABC rubble. The Airport will utilize the guidelines in the MassDEP information sheet, entitled "Using or Processing Asphalt Pavement, Brick and Concrete Rubble" and the related regulations and policy. Any remaining waste construction materials (i.e. scrap material, etc.) will be disposed of in accordance with state and local regulations.

The Proposed Action will comply with the Solid Waste Regulations, including 310 CMR 19.017: Waste Ban, which prohibits the disposal, transfer for disposal, or contracting for disposal of certain hazardous, recyclable, or compostable items. The Airport continues its commitment to seeking ways to promote reuse, reduce waste, recycle, and reduce adverse impacts of solid waste on the environment.

MEPA.53 The project will be required to develop a Stormwater Pollution Prevention Plan (SWPPP) in accordance with its NPDES CGP to manage stormwater during the construction period. The DEIR should describe stormwater management measures that will be implemented during construction. It should describe potential construction period dewatering activities and associated permitting (i.e., NPDES) and identify mitigation measures.

The project will develop a Stormwater Pollution Prevention Plan in accordance with its NPDES CGP to manage stormwater during the construction period. The SWPPP will include management measures that will be implemented during construction and potential construction period dewatering activities and associated permitting and identify mitigation measures. All construction-period mitigation measures have been listed in the draft Section 61 Findings, located in Appendix P.

MEPA.54 All construction-period mitigation measures should be listed in the draft Section 61 Findings. The DEIR should describe how the project will comply with all applicable requirements.

All construction-period mitigation measures have been listed in the draft Section 61 Findings, located in Appendix P.

MEPA.55 The DEIR should include a separate chapter summarizing proposed mitigation measures including construction-period measures. This chapter should also include a comprehensive list of all commitments made by the Proponent to avoid, minimize and mitigate the environmental and related public health impacts of the project, and should include a separate section outlining mitigation commitments relative to EJ Populations.

Mitigation measures have been listed in the draft Section 61 Findings, located in Appendix P. EJ specific Mitigation measures are included in Section 1.7 of the MEPA Supplemental Information Response, Attachment 2. These measures will be listed in the draft Section 61 Findings in the Final EIR.

MEPA.56 The filing should contain clear commitments to implement these mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation. The list of commitments should be provided in a tabular format organized by subject matter (traffic, water/wastewater, GHG, EJ, etc.) and identify the Agency Action or Permit associated with each category of impact.

The Section 61 Findings contain the mitigation measures, estimated costs, identified parties responsible for implementation, and schedule. Please refer to Appendix P, and to Table P-1 - Agency Actions Required for the Project for this information.

MEPA.57 Draft Section 61 Findings should be separately included for each Agency Action to be taken on the project. The filing should clearly indicate which mitigation measures will be constructed or implemented based upon project phasing to ensure that adequate measures are in place to mitigate impacts associated with each development phase.

The Section 61 Findings have been broken out by agency action. Please refer to Appendix P for this information.

MEPA.58 The DEIR should contain a copy of this Certificate and a copy of each comment letter received.

The DEIR contains a copy of the Certificate and a copy of each agency comment letter received during the ENF comment period. MEPA comments and responses are included in the MEPA Supplemental Response, December 13, 2023, Attachment 1. Please see Appendix E of the Draft EA/EIR for the response to agency and public comments on the Certificate.

MEPA.59 It should include a comprehensive response to comments on the DEIR that specifically address each issue raised in the comment letter; references to a chapter or sections of the DEIR alone are not adequate and should only be used, with reference to specific page numbers, to support a direct response. This directive is not intended, and shall not be construed, to enlarge the scope of the DEIR beyond what has been expressly identified in this certificate.

A response has been provided for each comment received, provided herein. Please see MEPA Supplemental Response, December 13, 2023, Attachment 1. Please see Appendix E of the Draft EA/EIR for the response to agency and public comments.

MEPA.60 In accordance with 301 CMR 11.16(3), the Proponent should circulate the DEIR to those parties who commented on the ENF, each Agency from which the Project will seek Permits, Land Transfers or Financial Assistance, and to any other Agency or Person identified in the Scope. Per 301 CMR 11.16(5), the Proponent may circulate copies of the DEIR to commenters in CD-ROM format, by directing commenters to a project website address, or electronically.

The DEIR has been circulated in accordance with 301 CMR 11.16(3) to all applicable parties, including those that commented on the ENF and the EJ Reference List. Please see Section - 6.2 MEPA Circulation for more details.

MEPA.61 A copy of the DEIR should be made available for review in the Plymouth and Carver Public Library.

A full hard copy of the complete DEIR and Appendices has been provided to the libraries in Plymouth (Main and Manomet Branches) and the Carver Public library.

DuBois & King inc.

ATTACHMENT 2 EJ and Public Health Analysis & EJ Screen

ATTACHMENT 2.0: ENVIRONMENTAL JUSTICE AND PUBLIC HEALTH

This information addresses the MEPA Public Involvement Protocol for Environmental Justice Populations (the EJ Involvement Protocol) and the MEPA Interim Protocol for Analysis of Project Impacts on Environmental Justice Populations (the EJ Analysis Protocol), both with an effective date of January 1, 2022, and follows the applicable sections of the new protocols. Outreach is discussed in the Draft EA/EIR and summarized below with a discussion of the continued outreach plans.

This supplement provides historical or existing community vulnerabilities in the EJ communities within the Designated Geographic Area (DGA) as discussed below including an evaluation of the vulnerable health criteria, potential sources of pollution, and an evaluation of climate change impacts.

An evaluation of the nature and severity of impacts is then provided. As discussed in the Draft EA/EIR, the impacts are primarily due to temporary construction and should not result in a long-term adverse impacts to the nearby EJ communities that would exacerbate any vulnerabilities.

As discussed in this Draft EA/EIR, the proposed project includes the extension of the Runway 6 approach end, southwestward by 351 ft for a total runway length of 5001 ft. This extension provides increased pavement use and increases safety margins while allowing aircraft to take a higher weight of occupants, cargo, and baggage to meet the airport needs. In addition, the proposed project includes construction of two airplane hangars approximately 100'x100' (20,000 square feet total) located north of the Gate 6 Access Road and along Taxilane A.

1.1 Environmental Justice Considerations

Per the Massachusetts Executive Office of Energy and Environmental Affairs (EEA), Environmental Justice (EJ) is based on the principle that all people have a right to be protected from environmental pollution, and to live in and enjoy a clean and healthful environment. The EEA has established an EJ Policy (updated June 2021) to "help address the disproportionate share of environmental burdens experienced by lower-income people and communities of color" and "ensure their protection from environmental pollution as well as promote community involvement in planning and environmental decision-making."

1.2 Designated Geographic Area

MEPA has classified areas of Massachusetts as to whether they meet the criteria of an EJ Population by using the United States Census data to determine whether a block group meets one or more of the following criteria:

1. The annual median household income is not more than 65% of the statewide annual median household income;

2. Minority groups comprise 40% or more of the population;

3. 25% or more of households lack English language proficiency;

4. Minority groups comprise 25% or more of the population and the annual median household income of the municipality in which the neighborhood is located does not exceed 150% of the statewide annual median household income; and/or

5. The Secretary has determined that a particular neighborhood should be designated as an EJ population.

The airport is located in the towns of Plymouth and Carver. A general summary of the town characteristics is presented in Table 1-1, including whether EJ criteria were met in at least one block group in the town.

Table 1-1. Summary of Town Characteristics and EJ Criteria

Town	Population	Percent non-white	Town median household income	Percent of statewide median household income	Minority criteria met?	Income criteria met?	English proficiency criteria met?
Plymouth	11,720	7.53	70,959	82.66	No	Yes	No
Carver	60,024	8.44	90,279	105.17	Yes	Yes	No

The EJ block groups located within the DGA (i.e., the area within one mile of the Project site) are in the municipality of Carver and include Block Group 3, Census Tract 5442, based on Income, and a very small portion of Block Group 1, Census Tract 5442, also based on Income (see Figure 1-1).

1.3 Community Outreach

The Proponent provided advanced notification of the ENF filing to a list of community-based organizations and tribes/organizations listed on the EJ Reference List provided by MEPA. The EJ screening form was also provided with information on ways to request a community meeting. A project specific e-mail address was also created for communication about the project.[1] An updated EJ screening form will be sent to the organizations on the EJ Reference List making it clear that the whole TMPU is under MEPA review with opportunities for public involvement.

To date, four public meetings have been hosted, both in-person and virtually, to provide information on the project and solicit comments. The Proponent is committed to continue efforts

[1] PlymouthMAAirportRW6EA@dubois-king.com

to engage the community and stakeholders during the MEPA review process. See Appendix C of the Draft EA/EIR for the Airport's Final Public Participation Plan.

