

Intent to File PFC Application
Ithaca Tompkins International Airport
Project Descriptions, Justifications and
Cost Summary

**TOMPKINS COUNTY
ITHACA TOMPKINS INTERNATIONAL AIRPORT
PFC APPLICATION 22-___-C-___-ITH**

PROJECT DESCRIPTIONS AND JUSTIFICATIONS

Tompkins County intends to file an application to "Impose and Use" Passenger Facility Charges (PFC) with the Federal Aviation Administration (FAA) that will allow the County to augment its capital improvement program at the Ithaca Tompkins International Airport. Under the new PFC program, the total estimated net PFC revenue will be \$1,959,788 with an estimated charge effective date of June 1, 2022 and an estimated charge expiration date of September 1, 2026. The application to "Impose and Use" will allow collection of PFCs to continue at the \$4.50 level. The project descriptions, justifications, PFC level, and project costs are listed below.

Project No. 1 – Rehabilitate Taxiway Edge Lighting (LED) [Construction]

PFC Level: \$4.50
Estimated Total Project Cost: \$1,544,000
Estimated Total PFC Eligible Cost (County Share): \$77,200
Estimated Non-Financed Cost: \$1,544,000
Estimated PFC Eligible Bond Capital and Financing Cost: \$0
AIP Funding: \$1,389,600
Other Revenue (NYS Match): \$77,200
Estimated Construction Start Date: October 1, 2022
Estimated Completion Date: February 1, 2024

Description:

This project includes rehabilitation of existing taxiway edge lights with new medium intensity LED taxiway lights. Approximately 9,500 LF of taxiway pavement will have the taxiway edge lights rehabilitated. Rehabilitation of the lights will include replacing light fixture lenses, transformers, and cabling in new conduit where no conduit exists to mitigate risks associated with direct-buried cabling. In addition, new edge lights will be added at select locations along the taxiways to address non-conforming light spacing in order to meet current geometric standards as defined in AC 150/5340-30: Design and Installation Details for Airport Visual Aids. As the electrical loading requirements will be less using LED lighting, the project will also include replacement of the existing taxiway lighting regulators in the airfield lighting vault with new, smaller energy-efficient regulators.

Justification:

Last replaced in 1998, the existing quartz-style taxiway edge lights are approaching the end of their useful service life. As a Part 139 certificate holder, Ithaca Tompkins International Airport is required to properly maintain sufficient taxiway lighting system for air carrier use in accordance with FAR Part 139 Subpart D Section 139.311. This includes replacement of missing or

nonfunctioning equipment. Replacement of the obsolete quartz lighting system with new energy efficient LED fixtures will improve visibility and safety on the airport and would extend the useful life of the overall system. This project meets all applicable AIP eligibility requirements of Order 5100.38D, Airport Improvement Program Handbook including Appendix H, Table H-4.a.(3) and Appendix J, Table J-4.i. Rehabilitating taxiway lighting to improve current lighting conditions and meet standards enhances safety of the national air transportation system, thereby meeting PFC eligibility requirements of FAA Order 5500.1, Passenger Facility Charge, Section 4-7.

Project No. 2 – Construct New ARFF/SRE Building – Phase 1 [Construction]

PFC Level: \$4.50

Estimated Total Project Cost: \$5,081,000

Estimated Total PFC Eligible Cost (County Share): \$254,050

Estimated Non-Financed Cost: \$5,081,000

Estimated PFC Eligible Bond Capital and Financing Cost: \$0

AIP Funding: \$4,572,900

Other Revenue (NYS Match): \$254,050

Estimated Construction Start Date: October 1, 2022

Estimated Completion Date: July 1, 2024

Description:

This project involves the initial phase of construction of a new combined ARFF/SRE Building on Airport property to replace the current joint-use Snow Removal Equipment & Crash/Fire/Rescue (CFR) facility. This will be the first of two construction phases of the project, and will include all earthwork (clearing), site preparation, and installation of utility trenches for future underground primary service lines including domestic water, sanitary, and storm sewer for the proposed ARFF/SRE facility. Provisional conduits for primary electrical service lines, as well as communication, data, and security infrastructure will also be installed. Additional project work under this phase will include construction of access roadways from non-secure to secure areas, parking area, site lighting, and airfield access roadway pavement. The site will be prepared for a future ARFF/SRE building with an approximate footprint of 50,000 SF.

Justification:

In a Compliance Letter written to Ithaca Tompkins International Airport (ITH) on November 2, 2017 the FAA stated that the existing ARFF/SRE building site presents several clearance problems in the event of an emergency. Specifically, the tie-down apron area in front of the existing ARFF/SRE building is routinely occupied with aircraft, making it difficult for ARFF emergency vehicles to negotiate safely exiting the building and accessing the airfield during emergency response situations. In addition, the size of the newer replacement vehicles has resulted in very limited space within the current building, and has become a challenge to safely store and maneuver vehicles into and out of the building, jeopardizing the safe storage of these AIP-funded assets. A new building in a less congested area will reduce the chances of an incursion with ARFF vehicles and aircraft. In addition, the configuration of the existing ARFF/SRE Building is not optimized for efficiency and ARFF readiness. Providing a new facility of adequate configuration

will protect the AIP-funded SRE and ARFF assets, improve overall safety, and enhance operational efficiency. The results of a 2020 feasibility study funded in FY18 justified the location for this new facility, the findings of which were accepted by the FAA. This project meets all applicable AIP eligibility requirements of Order 5100.38D, Airport Improvement Program Handbook including Appendix O, Section O-2, Table O-1, and Table O-3. Providing a new ARFF/SRE facility located in a less congested area enhances safety of the national air transportation system, thereby meeting PFC eligibility requirements of FAA Order 5500.1, Passenger Facility Charge, Section 4-7.

Project No. 3 – Install New Primary Wind Cone

PFC Level: \$4.50
Estimated Total Project Cost: \$287,500
Estimated Total PFC Eligible Cost (County Share): \$14,375
Estimated Non-Financed Cost: \$287,500
Estimated PFC Eligible Bond Capital and Financing Cost: \$0
AIP Funding: \$258,750
Other Revenue (NYS Match): \$14,375
Estimated Construction Start Date: October 1, 2022
Estimated Completion Date: February 1, 2024

Description:

This project includes the removal of the existing Primary Wind Cone that is located within the Runway Object Free Area (ROFA), and installation of a new Primary Wind Cone at an improved location outside of the ROFA. The new wind cone will be sited near the midpoint of the airfield, approximately 3,700ft to 3,000ft from the Runway 14 end, and will be internally lit using LED lights. Additional work will include a new foundation for the wind cone, and installation of new electrical conductor cabling back to the electrical vault along with a new circuit breaker. The new wind cone will meet current geometric standards as defined in AC 150/5340-30: Design and Installation Details for Airport Visual Aids.

Justification:

As part of the 2020 FAR Part 139 Annual Airport Inspection, a recommendation was made for the Sponsor to relocate the existing Primary Wind Cone as it is located within the Runway Object Free Area (ROFA). In accordance with AC 150/5340-30J, Section 6.6.3.1.2, primary wind cones shall not conflict with airport design criteria identified in AC 150/5300-13, and therefore the existing primary wind cone is in violation. The wind cone system is not fixed-by-function, nor is the existing system on a frangible mounting system. A new relocated primary wind cone that complies with FAA Design Standards will enhance overall safety at the airport by complying with FAR Part 139 Subpart D Section 139.305. This project meets all applicable AIP eligibility requirements of Order 5100.38D, Airport Improvement Program Handbook including Appendix K, Table K-2.d.(1). Providing a new primary wind cone that meets all standards enhances safety of the national air transportation system, thereby meeting PFC eligibility requirements of FAA Order 5500.1, Passenger Facility Charge, Section 4-7.