1.4 Enhanced Analysis Overview

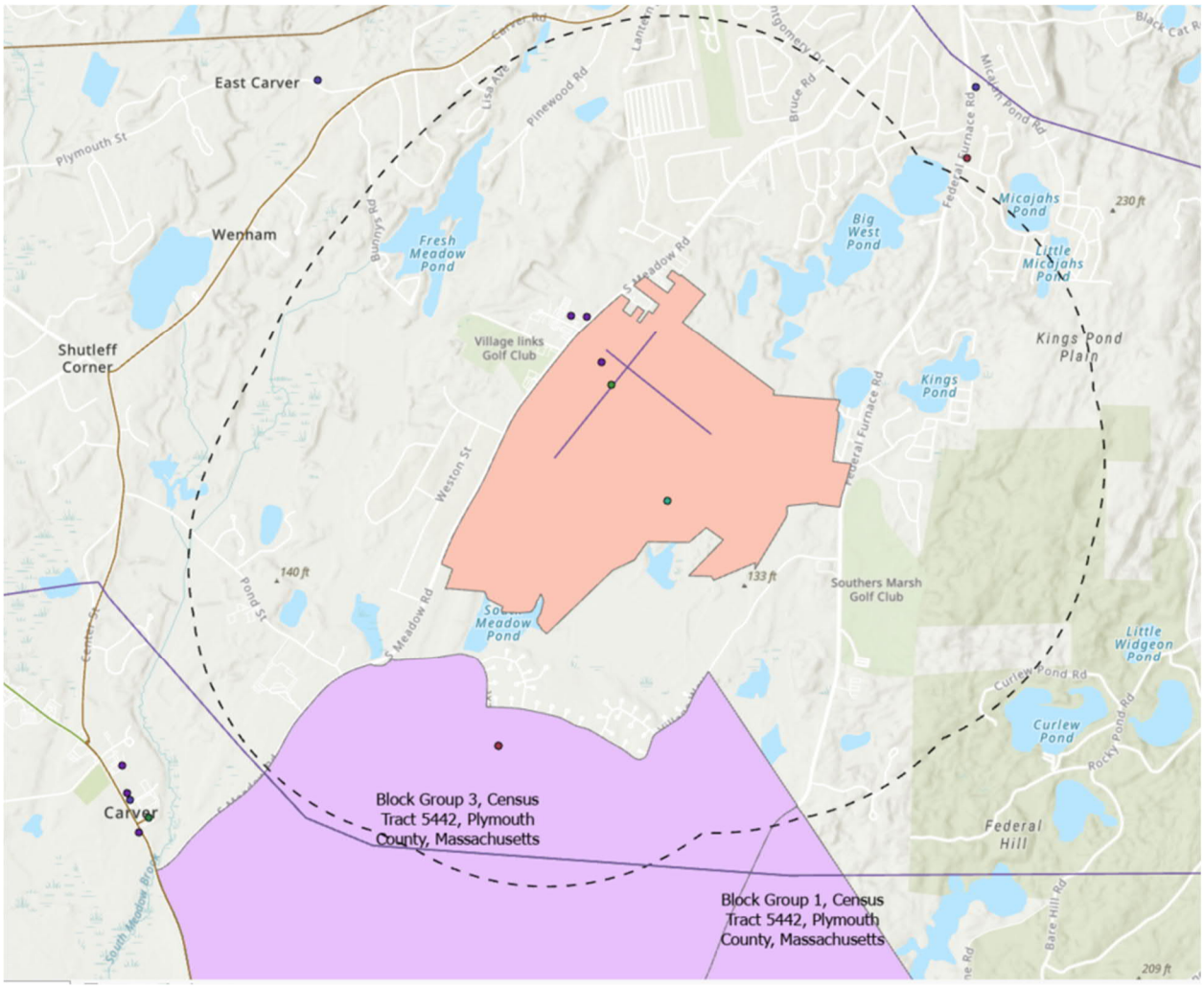
The EJ Analysis Protocol applies "for any project that is likely to cause damage to the environment and is located within a distance of one mile of an EJ population; provided, that for a project that impacts air quality, such environmental impact report shall be required if the project is likely to cause damage to the environment and is located within a distance of five miles of an environmental justice population."

Under the EJ Analysis Protocol, this analysis must include:

- An assessment of existing unfair or inequitable environmental burdens on the EJ population.
- An assessment of the Project's impacts to determine disproportionate adverse effect (if existing unfair or inequitable environmental burdens exist) on the EJ population.
- An analysis of the Project to determine Climate Change Effects (if existing unfair or inequitable environmental burdens exist).
- Mitigation and Section 61 Findings (if the Project impacts causes a disproportionate adverse effect or Climate Change Effects on the EJ population).

As discussed in this section, the Project is not anticipated to have a disproportionate adverse effect on EJ populations within the DGA or have climate change effects that would impact nearby EJ populations.

Figure 1-1 EJ Block Groups in the DGA



1.5 Assessment of Existing Unfair or Inequitable Environmental Burden

Under the EJ Analysis Protocol, a process has been developed for assessing whether EJ Populations have experienced existing unfair or inequitable environmental burdens within the DGA. As part of this approach, a series of mapping tools have been developed that focus on, (1) the rates of four vulnerable health criteria as it relates to statewide averages, (2) existing past and current polluting activities, (3) an analysis using the RMAT Climate Resilience Output Tool, and (4) an optional analysis using US EPA's EJ Screen Tool. Each of these steps are described in detail below along with an assessment of the specific results for the EJ populations within the DGA.

1.5.1 Vulnerable Health Criteria

The vulnerable health EJ criteria are four environmentally related health indicators to identify populations with evidence of higher-than-average rates of environmentally related health outcomes.[2] The vulnerable health EJ criteria are reported for a population in a specific area either a town or municipality or a census tract (a smaller area of between 1,200 – 8,000 people).[3]

Health criteria are reported as *rates,* or the number of people with the identified condition divided by the population in consideration. The DPH EJ tool compares the *community rate*, or the town or census tract of interest, to the *statewide rate,* or the rate for the population of Massachusetts. Rates are also classified as *stable* or *unstable.* Unstable rates occur when there are too few cases in a community for a rate to be considered reliable such that the addition or deletion of small number of cases would lead to a large change in the rate. Stable rates are the opposite; there are enough cases in a population so that the rate will not fluctuate dramatically. A *confidence interval* refers to the minimum and maximum value such that the actual rate has a 95% chance of occurring between the calculated range. In other words, the specified rate has a high likelihood to be included in the range of values. The confidence interval is helpful to determine if a rate for a community is statistically significantly higher than the statewide rate and not due to chance.

As described above, the first step is to determine whether EJ populations within the DGA have experienced higher rates of four different vulnerable health criteria when compared to the statewide rate.

The MA DPH EJ tool[4] provides information on four different vulnerable health criteria: heart attack hospitalizations, childhood blood lead exposure, low birth weight, and childhood asthma for the most recent five-year period of available data. These data are available at different geographies, heart attack hospitalizations and childhood asthma are available at the community or town level, while low birth weight and childhood blood lead exposure are available at both the town level

---

2 Vulnerable Health Indicator Definition

3 United States Census Bureau

4 MA DPH Environmental Justice Tool

and the census tract level. Each of these specific criteria are described below along with the results of the analysis for the DGA.

1.5.1.1 Heart Attack Hospitalizations

Heart attack hospitalization data is based on data collected from all hospitals in Massachusetts and reflects individuals greater than 35 years of age who have been admitted to the hospital for a heart attack. The vulnerable health criterion for Heart Attack Hospitalizations is the most recent five-year average age-adjusted rate of hospitalization for myocardial infarction that is equal to or greater than 100% of the state rate. This indicator is available at the community or town level. Both the town of Plymouth and Carver meet this vulnerability criterion and results are presented in Table 1-2.

Table 1-2 Heart Attack Vulnerable Health Criteria

Town	Community Rate	Community Rate Confidence Interval	Statistical Significance	Stability	Statewide Rate	>110% of Statewide Rate?
Plymouth	34.4	32,36.7	SSH	Stable	26.1	Yes
Carver	43.5	37.4, 49.6	SSH	Stable		Yes

SSH: Statistically significantly higher
NSSD: Not statistically significantly different

It should also be noted that the Plymouth CDP ("census designated place") and Town of Carver also have higher rates of residents over the age of 65 as compared to the state according to the US Census Bureau (21.1% and 21.8% vs 18.1%; https://www.census.gov/quickfacts/fact/table/plymouthcdpmassachusetts,US/AGE775222; accessed most recently on 12/12/23).

1.5.1.2 Childhood Blood Lead Levels

Childhood Blood Lead Level data is based on data collected as part of the Massachusetts Lead Poisoning Prevention and Control Act which is a state law that requires all children to be screened each year for lead poisoning through age three, and children in high-risk communities must be screened through age four. The vulnerable health criterion for Childhood Blood Lead Level is the five-year average prevalence of elevated (≥5 ug/dL estimated confirmed) childhood blood lead levels (ages 9-47 months) that is equal to or greater than 110% the state prevalence. This indicator is available at the town and census tract levels. At the town level, both Plymouth and Carver childhood blood lead level rates were well below the state averages and therefore do not meet this vulnerability criteria. Only a single census tract in Plymouth (5302) has rates that are > 110% of the statewide rate. However, the rate is not statistically significantly different from the statewide rate and is unstable due to low numbers.

1.5.1.3 Low Birth Weight

Low birth weight (LBW) data are collected by the Registry of Vital Records and Statistics. Medical data, such as birth weight and gestational age, are based on information supplied by hospitals and birthing facilities. The vulnerable health criterion for LBW is the five-year average low birth weight rate among full-term births that is equal to or greater than 110% of the statewide rate. This indicator is available at both the community and census tract level. At the town level, Carver meets the LBW criteria, but Plymouth does not. In both Carver and Plymouth there were census tracts that met the criteria. Both the town and census tract rates were not statistically significantly different from statewide rates and were unstable due to low case numbers. Data that were >110% of Statewide rate are summarized in Table 1-3.

Table 1-3 Low Birth Weight Vulnerable Health Criteria Results

Town/Census Tract	Town Rate	Town Rate Confidence Interval	Statistical Significance	Stability	Statewide Rate
Carver	251.6	109.2, 393.9	NSSD	Unstable	216.8
Carver/5441	301.7	78.2, 525.2	NSSD	Unstable	
Plymouth/5301	473.4	145.3, 801.4	NSSD	Unstable	
Plymouth/5309	277.8	113.6,441.9	NSSD	Unstable	

NSSD: Not statistically significantly different

1.5.1.4 Childhood Asthma

Childhood asthma data are based on data collected from all hospitals in Massachusetts and reflects children between the ages of 5 and 14 years of age that have visited an emergency room for treatment for asthma. The vulnerable health criterion for childhood asthma is the five-year average rate of emergency department visits for childhood (5-14 years) asthma that is equal to or greater than 110% of the state rate. This indicator is available at the community level. In both Plymouth and Carver, the childhood asthma rates did not exceed the statewide rates.