Project No. 4 – Acquire Snow Removal Equipment (SRE) [Broom/Blower]

PFC Level: \$4.50
Estimated Total Project Cost: \$600,000
Estimated Total PFC Eligible Cost (County Share): \$30,000
Estimated Non-Financed Cost: \$600,000
Estimated PFC Eligible Bond Capital and Financing Cost: \$0
AIP Funding: \$540,000
Other Revenue (NYS Match): \$30,000
Estimated Construction Start Date: October 1, 2023
Estimated Completion Date: December 1, 2024

Description:

This project includes acquisition of one (1) combination tow-behind rotary broom and with high velocity air unit to use on an existing chassis. This equipment will replace an existing unit that is over 15 years old and will allow the Airport to maintain adequate equipment to clear Priority 1 areas.

Justification:

Ithaca Tompkins International Airport possesses a 14 CFR Part 139 certificate and is a non-hub, commercial service airport. The Airport currently owns one (2) runway brooms. In accordance with AC 150/5220-20, Section 2-3.a., at least four (4) brooms are warranted for the Priority One areas. Based on the Priority 1 area of the airside pavement requiring snow removal identified within the Airport Snow and Ice Control Plan, one runway broom is required for every 750,000 sq.ft. per Section 2-3.a. of AC 150/5220-20A. Therefore, four (4) brooms are required. In addition, the existing brooms cannot be used as intended as it is part of a multi-function piece of equipment and must be interchanged with a front-mounted rotary plow, making snow removal operations less efficient. A new tow behind rotary broom unit is justified based upon the current versions of AC 150/5200-30 and AC 150/5220-20.

The equipment is necessary to maintain the primary aircraft operational surfaces during snow events in accordance with the approved Snow and Ice Control Plan. The airport is located in an area that receives significantly more than 30 inches of snow annually. This project will preserve the safety and efficiency of the Airport and enhance capacity of the national Air Transportation System through the expeditious removal of snow and ice from the single runway and taxiways thereby providing an all-weather airport for all categories of users. This equipment is required to maintain operational safety criteria in accordance with AC 150/5200-30A. This project meets all applicable AIP eligibility requirements of FAA Order 5100-38D, Table M-1, d.(1). New snow removal equipment enhances safety of the national air transportation system, thereby meeting PFC eligibility requirements of FAA Order 5500.1, Passenger Facility Charge, Section 4-7.

Project No. 5 – Taxiway Reconfiguration Program [Construction]:

Rehabilitate Taxiway “A” – Phases 3 and 4; Rehabilitate Stub Taxiway “E”; Reconfigure Stub Taxiways “E” & “D”; Construct New Stub Taxiways “J” and “K”; Rehabilitate Taxiway “F”

PFC Level: \$4.50

Estimated Total Project Cost: \$2,583,000

Estimated Total PFC Eligible Cost (County Share): \$129,150

Estimated Non-Financed Cost: \$2,583,000

Estimated PFC Eligible Bond Capital and Financing Cost: \$0

AIP Funding: \$2,324,700

Other Revenue (NYS Match): \$129,150

Estimated Construction Start Date: October 1, 2023

Estimated Completion Date: February 1, 2025

Description:

This project consists of a series of improvements that are being progressed simultaneously to minimize disruptions to the airport:

• **Rehabilitate Taxiway “A” – Phase 3 [500LF x 50LF] and Taxiway “E” [250 lf x 90 lf]:**

- Milling of the existing surface course and cleaning and sealing of existing cracks with new bituminous material.
- Construction of a true and leveling course to reestablish grades and a 2 to 3-inch bituminous surface course.
- Application of new pavement markings.
- Modifications to existing surface and subsurface drainage systems including; pipes, catch basins, manholes, culverts, and cleanouts.

• **Reconfigure Taxiway “E” [100 lf x 90 lf], Construct New Taxiways “J” and “K” [100LF x 90LF each], Reconfigure Taxiway “D” [2,100 SY]:**

- Partial removal of 1,500 SY of stub Taxiway “E” between Taxiway “A” and the General Aviation Apron;
- Construction of two (2) new stub Taxiways “J” and “K”, located approximately midway between where Taxiways “E” and “F” connect to the GA Apron.
- Partial removal of a portion of existing stub Taxiway “D” and the General Aviation Apron, and conversion of Taxiway “D” into an access road (25 ft. wide) for use by Airport Operations vehicular traffic on the ramp.
- New taxiway edge lighting, guidance signage retrofits, and new pavement markings associated with the partial conversion of Taxiway “D” and construction of new Taxiways “J” and “K”.
- Modifications to existing subsurface drainage systems and construction of new drainage systems, including; pipes, catch basins, manholes, culverts, and cleanouts.