1.5.2 Potential Sources of Pollution

As described in the EJ Analysis Protocol, the next step of the existing environmental burden analysis focuses on other potential sources of pollution within the boundaries of the EJ population. Layers from the DPH EJ Tool were downloaded into ArcGIS and a one-mile buffer drawn around the Project site boundary. Each of the resulting layers were used to quantify the number of types of facilities and infrastructure for the EJ populations in the DGA. A list of the facilities identified using the MA DPH EJ Tool and distance to the Project site is summarized in Table 1-4. The Project will not contribute to any hazards associated with these sites.

Table 1-4 List of Facilities Identified in the MA DPH Tool

Facility	Number	Distance to Project Site
MassDEP major air and waste facilities	2 large generators of toxics	~ 5 miles in Carver, EJ Block group 1, Census Tract 5442
M.G.L. c. 21E sites	4	~0.5 to 4.6 miles in Carver, EJ Block groups 1 and 3, Census Tract 5442
"Tier II" toxics use reporting facilities	6	~2 to 5 miles in Carver, EJ Block groups 1 and 3, Census Tract 5442
MassDEP sites with AULs	None	
MassDEP groundwater discharge permits	2	~ 5 miles in Carver, EJ Block group 1, Census Tract 5442
Wastewater treatment plants	None	
MassDEP public water suppliers	11	~1.7 miles in Carver, Block group 3, Census Tract 5442
Underground storage tanks	1	~4 miles in Carver, Block group 3, Census Tract 5442
EPA facilities	1	~ 5 miles in Carver, EJ Block group 1, Census Tract 5442
Road infrastructure	1 State Route (58)	In Carver, through both EJ Block groups 1 and 3, Census Tract 5442
MBTA bus and rapid transit	None	
Other transportation infrastructure	None	
Regional transit agencies	Greater Attleboro-Taunton Regional Transit Authority	
Energy generation and supply	Transmission lines	

1.5.3 Climate Adaptation (RMAT)

The RMAT Tool provides information about potential risks associated with sea level rise/storm surge, heat, and extreme precipitation near the Project site. Based on results from RMAT, the proposed Project scored "High" for extreme precipitation – urban flooding, extreme precipitation – riverine flooding and extreme heat.

The Project scored high for extreme precipitation – urban flooding due to multiple factors, including increased impervious area, maximum annual rainfall exceeds 10 inches within the overall Project's useful life, and existing impervious area between 10 to 50% at the Project site. However, there is no historic flooding at the Project site. A high score for extreme precipitation – riverine flooding resulted due to the Project being within a mapped FEMA floodplain, 200 ft from a water body and less than 30 feet above the water body, however, there is no historic flooding at the site and the Project is not likely to be susceptible to riverine erosion. Lastly, the Project also received a high score for extreme heat from multiple factors, including due to increased and existing impervious area, 10 to 30 day increase in days over 90 degrees Fahrenheit within the Project's useful life, and being located within 100 feet of an existing water body. The "High" risk

rating for extreme heat has been determined not to be a definitive indicator of elevated climate risks, in accordance with the MEPA Interim Protocol for Analysis of Project Impacts on Environmental Justice Populations.

Mitigation measures have been included in the proposed Project design to minimize impacts associated with these potential climate hazards. Please refer to Appendix M of the Draft EA/EIR for the updated RMAT Tool Report.

1.5.4 EPA EJ Screen

As described in the MEPA Interim Protocol for Analysis of Project Impacts on Environmental Justice Populations, as part of the existing environmental burden analysis Proponents can include the optional evaluation using the United States Environmental Protection Agency (EPA) Environmental Justice Screening Tool (EJ Screen). The environmental indicators available through EPA EJ Screen are shown in Table 1-5 below.

Table 1-5 Environmental Indicators in EJ Screen

Indicator	Exposure v. Risk	Key Medium
National Air Toxics Assessment (NATA) Cancer Risk (lifetime exposure)	Risk/Hazard	Air
NATA Respiratory Hazard Index Ratio	Risk/Hazard	Air
NATA Diesel PM (DPM)	Potential Exposure	Air
Particulate Matter (PM2.5, annual average)	Potential Exposure	Air
Ozone (summer seasonal average, daily 8-hr max)	Potential Exposure	Air
Lead Paint (% of housing built before 1960)	Potential Exposure	Dust/lead paint
Toxic Releases to Air	Potential Exposure	Air
Traffic Proximity and Volume Count of Vehicles (average annual)	Proximity/Quantity	Air
Proximity to RMP (Risk Management Plan/hazardous waste cleanup) Sites	Proximity/Quantity	Waste/Water/Air
Proximity to TSDFs (Hazardous waste treatment, Storage, and Disposal Facilities)	Proximity/Quantity	Waste/Water/Air
Proximity to NPLs (National Priority List/Superfund sites)	Proximity/Quantity	Waste/Water/Air
Wastewater Discharge Toxicity (based on NPDES permitted discharge locations)	Proximity/Quantity	Water

The EJScreen analysis was conducted using a buffer for the DGA (one-mile radius from the Project site) and the results were compared to the statewide. As noted by US EPA, the buffer aggregates the relevant portions of the EJ block groups within the area providing a population-weighted average for each indicator. The Community Report showing the EJ Screen results is available in Appendix G of the Draft EA/EIR. The results for all EJ Indicators are all well below the 80th percentile compared to the state. The 80th percentile is used by US EPA as a threshold above which

there may be potential adverse or disproportionate impacts associated with that specific indicator.

1.6 Assessment of Potential Project Impacts

A proponent is asked to describe the nature and severity of all short-term and long-term Project impacts and both magnitude and duration.

As noted in the Draft EA/EIR, air quality and noise impacts will be limited to temporary construction equipment. An estimated 9 average diesel dump trucks trips per day over the course of the 3-year construction period are anticipated (the equivalent of 4.5 trucks per day in two directions, to and from the Airport). The peak period is estimated to be during the reconstruction of Runway 6-24 in 2026, resulting in approximately 22 average daily trips (adt) over a 90-day timeframe (the equivalent of 11 trips per day in two directions, to and from the Airport). As discussed in Section 4.3.1.1 of the Draft EA/EIR, air quality near the airport is good and all air pollutants have background concentrations that are well below the current health-based National Ambient Air Quality Standards (NAAQS). The temporary construction will not be enough to cause an exceedance of the NAAQS. As discussed below, mitigation will be included to minimize air and noise impacts.

1.7 Mitigation

The Draft EA/EIR specifies the mitigation measures that will be in place to minimize air quality and noise impacts from construction. Specifically Section 5.13 discusses construction mitigation including the construction-related traffic, noise, and air quality impacts.

The increased truck traffic will depend on the phase of the project but is not expected to be a large number of vehicles. The Proponent will work with contractors to minimize impacts by:

- Encouraging contractors to use EPA Tier 4 construction equipment or equipment retrofitted with diesel emission control devices to the greatest extent practicable;
- Using Ultra-Low Sulphur Diesel for all trucks and construction machinery;
- Use of after-engine emissions controls, such as oxidation catalysts or diesel particulate filters;
- Maintaining an “idle free” work area;
- Minimizing exposed storage of debris on-site through measures such as wetting soils prior to disturbing and covering stockpiles.

With regards to noise, the airport maintains a noise abatement policy (see Section 5.10.4) including:

- Aircraft Approach – flight procedures and a map provided for pilots and aircraft to minimize noise impacts on surrounding residential communities.
- Corporate – flight procedures and a map depicting a “quicker right” turn off of departure from Runway 6 (heading northerly off the RW 24 end) and a “slow left” turn off the Runway 24

departure heading southerly off the RW 6 end towards the bogs on the southwest end of the Airport.

- General Aviation (non-corporate jet) – flight procedures for three runway departure patterns with maps identifying "noise sensitive" areas.
- Helicopter – map depicting helicopter departure patterns that avoid specific noise sensitive areas.

With regards to construction noise the following is being proposed:

- Requiring all construction equipment to be equipped with exhaust mufflers, and requiring mufflers to be maintained and lubricated to minimize engine noise;
- Mufflers on construction equipment leaving airport property and passing through sensitive areas;
- Muffling enclosures on continuously running equipment, such as air compressors and welding generators;
- Measures to limit noise from machinery or trucks as they traverse streets in noise sensitive areas (schools, churches, wildlife/conservation areas);
- Specifying site construction hours of normal daytime hours 7 AM to 5 PM to avoid early morning, evening, and nighttime periods to minimize disturbing the adjacent receptors;
- Scheduling equipment operations to keep average noise levels low, to synchronize the noisiest operations with times of highest ambient levels, and to maintain relatively uniform noise levels;
- Turning off idling equipment;
- Locating noisy equipment at locations that protect sensitive locations by shielding or distance.
- Ensuring construction vehicle operators abide by the Massachusetts Vehicle Idling Regulations (Massachusetts 5-Minute idle Law), idling of construction equipment would comply with 310 CMR 7.11;
- Replacing specific construction operations and techniques by less noisy ones where feasible; Selecting the quietest of alternative items of equipment where feasible; and,
- To the extent practicable, specific activities such as crushing and pulverizing, as well as equipment staging areas, would be located at appropriate distances from residential receptors.
- Lastly, to reduce air quality impacts from construction the Proponent is proposing the following:
- Implementing dust abatement techniques (*e.g.*, water application) on unpaved or unvegetated surfaces to minimize airborne dust during construction;
- Revegetating disturbed areas as soon as possible after disturbance. This could include interim revegetation along roadbeds, once heavy construction is completed;
- Covering construction materials and stockpiled soil if they are a source of fugitive dust.
- Encouraging contractors to use EPA Tier 4 construction equipment or equipment retrofitted with diesel emission control devices to the greatest extent practicable or MassDEP-approved diesel oxidation catalysts (DOCs) or Diesel Particulate Filters (DPFs).

- Maintain a list of the engines, their emission tiers, and, if applicable, the best available control technology installed on each piece of equipment on file for MassDEP departmental review.
- Using Ultra-Low Sulphur Diesel for all trucks and construction machinery.
- Maintaining an "idle free" work area and ensuring construction vehicle operators abide by the Massachusetts Vehicle Idling Regulations (Massachusetts 5-Minute idle Law), idling of construction equipment would comply with 310 CMR 7.11 (efforts to include driver training, periodic inspections by site supervisors, and posting signage to limiting idling to five minutes or less on-site);
- Minimizing exposed storage of debris on-site through measures such as wetting soils prior to
- disturbing and covering stockpiles to avoid fugitive dust.

1.8 Public Health

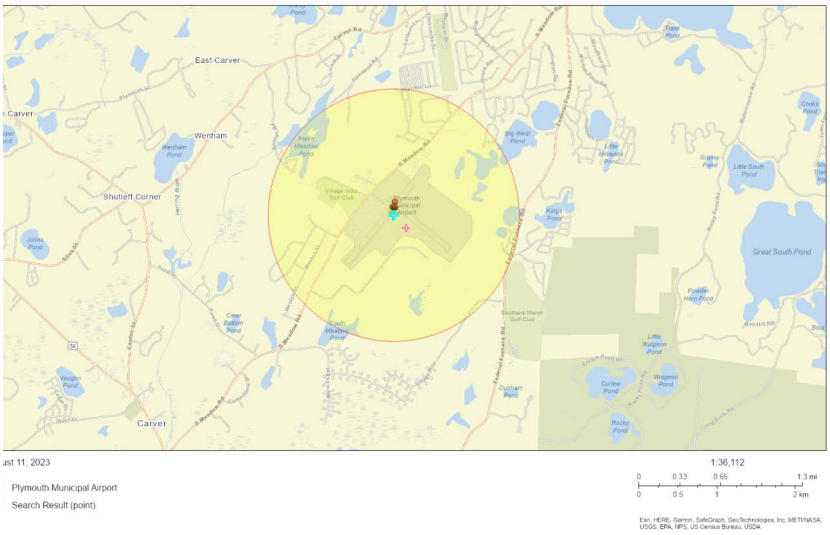
A comprehensive review of the vulnerable health criteria and information included in the DPH EJ Tool to assess public health conditions in the area surrounding the Project site is provided above as part of the EJ evaluation. The key vulnerability criteria that are likely to be associated with air quality impacts from traffic or construction activities include heart attacks and asthma. The Towns of Plymouth and Carver met the heart attack criterion, but not the childhood asthma criterion. Heart attacks can be caused and exacerbated by a large number of environmental and lifestyle factors. The Plymouth CBD and Carver census data show a higher prevalence of residents over age 65 than the state and US averages, which could account for at least a portion of the higher percentage of heart attacks. Although outdoor air pollution could be a contributing factor, our air quality analysis shows that the air quality is well below health-based standards. The temporary construction impacts will be mitigated as discussed above and are not anticipated to result in exceedances of the NAAQS, in particular in the nearby EJ communities.

EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Plymouth County, MA

1 mile Ring Centered at 41.910068,-70.729609
Population: 1,401
Area in square miles: 3.14



LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	95%
Spanish	1%
Other Indo-European	2%
Vietnamese	1%
Total Non-English	5%

COMMUNITY INFORMATION

- Low income: 14 percent
- People of color: 11 percent
- Less than high school education: 4 percent
- Limited English households: 0 percent
- Unemployment: 1 percent
- Persons with disabilities: 15 percent
- Male: 53 percent
- Female: 47 percent
- 80 years — Average life expectancy
- $46,038 — Per capita income
- Number of households: 578
- Owner occupied: 93 percent

BREAKDOWN BY RACE

- White: 90%
- Black: 2%
- Asian: 3%
- Hispanic: 2%
- American Indian: 0%
- Hawaiian/Pacific Islander: 0%
- Other race: 0%
- Two or more races: 5%

BREAKDOWN BY AGE

From Ages 1 to 4	4%
From Ages 1 to 18	18%
From Ages 18 and up	82%
From Ages 65 and up	23%

LIMITED ENGLISH SPEAKING BREAKDOWN

Speak Spanish	0%
Speak Other Indo-European Languages	0%
Speak Asian-Pacific Island Languages	0%
Speak Other Languages	0%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control.

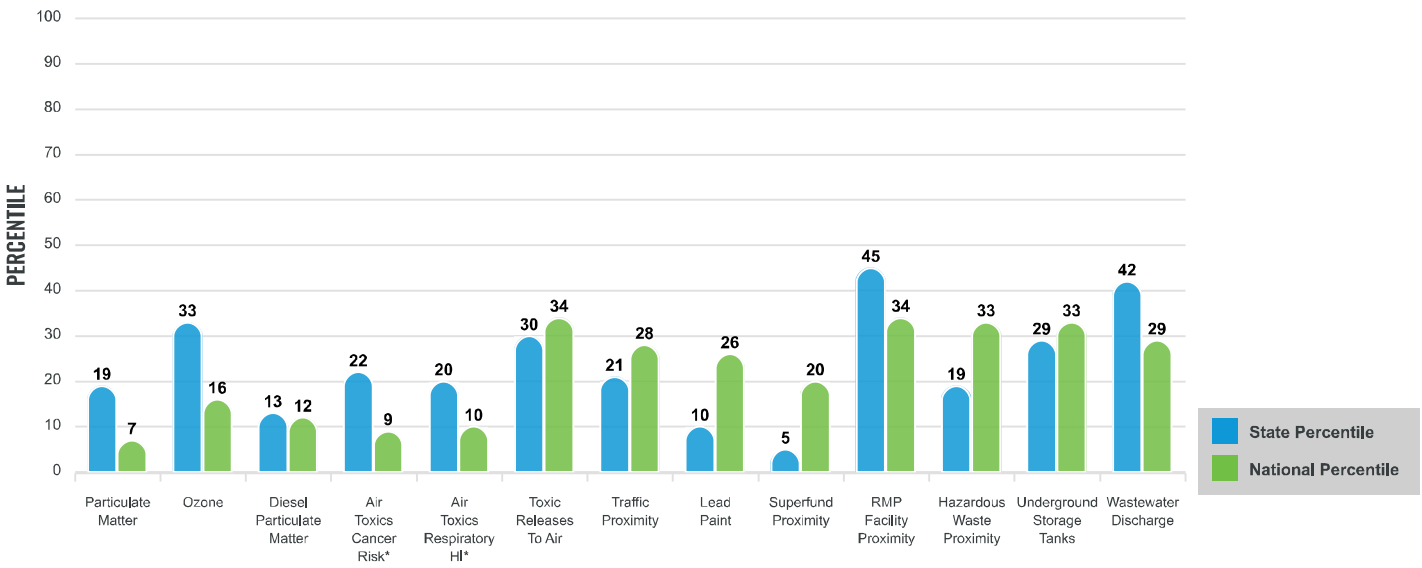
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

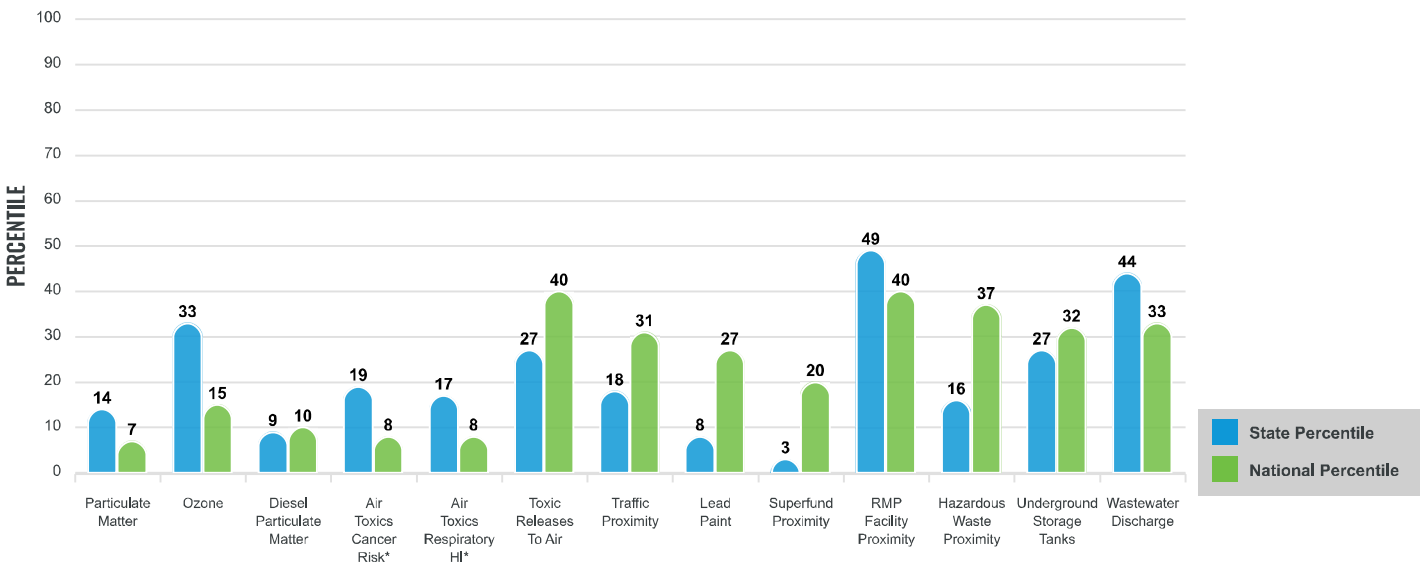
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for 1 mile Ring Centered at 41.910068,-70.729609