• **Rehabilitate Taxiway “A” – Phase 4 [800LF x 50LF] and Taxiway “F” [250LF x 90LF],
Reconfigure Taxiway “F” [225 SY]:**

- Milling of the existing surface course and cleaning and sealing of existing cracks with new bituminous material along a portion of Taxiways “A” and “F”, between the midpoint between Taxiways “E” and “F” and approximately 300 LF of Taxiway “A” south of taxiway “F”, including approximately 250 lf x 90 lf of Taxiway “F” between parallel Taxiway “A” and RW 14-32.
- Construction of a true and leveling course to reestablish grades and a 2 to 3-inch bituminous surface course.
- Application of new pavement markings.
- Modifications to existing surface and subsurface drainage systems including; pipes, catch basins, manholes, culverts, and cleanouts.
- Partial removal of 100 lf x 20 lf [225 SY] of stub Taxiway “F” and conversion of the remaining pavement westerly of Taxiway “A” into an access road (25 ft. wide) for use by Airport Operations vehicular traffic on the ramp.
- New taxiway edge lighting, guidance signage retrofits, and new pavement markings associated with the partial conversion of Taxiway “F”.

Justification:

• **Rehabilitate Taxiway “A” – Phase 3 [500LF x 50LF] and Taxiway “E” [250 lf x 90 lf]:**

- Parallel Taxiway “A” between the Terminal Apron and Stub Taxiways “D” and “F” is exhibiting signs of distress and wear. The projected PCI rating for this portion of Taxiway “A” pavement in year 2023, when rehabilitation is anticipated, is 45. The projected PCI rating for the Taxiway “E” pavement in year 2023, when rehabilitation is anticipated, is 55. The optimum PCI level to maintain for Taxiway pavement from a safety and condition basis is 60.
- This project is shown on the approved Airport Layout Plan and will enhance safety at the airport by complying with FAR Part 139 Subpart D Section 139.305. The pavement proposed to be rehabilitated exhibits signs of distress and wear. An Airport Pavement Management Study (APMS), conducted by C&S Engineers, Inc. and published in August of 2014, generally identified the level of distress, assigned PCI ratings, and made recommendations for maintaining all airfield pavements on the airport. The types of distress identified included longitudinal and transverse cracking, alligator cracking, and raveling. Study recommendations for maintenance of these pavements suggested a bituminous overlay consistent with the proposed scope of the project.
- The section of Taxiway “A” between Taxiways “D”, “E”, and “F” was constructed as early as 1993 and has not undergone any significant repairs. Taxiway “E” was constructed in two phases; the section between TW “A” and the runway was constructed in 1985 and last rehabilitated in 2005, the remaining section to the terminal apron was constructed in 1967 and last rehabilitated in 2005. The oldest sections of pavement are 25 years old and have exceeded their useful design service life of 20 years. Performing this rehabilitation work now will help prevent the pavement from further deteriorating to condition that would require more costly full

depth reconstruction. The proposed rehabilitation work associated with these projects will restore the pavement to a good condition by providing a pavement section that will accommodate the airport's anticipated fleet mix and increase the overall safety of the airport.

• **Reconfigure Taxiway "E" [100 lf x 90 lf], Construct New Taxiways "J" and "K" [100LF x 90LF each], Reconfigure Taxiway "D" [2,100 SY]:**