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m^3)	6.06	6.62	17	8.08	8
Ozone (ppb)	57.7	58.3	34	61.6	21
Diesel Particulate Matter (µg/m^3)	0.0998	0.253	9	0.261	16
Air Toxics Cancer Risk* (lifetime risk per million)	20	24	1	28	3
Air Toxics Respiratory HI*	0.2	0.26	2	0.31	4
Toxic Releases to Air	910	2,800	31	4,600	57
Traffic Proximity (daily traffic count/distance to road)	76	630	22	210	50
Lead Paint (% Pre-1960 Housing)	0.11	0.51	8	0.3	36
Superfund Proximity (site count/km distance)	0.032	0.18	4	0.13	30
RMP Facility Proximity (facility count/km distance)	0.19	0.36	58	0.43	55
Hazardous Waste Proximity (facility count/km distance)	0.63	6.7	17	1.9	53
Underground Storage Tanks (count/km^2)	0.53	3.4	26	3.9	40
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.00095	0.2	50	22	48
SOCIOECONOMIC INDICATORS					
Demographic Index	13%	26%	30	35%	15
Supplemental Demographic Index	7%	12%	31	14%	18
People of Color	11%	30%	28	39%	25
Low Income	14%	22%	43	31%	26
Unemployment Rate	1%	5%	21	6%	24
Limited English Speaking Households	0%	6%	0	5%	0
Less Than High School Education	4%	9%	39	12%	28
Under Age 5	4%	5%	51	6%	45
Over Age 64	23%	17%	76	17%	76
Low Life Expectancy	18%	17%	57	20%	34

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	0
Water Dischargers	6
Air Pollution	0
Brownfields	0
Toxic Release Inventory	0

Other community features within defined area:

Schools	0
Hospitals	0
Places of Worship	0

Other environmental data:

Air Non-attainment	Yes
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	No
Selected location contains an EPA IRA disadvantaged community	No

Report for 1 mile Ring Centered at 41.910068,-70.729609

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	18%	17%	57	20%	34
Heart Disease	6.3	5.4	78	6.1	56
Asthma	10.2	10.8	31	10	58
Cancer	8.1	6.6	83	6.1	89
Persons with Disabilities	15.1%	11.9%	78	13.4%	66

CLIMATE INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	6%	12%	39	12%	49
Wildfire Risk	0%	0%	0	14%	0

CRITICAL SERVICE GAPS

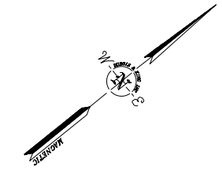
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	9%	10%	54	14%	42
Lack of Health Insurance	1%	3%	31	9%	6
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Footnotes

Report for 1 mile Ring Centered at 41.910068,-70.729609

DuBois & King inc.

ATTACHMENT 3 Alternatives 1-4 Conceptual Plans



LEGEND

- AIRPORT PROPERTY LINE
- OFA — OBJECT FREE AREA
- MARKING – TAXIWAY AND RUNWAY
- HOLDING POSITION MARKING
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE ZONE AND RUNWAY PROTECTION ZONE
- GLIDESLOPE CRITICAL AREA
- EXISTING CHAIN–LINK FENCE
- WETLAND
- EXISTING ROADWAY

HORIZONTAL SCALE
0 75 150 300

DuBois & King inc.
ENGINEERING • PLANNING • MANAGEMENT • DEVELOPMENT
15 CONSTITUTION DR.
SUITE 1L
BEDFORD, NH 03110
TEL: (603) 637-1043
FAX: (866) 783-7101
www.dubois-king.com
RANDOLPH, VT
SO. BURLINGTON, VT
LACONIA, NH

PROFESSIONAL SEAL

NOT FOR CONSTRUCTION PRELIMINARY PLANS

NO.	DESCRIPTION	DATE	BY	CK'D

PLYMOUTH MUNICIPAL AIRPORT

246 SOUTH MEADOW RD., PLYMOUTH, MA 02360

PLYMOUTH TMPU ALTERNATIVES

PLYMOUTH, MASSACHUSETTS

SHEET TITLE

RW 6 EXTENSION ALTERNATIVE 1:

NO BUILD

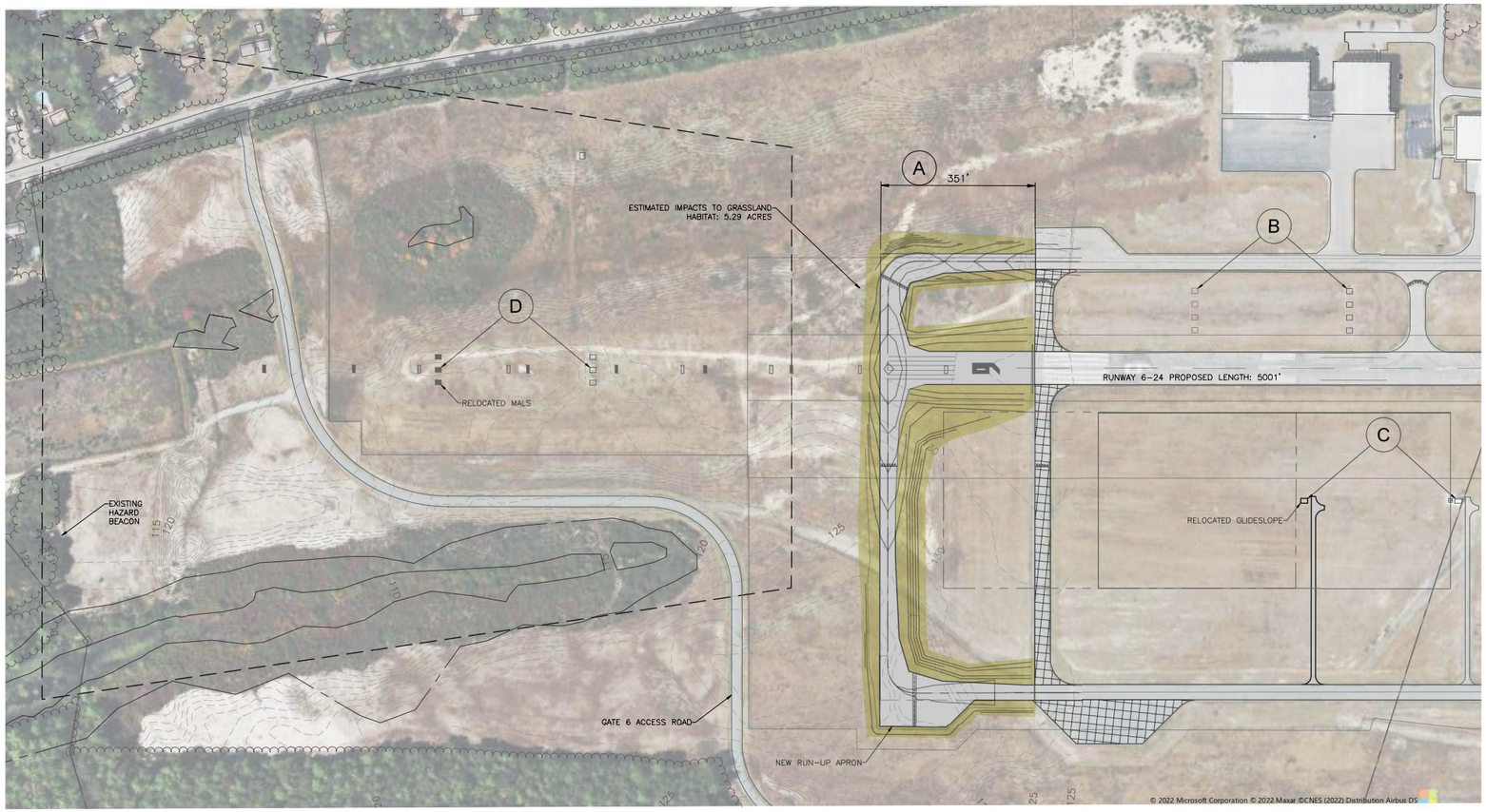
DRAWN BY	DATE
IYA	FEB. 2022
CHECKED BY	D&K PROJECT #
JLR	327066
PROJ. ENG.	D&K ARCHIVE #
RLT	

SHEET NUMBER

C1.1

SHEET 1 OF 4

I:\3\327066 PAC Runway Length Analysis\Drawings – Alternative Exhibits\RW 06 Extension_Alt 1_No Change.dwg 3/9/2022 11:21 AM



PROJECT WORK ELEMENTS:

- A — 351' EXTENSION OF RUNWAY 6-24
- B — RELOCATION OF PRECISION APPROACH PATH INDICATOR.
- C — RELOCATION OF GLIDESLOPE, GLIDESLOPE ACCESS ROAD, AND CRITICAL AREA.
- D — RELOCATION OF MEDIUM INTENSITY APPROACH LIGHTING SYSTEM.

LEGEND

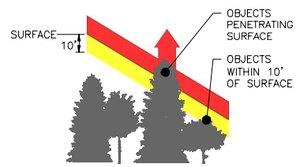
- A — PROJECT WORK ELEMENT
- AIRPORT PROPERTY LINE
- OFA — OBJECT FREE AREA
- MARKING – TAXIWAY AND RUNWAY
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE ZONE AND RUNWAY PROTECTION ZONE
- GLIDESLOPE CRITICAL AREA (RELOCATED)
- PROPOSED CHAIN-LINK FENCE
- WETLAND
- EXISTING EDGE OF PAVEMENT
- PROPOSED NEW PAVEMENT
- PROPOSED PAVEMENT REMOVAL

HORIZONTAL SCALE
0 75 150 300
1"=150'

SURFACE LEGEND

- AC 150/5300-13A TABLE 3-2 ROW 4 OBSTACLE CLEARANCE SURFACE
- AC 150/5300-13A TABLE 3-2 ROW 6 OBSTACLE CLEARANCE SURFACE
- VEGETATIVE OBSTRUCTION (REFER TO PENETRATION KEY)

VEGETATIVE PENETRATION KEY



HORIZONTAL SCALE
0 125 250 500
1"=250'

DuBois & King inc.
ENGINEERING • PLANNING • MANAGEMENT • DEVELOPMENT
15 CONSTITUTION DR.
SUITE 1L
BEDFORD, NH 03110
TEL: (603) 637-1043
FAX: (866) 783-7101
www.dubois-king.com
RANDOLPH, VT
SO. BURLINGTON, VT
GILFORD, NH

PROFESSIONAL SEAL

NOT FOR CONSTRUCTION PRELIMINARY PLANS

NO.	DESCRIPTION	DATE	BY	CK'D

PLYMOUTH MUNICIPAL AIRPORT

246 SOUTH MEADOW RD., PLYMOUTH, MA 02360

PLYMOUTH TMPU ALTERNATIVES

PLYMOUTH, MASSACHUSETTS

SHEET TITLE

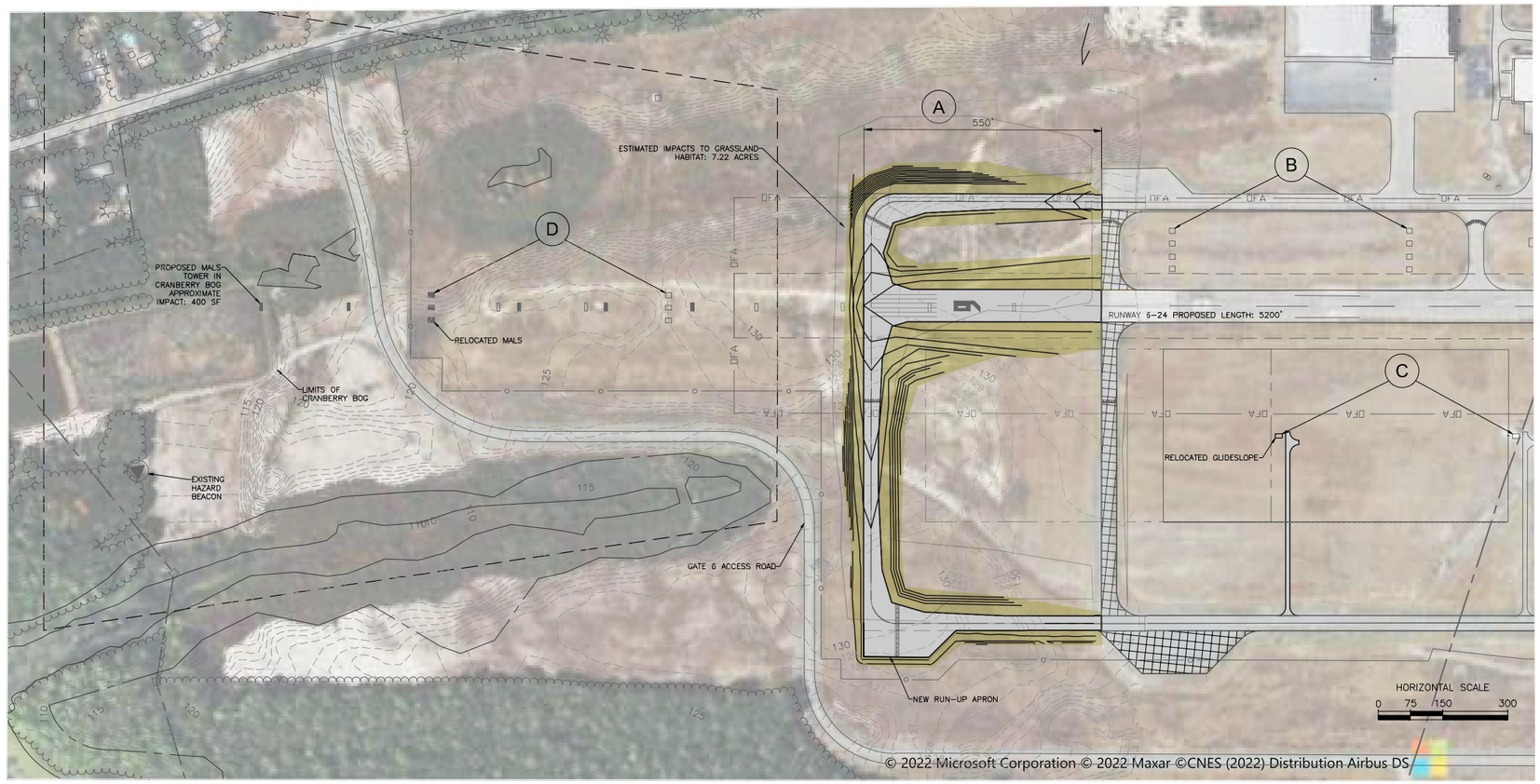
RW 6 EXTENSION ALTERNATIVE 2:

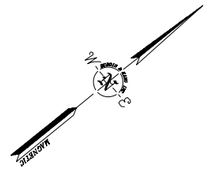
351' EXTENSION

DRAWN BY	DATE
IYA	JUNE 2022
CHECKED BY	D&K PROJECT #
JLR	327066
PROJ. ENG.	D&K ARCHIVE #
RLT	

SHEET NUMBER

C1.2





LEGEND

A — PROJECT WORK ELEMENT

PROJECT WORK ELEMENTS:

A — 550' EXTENSION OF RUNWAY 6-24

B — RELOCATION OF PRECISION APPROACH PATH INDICATOR.

C — RELOCATION OF GLIDESLOPE, GLIDESLOPE ACCESS ROAD, AND CRITICAL AREA.

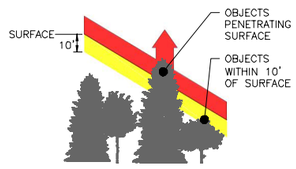
D — RELOCATION OF MEDIUM INTENSITY APPROACH LIGHTING SYSTEM.

- AIRPORT PROPERTY LINE
- OFA — OBJECT FREE AREA
- MARKING – TAXIWAY AND RUNWAY
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE ZONE AND RUNWAY PROTECTION ZONE
- GLIDESLOPE CRITICAL AREA (RELOCATED)
- PROPOSED CHAIN-LINK FENCE
- WETLAND
- EXISTING EDGE OF PAVEMENT
- PROPOSED NEW PAVEMENT
- PROPOSED PAVEMENT REMOVAL

SURFACE LEGEND

- AC 150/5300-13A TABLE 3-2 ROW 4 OBSTACLE CLEARANCE SURFACE
- AC 150/5300-13A TABLE 3-2 ROW 6 OBSTACLE CLEARANCE SURFACE
- VEGETATIVE OBSTRUCTION (REFER TO PENETRATION KEY)

VEGETATIVE PENETRATION KEY



DuBois & King inc.
ENGINEERING • PLANNING • MANAGEMENT • DEVELOPMENT
15 CONSTITUTION DR.
SUITE 1L
BEDFORD, NH 03110
TEL: (603) 637-1043
FAX: (866) 783-7101
www.dubois-king.com
RANDOLPH, VT
SO. BURLINGTON, VT
GILFORD, NH