- Reconfiguration of taxiway "E" is necessary to comply with FAA Design Criteria issued under AC150/5300-13, Chapter 4, which advises against direct aircraft access from an apron to a runway. Removing stub Taxiway "E" between Taxiway "A" and the GA Apron will greatly mitigate the risk of runway incursions, while construction of new stub Taxiways "J" and "K" will improve operational efficiency. Converting existing stub Taxiways "D" and "F", between parallel Taxiway "A" and the GA Apron, into vehicular access roads will improve airport operations and responsiveness for proper airfield maintenance, as well as enhancing ARFF responsiveness. Having dedicated pavements for Airport Operations and ARFF vehicles will improve safety by reducing instances where both vehicles and aircraft occupy airfield pavements.
- Rehabilitate Taxiway "A" – Phase 4 [800LF x 50LF] and Taxiway "F" [250LF x 90LF], Reconfigure Taxiway "F" [225 SY]:
- Parallel Taxiway "A" between Stub Taxiways "E" and 300LF south of the intersection with Taxiway "F" is exhibiting signs of distress and wear. The projected PCI ratings for this portions of Taxiway "A" and Taxiway "F" pavements in year 2023, when rehabilitation is anticipated to be initiated, is 50 and 54, respectively. The optimum PCI level to maintain for Taxiway pavement from a safety and condition basis is 60.
- This project is shown on the approved Airport Layout Plan and will enhance safety at the airport by complying with FAR Part 139 Subpart D Section 139.305. The pavement proposed to be rehabilitated exhibits signs of distress and wear. An Airport Pavement Management Study (APMS), conducted by C&S Engineers, Inc. and published in August of 2014, generally identified the level of distress, assigned PCI ratings, and made recommendations for maintaining all airfield pavements on the airport. The types of distress identified included longitudinal and transverse cracking, alligator cracking, and weathering. Study recommendations for maintenance of these pavements suggested a bituminous overlay consistent with the proposed scope of the project.

This project is eligible per FAA Order 5100.38D, Appendix H, Table H-4.a. & c. Reconfiguration of the taxiway system at ITH through partial removal of existing Taxiways "D" and "F", construction of new Taxiways "J" and "K", and rehabilitation of existing taxiway pavements "A", "E", and "F" preserves capacity and enhances safety of the national air transportation system thereby meeting PFC eligibility requirements of FAA Order 5500.1, Passenger Facility Charge, Section 4-7.

Project No. 6 – Construct New ARFF/SRE Building – Phase 2

PFC Level: \$4.50

Estimated Total Project Cost: \$18,580,000

Estimated Total PFC Eligible Cost (Eligible portion of County Share): \$711,000

Estimated Non-Financed Cost: \$14,203,000

Estimated Financed Cost: \$4,377,000 (County to finance)

Estimated PFC Eligible Bond Capital and Financing Cost: *TBD*

AIP Funding: \$12,781,000

Other Revenue (NYS Match): \$711,000

Estimated Construction Start Date: October 1, 2023

Estimated Completion Date: July 1, 2025

Description:

This project involves the construction of a new combined ARFF/SRE facility having an approximate footprint of 50,000 SF. This is the second of two construction phases, and will complete the program to replace the current joint-use Snow Removal Equipment & Crash/Fire/Rescue (CFR) Facility. Project components under this phase will include all architectural, structural, mechanical, electrical, and plumbing work associated with the new building, including installation of all primary utility services, pavement markings, exterior lighting, and wayfinding signage.

Justification:

In a Compliance Letter written to Ithaca Tompkins International Airport (ITH) on November 2, 2017 the FAA stated that the existing ARFF/SRE building site presents several clearance problems in the event of an emergency. Specifically, the tie-down apron area in front of the existing ARFF/SRE building is routinely occupied with aircraft, making it difficult for ARFF emergency vehicles to negotiate safely exiting the building and accessing the airfield during emergency response situations. In addition, the size of the newer replacement vehicles has resulted in very limited space within the current building, and has become a challenge to safely store and maneuver vehicles into and out of the building, jeopardizing the safe storage of these AIP-funded assets. A new building in a less congested area will reduce the chances of an incursion with ARFF vehicles and aircraft. In addition, the configuration of the existing ARFF/SRE Building is not optimized for efficiency and ARFF readiness. Providing a new facility of adequate configuration will protect the AIP-funded SRE and ARFF assets, improve overall safety, and enhance operational efficiency. The results of a 2020 feasibility study funded in FY18 justified the location for this new facility, the findings of which were accepted by the FAA. This project meets all applicable AIP eligibility requirements of Order 5100.38D, Airport Improvement Program Handbook including Appendix O, Section O-2, Table O-1, and Table O-3. Providing a new ARFF/SRE facility located in a less congested area enhances safety of the national air transportation system, thereby meeting PFC eligibility requirements of FAA Order 5500.1, Passenger Facility Charge, Section 4-7.

Project No. 7 – Acquire ARFF Vehicle & Equipment (Structural Firefighting Vehicle)

PFC Level: \$4.50
Estimated Total Project Cost: \$660,000
Estimated Total PFC Eligible Cost (County Share): \$33,000
Estimated Non-Financed Cost: \$660,000
Estimated PFC Eligible Bond Capital and Financing Cost: \$0
AIP Funding: \$540,000
Other Revenue (NYS Match): \$33,000
Estimated Start Date: October 1, 2024
Estimated Completion Date: February 1, 2026

Description:

This project includes the acquisition of a new aircraft rescue and firefighting (ARFF) structural firefighting vehicle meeting the requirements of FAA Advisory Circular 150/5220-10E and 14 CFR Part 139. The vehicle would be a rescue pumper that would be equipped with side-access water pumping ability, 1,000-1,500 gallon pump capacity, as well as a mechanical dual-agent discharge system (foam/dry chemical). The structural firefighting vehicle would be designed for extinguishing flammable and combustible liquid fuel fires, and equipped with elements such as a hydraulic ladder rack and emergency lighting. The structural vehicle would be stored on-airport and used to provide backup support to ARFF vehicles and protection to airport buildings. Additional equipment to be acquired under this project includes medical supply kits, firefighting tools, and personal protective gear and apparatus that will enhance the effectiveness of the vehicle and personnel in an emergency response situation.

Justification:

Ithaca Tompkins International Airport is listed on the 5010 Airport Master Record as a Part 139 Class One Airport, ARFF Index C. The ARFF fleet currently in place meets Index C requirements and is adequate to respond to aircraft incidences. However, the Airport lacks sufficient equipment to contend with a building (structural) fire. Sufficient equipment includes a rapid response vehicle equipped with a hydraulic ladder for use by fire rescue personnel and for retrieving people potentially trapped within a structure fire.

During a FY2020 CFR Part 139 inspection, it was determined that the response time for an off airport structural vehicle to respond to an on-airport structural fire **exceeded 10 minutes**. With the number of on-airport facilities in place that serve the public and are critical to airport operations, not having the proper equipment on hand presents a safety concern and jeopardizes the Airport's assets, many of which have received AIP funding. ARFF Structural Firefighting Vehicles are eligible per the AIP Handbook, Order 5100.38, Table L-2(b). A new structural vehicle enhances safety of the national air transportation system, thereby meeting PFC eligibility requirements of FAA Order 5500.1, Passenger Facility Charge, Section 4-7.

Project No. 8 – Rehabilitation Existing Runway Edge Lighting and Airfield Guidance Signs (Design Phase)

PFC Level: \$4.50
Estimated Total Project Cost: \$202,000
Estimated Total PFC Eligible Cost (County Share): \$79,250
Estimated Non-Financed Cost: \$202,000
Estimated PFC Eligible Bond Capital and Financing Cost: \$0
AIP Funding: \$181,800
Other Revenue (NYS Match): \$79,250
Estimated Start Date: October 1, 2025
Estimated Completion Date: July 1, 2027

Description:

This project includes the replacement of the existing runway edge lights with new high-intensity LED edge lights. Approximately 7,000 LF of runway pavement will have the edge lights rehabilitated (partially replaced). Rehabilitation of the lights will include replacing light fixture lenses, stem units, transformers, and cabling with new energy-efficient high-intensity elevated LED light units. Also included under this program will be the replacement of existing airfield guidance signage with new LED signs on new concrete bases. The project would also include improvements to the existing airfield lighting vault to replace the runway lighting and airfield signage regulators with smaller, more energy-efficient regulators. **This portion of the project will consist of the design and bidding phase.**

Justification:

Last replaced in 2004, the existing quartz-style runway edge lights are approaching the end of their useful service life of ten years. As a Part 139 certificate holder, Ithaca Tompkins International Airport is required to properly maintain the runway lighting system for air carrier use in accordance with FAR Part 139 Subpart D Section 139.311. This includes replacement of missing or nonfunctioning equipment. The existing junction cans have been observed to have standing water, indicating water has infiltrated the light cans and conduit system. During freezing temperatures, this water freezes and damages the light cable connectors, accelerating the reduction in the useful life of the lights. The airport has had lights intermittently go out of service throughout the winter seasons and maintenance costs on the system are increasing. New cabling and light units with watertight fittings is necessary to provide reliable lighting to enhance overall safety of the airport. Replacement of the obsolete quartz lighting system with new energy efficient LED fixtures will improve visibility and safety on the airport and would extend the useful life of the overall system.

The existing guidance signs were installed the same time as the edge lighting. Similarly, the interior components and intensity of the lighted signs have degraded. Additionally, since the signs are currently connected to the same electrical circuit as the runway edge lights, it would be incompatible to replace the lights with LED units without replacing the signs. A new dedicated electrical circuit would be required to retain the signs, which would be cost-prohibitive compared

to replacing the signs with new LED units. In accordance with FAA Engineering Brief (EB) 89: Taxiway Nomenclature Convention, which supplements FAA Advisory Circular (AC) 150/5340-18F, Standards for Airport Sign Systems, airports with single parallel taxiways and multiple stub taxiways may consider renaming the taxiway pavements using an alphanumeric naming convention (“A1”, “A2”, etc.). Upgrading the signage and renaming the taxiways under this project will promote better communications between aircraft operators, ATC personnel, Airport operations, and tenants. Given the age of the existing sign systems, and impending requirement for larger sign panels associated with the taxiway renaming efforts, it is anticipated that new concrete bases will be required and will be more cost-effective than retrofitting the existing sign bases. An analysis of the airfield lighting vault will be conducted to demonstrate a need to replace the runway lighting regulators to provide for more efficient and reliable operation.

This project meets all applicable AIP eligibility requirements of Order 5100.38D, Airport Improvement Program Handbook including Appendix J, Table J-4.c. Rehabilitating the runway lighting and signage to improve current lighting conditions and meet standards enhances safety of the national air transportation system, thereby meeting PFC eligibility requirements of FAA Order 5500.1, Passenger Facility Charge, Section 4-7.

Project No. 9 – Update Airport Master Plan & Pavement Management System

PFC Level: \$4.50
Estimated Total Project Cost: \$575,000
Estimated Total PFC Eligible Cost (County Share): \$28,750
Estimated Non-Financed Cost: \$575,000
Estimated PFC Eligible Bond Capital and Financing Cost: \$0
AIP Funding: \$517,500
Other Revenue (NYS Match): \$28,750
Estimated Start Date: October 1, 2024
Estimated Completion Date: August 1, 2025

Description:

This project includes an update to the 2012 Airport Master Plan and Airport Layout Plan (ALP) to assess the current and future needs at Ithaca Tompkins International Airport. This study will provide planning guidelines for the future development of the Airport to satisfy present and future aviation demand as well as current SOPs, along with considerations for maximizing economic development opportunities. The update of the airport master plan will take into consideration the full list of elements described in FAA Advisory Circular 150/5070-6B, including an updated Airport Layout Plan, updated property map, and an updated Airport Pavement Condition/Management Survey (APMS). An assessment of all sustainability/resiliency elements shall also be investigated as part of the plan. Updates to the aeronautical surveys and base mapping for the Airport Geographic Information System (AGIS) and ALP will be in accordance with Advisory Circulars 150/5300-16,-17, and -18 for a Part 139 Airport.