PROFESSIONAL SEAL

NOT FOR CONSTRUCTION PRELIMINARY PLANS

NO.	DATE	DESCRIPTION	BY	CK'D

PLYMOUTH MUNICIPAL AIRPORT

246 SOUTH MEADOW RD., PLYMOUTH, MA 02360

PLYMOUTH TMPU ALTERNATIVES

PLYMOUTH, MASSACHUSETTS

SHEET TITLE

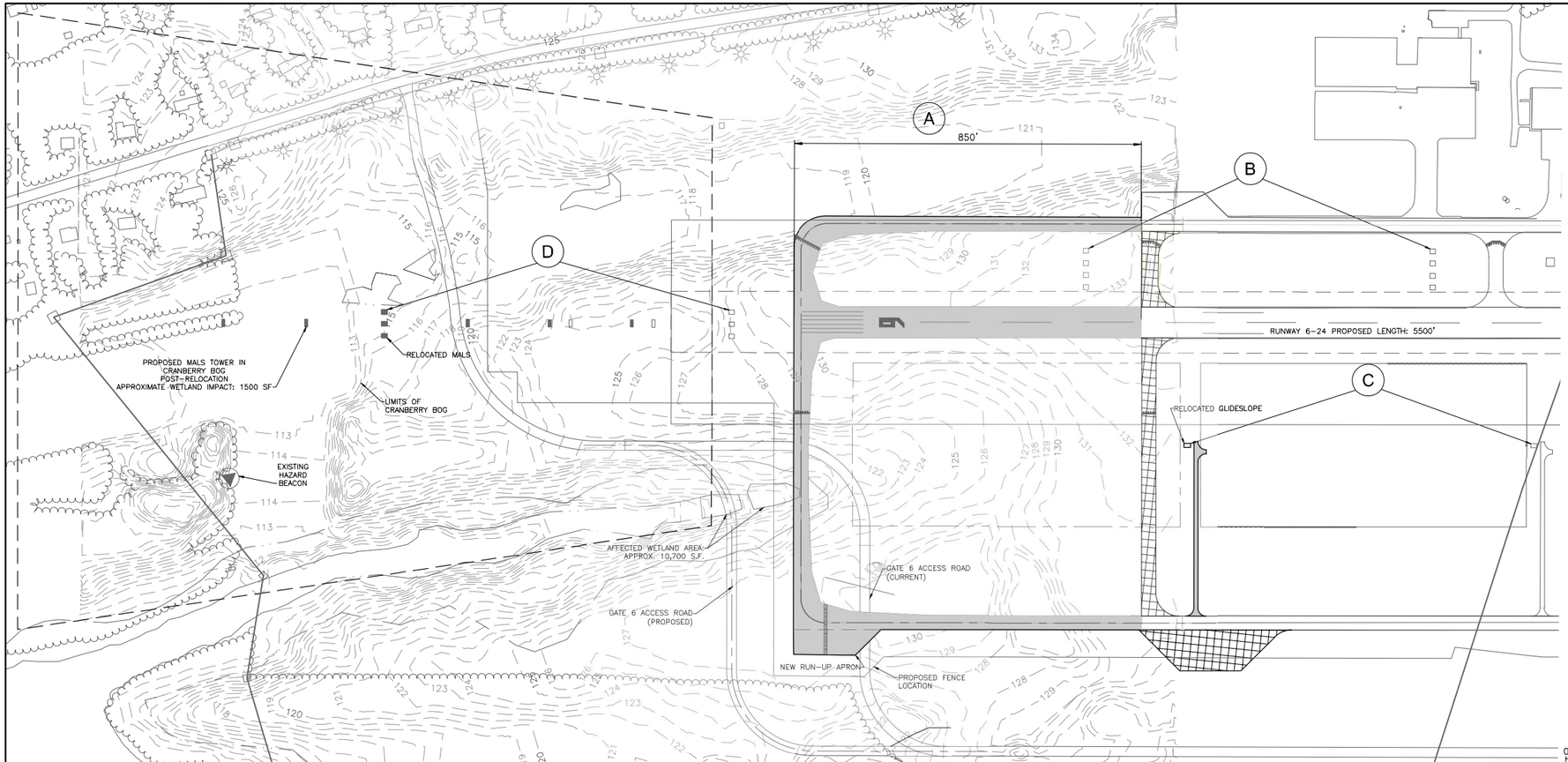
RW 6 EXTENSION ALTERNATIVE 3:

550' EXTENSION

DRAWN BY	DATE
IYA	JUNE 2022
CHECKED BY	D&K PROJECT #
JLR	327066
PROJ. ENG.	D&K ARCHIVE #
RLT	

SHEET NUMBER

C1.3



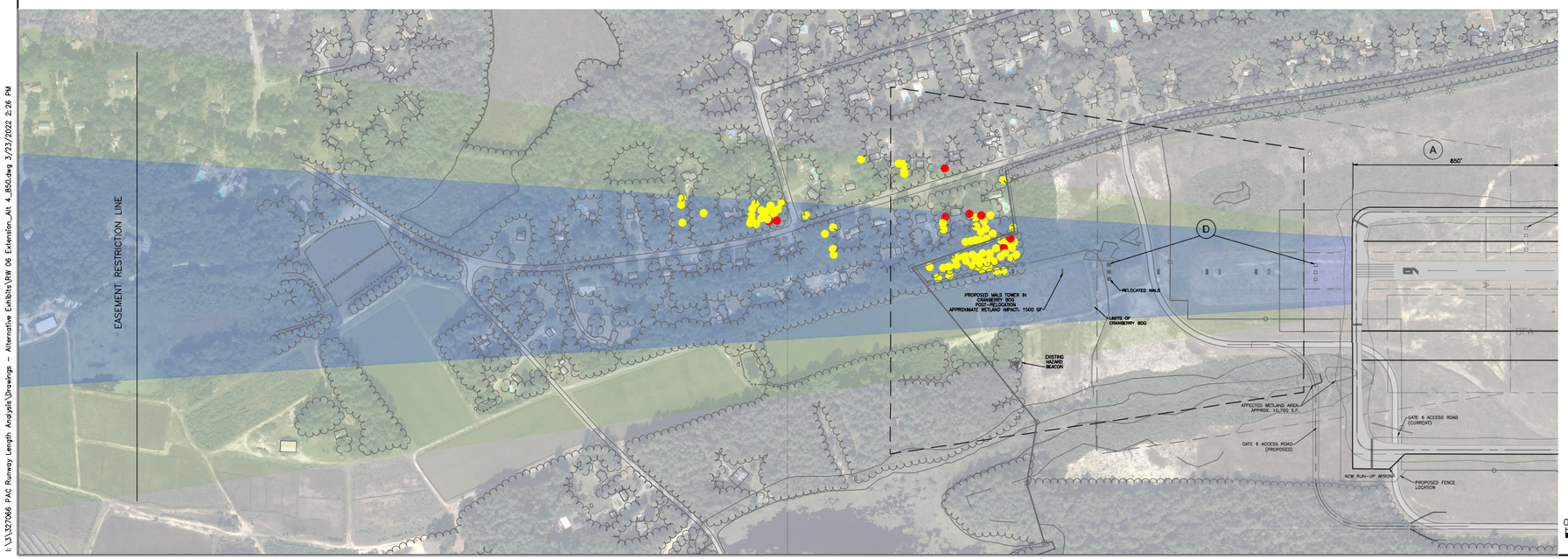
HORIZONTAL SCALE
0 75 150 300

LEGEND

- A — PROJECT WORK ELEMENT
- AIRPORT PROPERTY LINE
- OFA — OBJECT FREE AREA
- MARKING – TAXIWAY AND RUNWAY
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE ZONE AND RUNWAY PROTECTION ZONE
- GLIDESLOPE CRITICAL AREA (RELOCATED)
- PROPOSED CHAIN-LINK FENCE
- WETLAND
- EXISTING EDGE OF PAVEMENT
- PROPOSED ACCESS ROAD
- PROPOSED NEW PAVEMENT
- PROPOSED PAVEMENT REMOVAL

PROJECT WORK ELEMENTS:

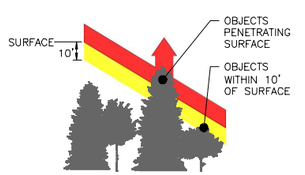
- A — 850' EXTENSION OF RUNWAY 6-24
- B — RELOCATION OF PRECISION APPROACH PATH INDICATOR.
- C — RELOCATION OF GLIDESLOPE, GLIDESLOPE ACCESS ROAD, AND CRITICAL AREA.
- D — RELOCATION OF MEDIUM INTENSITY APPROACH LIGHTING SYSTEM.



SURFACE LEGEND

- AC 150/5300-13A TABLE 3-2 ROW 4 OBSTACLE CLEARANCE SURFACE
- AC 150/5300-13A TABLE 3-2 ROW 6 OBSTACLE CLEARANCE SURFACE
- VEGETATIVE OBSTRUCTION (REFER TO PENETRATION KEY)

VEGETATIVE PENETRATION KEY



HORIZONTAL SCALE
0 125 250 500

DuBois & King inc.
ENGINEERING • PLANNING • MANAGEMENT • DEVELOPMENT
15 CONSTITUTION DR.
SUITE 1L
BEDFORD, NH 03110
TEL: (603) 637-1043
FAX: (866) 783-7101
www.dubois-king.com
RANDOLPH, VT
SO. BURLINGTON, VT
LACONIA, NH

PROFESSIONAL SEAL

NOT FOR CONSTRUCTION PRELIMINARY PLANS

NO.	DESCRIPTION	DATE	BY	CK'D

PLYMOUTH MUNICIPAL AIRPORT

246 SOUTH MEADOW RD., PLYMOUTH, MA 02360

PLYMOUTH TMPU ALTERNATIVES

PLYMOUTH, MASSACHUSETTS

SHEET TITLE

RW 6 EXTENSION ALTERNATIVE 4:

850' EXTENSION

DRAWN BY	DATE
IYA	FEB. 2022
CHECKED BY	D&K PROJECT #
JLR	327066
PROJ. ENG.	D&K ARCHIVE #
RLT	

SHEET NUMBER

C1.4

SHEET 4 OF 4

I:\3\327066 PAC Runway Length Analysis\Drawings – Alternative Exhibits\RW 06 Extension_Alt 4_850.dwg 3/23/2022 2:26 PM

ATTACHMENT 4 Revised Tables 3-1 (Summary of Alternatives) &
Revised Table 5-1 (Summary of Land Alteration)

TABLE REVISED DECEMBER 12, 2023

TABLE 3-1 (REVISED). Summary of Alternatives Evaluated in *Technical Master Plan Update (2023)*

ACTION [See Concept Plan]	ALT 1 No Action [C1.1]	ALT 2 Preferred Alternative [C1.2]	ALT 3 [C1.3]	ALT 4 [C1.4]
Runway 6 Approach Length	Do Nothing [Non-Compliant w/FAA design requirements]	*351' x 75' [Total RW length = 5001'*; meets RSA; does not meet 60% useful load]*	550' x 75' [Total RW length = 5200*'; does not meet 60% useful load]	850' x 75' [Total RW length = 5500'*; meets 60% useful load]
Taxiway A	Do Nothing	*1000' x 35' [351' + 649' stub*]*	1199' x 35' [550' + 649' stub*]	1499' x 35' [850' + 649' stub*]
Taxiway E	Do Nothing	*700' x 35' [351' + 349' stub*]*	899' x 35' [550' + 349' stub*]	1199' x 35' [850' + 349' stub*]
NAVAIDS:				
MIRL**	Do Nothing	*Relocate*	Relocate	Relocate
MALSF**	Do Nothing	*Relocate*	Relocate	Relocate
PAPI**	Do Nothing	*Relocate*	Relocate	Relocate
Glideslope	Do Nothing	*Relocate [remove old access; create new access]*	Relocate [remove old access; create new access]	Relocate [remove old access; create new access]
Fence	Do Nothing	*Do not relocate****	Likely to relocate	Likely to relocate
Driveway	Do Nothing	*Do not relocate****	Likely to relocate	Likely to relocate
Obstructions (Tree Removal)	Do Nothing	*0*	1-group current; 5-groups in near future	8-groups current; additional in future
Property Acquisitions/ Easements	Do Nothing	*None/0*	3	4
Wetlands	0 sf	*0 sf*	Potential Direct Impacts due to road (and fence) relocation to accommodate glideslope shift; Direct impact to cranberry bog to relocate one MALS	Significant Direct Impacts due to road and fence relocation (approx. 10,700 sf) to accommodate glideslope shift; Direct impact to cranberry bog to relocate one MALS tower (approx. 1,500 sf); Direct impact to BVW due to Runway extension
100' Wetland Buffer	0 sf	*0 sf*	Potential Impacts due to road and fence relocation, MALS tower relocation at the edge of cranberry bog	Significant Impacts due to road and fence relocation, MALS tower relocation, and Runway 6 extension
Designated Habitat [for rare species]	0 sf	*[acres] Temp Impact - 4.18 Perm Impact – 2.49 Total Impact – 6.67*	Total Impact† 6.67 ac (see 351') + 0.66 ac (minimum estimate) = >7.33 acres	Total Impact† 6.67 ac (see 351') + 1.66 ac (minimum estimate) = > 8.33 acres

ACTION [See Concept Plan]	ALT 1 No Action [C1.1]	ALT 2 Preferred Alternative [C1.2]	ALT 3 [C1.3]	ALT 4 [C1.4]
NOTES: *Even though the 850' extension is the only option that accommodates the critical aircraft at 60% load capacity, the 351' extension was presented as the Preferred Alternative in the TMPU based on all factors that include public engagement and environmental concerns. This EA/EIR presents the 351' as the "Proposed Action" for RW 6 Approach based on ultimate Airport Commission determination that resulted from those same factors with additional cost, stakeholder outreach, and future growth considerations considered; total lengths given for TW A and E include total length of asphalt to include the extension to meet RW 6 extension length + stub/turn section.				
**MIRL – Medium Intensity Approach Light System; MALSF – Medium Intensity Light System w/Sequenced Flashing Lights; PAPI – Precision Approach Path Indicator				
***The FAA is responsible for conducting an analysis of the glideslope location in conjunction with a proposed extension of RW 6 approach end. Based on the outcome of this analysis, they will determine if the fence (and driveway) would need to be relocated to avoid interference with the glideslope equipment and accuracy.				
†Total Impact for Alt 3 and Alt 4 calculated by adding additional impervious surface beyond the 351' extension for Runway 6 (x75' wide), Taxiway A (x35' wide), and Taxiway E (x35' wide); additional habitat impacts from other associated changes, such as fence and road realignment, was not calculated but would potentially increase Total Impact (both Temporary and Permanent)				

SUB-SECTION REVISED DECEMBER 12, 2023

5.3.4 Summary of Land Alteration, Impervious Area, and Stormwater under MEPA

As shown in TABLE 5-1 below, the Proposed Action will result in the direct alteration of 6.67 acres of undisturbed land (consisting of grassland habitat), which consists of 4.18 acres total TEMPORARY impacts OVER THREE YEARS and 2.49 acres of impervious surface (net increase after 0.89 acres pavement removals for glideslope and existing taxiways). Land alteration and addition of imperious surface are a direct result of the runway, taxiway, and taxilane extension; construction of a new run-up apron and two new aviation hangars (that will utilize the existing taxilane A apron rather than creating all new impervious surface); and the relocation of associated navigational aids.

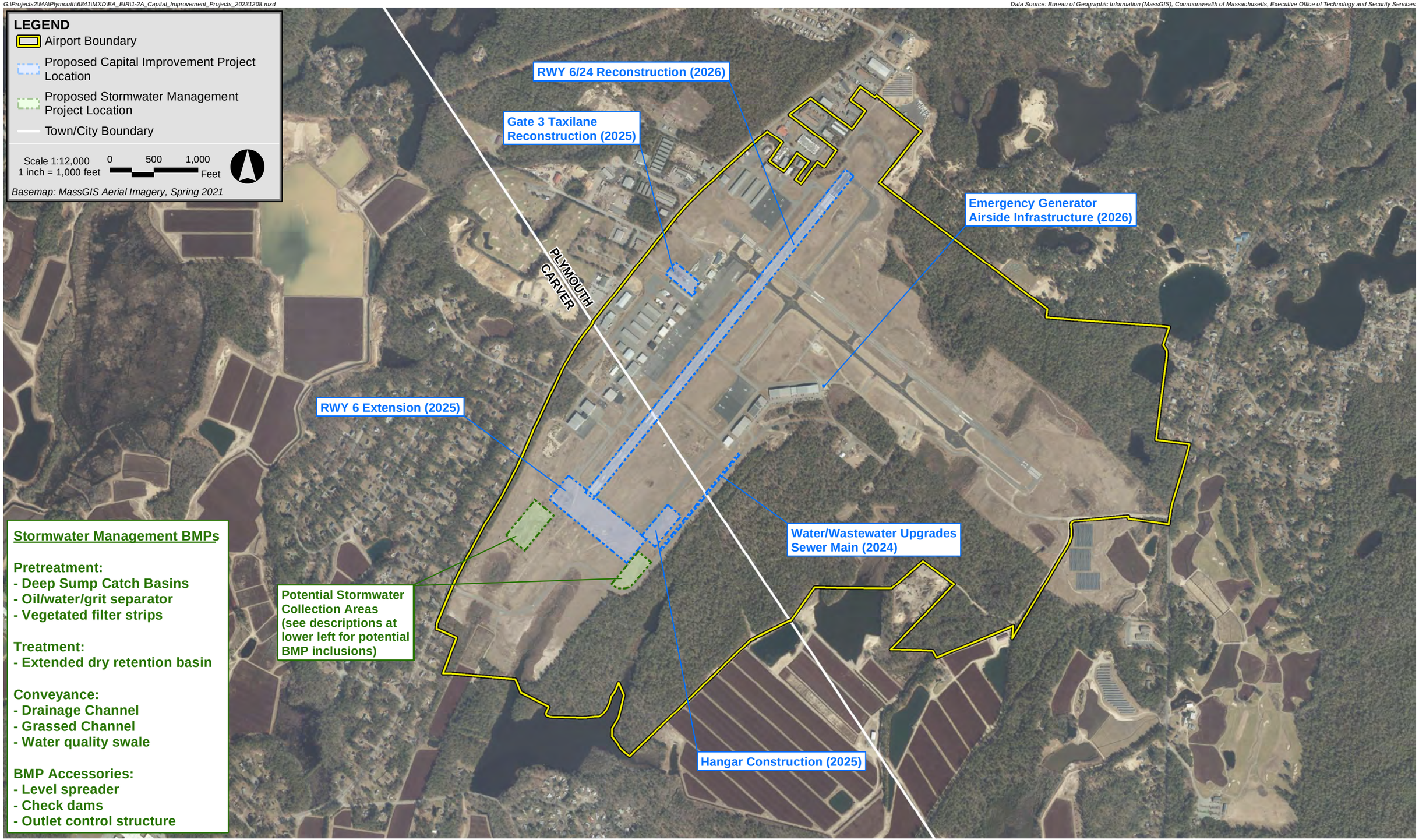
TABLE 5-1. Summary of Land Alteration and Impervious Area (per MEPA Certificate) [acres]

Year	Project	Type of Activity	Temp Impact	Permanent Impact
2023	[no construction]			
2024	Water / Wastewater Upgrades Sewer Main	Install line(s) subgrade (below surface) within existing ROW and restore grade [~1,400 LF from existing southerly hanger on Taxilane A to proposed hangars at Taxilane A apron; 1,400x5=7,000 sf= 0.16]	0 [Within existing *disturbed* ROW footprint]	0 [Within existing *disturbed* ROW footprint]
2025	Extend Runway 6/24 (351' x 75')	Construction of Runway and Taxiways w/associated stormwater measures; Relocate navaids; and grading	3.78	1.71 [net of -0.89 remove/ restored grassland]
	Extend Taxiway E/A (700'x35')			
	Gate 3 Taxilane Reconstruction	Reconstruction of existing deteriorated taxilane pavement [~160'x330'=1.2 ac]	0 [Replace In-kind]	0 [Replace In-kind]
2026	Reconstruction Runway 6/24	Partial depth (top layers) reconstruct/ rehabilitate of entire runway (excluding 15-33 junction)	0 [Replace In-kind]	0 [Replace In-kind]
	Emergency Generator Airside Infrastructure	Construct 10'x10' concrete pad in existing disturbed area adjacent to flight school	[~<0.05 earthwork/staging; existing *disturbed* sand/gravel area]	~0.002 [*de minimus*]
[TBD]	Hangars – 2 x	Construct two new GA hangars along Taxilane A utilizing existing apron area; each approximately 100' x 100' (20,000 SF total)	0.40 [earthwork, staging, grading]	0.78
		SUB-TOTAL	4.18	2.49
		TOTAL IMPACT (TEMP AND PERMANENT)	6.67	

ATTACHMENT 5 Figure 1-2A – Potential Areas for Stormwater BMPs

G:\Projects2\MA\Plymouth\6841\MXD\EA_EIR\1-2A_Capital_Improvement_Projects_20231208.mxd

Data Source: Bureau of Geographic Information (MassGIS), Commonwealth of Massachusetts, Executive Office of Technology and Security Services



Plymouth Municipal Airport **Plymouth, Massachusetts**

Epsilon Associates Inc.

Figure 1-2A

Proposed Capital Improvement Projects