Justification:

With the majority of the capital development projects identified on the existing ALP completed or no longer effective, combined with the extent of non-AIP developments at the Airport, a review of the Airport's business model and priorities would be beneficial. A redevelopment of growth opportunities in and around the Airport have arisen, necessitating an overhaul to the Airport's Business Plan. General Aviation (GA) activity at ITH has continued to evolve, both in the number of operations and in the amount of infrastructure development that has occurred, and requires an update to that part of the business model to ensure future planning needs are considered for the next 10 – 20 year planning term. Consideration for both aeronautical and non-aeronautical development needs to be considered to correlate to the Airport's business model and shared-services initiatives, which were not part of overall planning considerations during the prior Master Plan. This Master Plan update will result in an FAA-approved Airport Layout Plan that reflects future conditions for the entire airport. Additionally, the current FAA TAF forecast differs from the previous master plan and requires a new study to develop a more accurate forecast. An updated Pavement Management Plan is required, as select airfield pavements have been undergoing rehabilitation over the past 10 years. An updated pavement condition survey will help prioritize maintenance activities as well as develop an airfield pavement capital program to sustain long-term performance. This project is eligible per FAA Order 5100.38D, Table E-2, Item c. The Passenger Boarding Bridge project enhances safety and security of the national air transportation system thereby meeting PFC eligibility requirements of FAA Order 5500.1, Passenger Facility Charge, Section 4-6a(2).

Project No. 10 – Rehabilitation Existing Runway Edge Lighting and Airfield Guidance Signs (Construction Phase)

PFC Level: \$4.50
Estimated Total Project Cost: \$1,585,000
Estimated Total PFC Eligible Cost (County Share): \$79,250
Estimated Non-Financed Cost: \$1,585,000
Estimated PFC Eligible Bond Capital and Financing Cost: \$0
AIP Funding: \$1,426,500
Other Revenue (NYS Match): \$79,250
Estimated Start Date: October 1, 2025
Estimated Completion Date: July 1, 2027

Description:

This project includes the replacement of the existing runway edge lights with new high-intensity LED edge lights. Approximately 7,000 LF of runway pavement will have the edge lights rehabilitated (partially replaced). Rehabilitation of the lights will include replacing light fixture lenses, stem units, transformers, and cabling with new energy-efficient high-intensity elevated LED light units. Also included under this program will be the replacement of existing airfield guidance signage with new LED signs on new concrete bases. The project would also include improvements to the existing airfield lighting vault to replace the runway lighting and airfield

signage regulators with smaller, more energy-efficient regulators. **This portion of the project will consist of the construction phase.**

Justification:

Last replaced in 2004, the existing quartz-style runway edge lights are approaching the end of their useful service life of ten years. As a Part 139 certificate holder, Ithaca Tompkins International Airport is required to properly maintain the runway lighting system for air carrier use in accordance with FAR Part 139 Subpart D Section 139.311. This includes replacement of missing or nonfunctioning equipment. The existing junction cans have been observed to have standing water, indicating water has infiltrated the light cans and conduit system. During freezing temperatures, this water freezes and damages the light cable connectors, accelerating the reduction in the useful life of the lights. The airport has had lights intermittently go out of service throughout the winter seasons and maintenance costs on the system are increasing. New cabling and light units with watertight fittings is necessary to provide reliable lighting to enhance overall safety of the airport. Replacement of the obsolete quartz lighting system with new energy efficient LED fixtures will improve visibility and safety on the airport and would extend the useful life of the overall system.

The existing guidance signs were installed the same time as the edge lighting. Similarly, the interior components and intensity of the lighted signs have degraded. Additionally, since the signs are currently connected to the same electrical circuit as the runway edge lights, it would be incompatible to replace the lights with LED units without replacing the signs. A new dedicated electrical circuit would be required to retain the signs, which would be cost-prohibitive compared to replacing the signs with new LED units. In accordance with FAA Engineering Brief (EB) 89: Taxiway Nomenclature Convention, which supplements FAA Advisory Circular (AC) 150/5340-18F, Standards for Airport Sign Systems, airports with single parallel taxiways and multiple stub taxiways may consider renaming the taxiway pavements using an alphanumeric naming convention ("A1", "A2", etc.). Upgrading the signage and renaming the taxiways under this project will promote better communications between aircraft operators, ATC personnel, Airport operations, and tenants. Given the age of the existing sign systems, and impending requirement for larger sign panels associated with the taxiway renaming efforts, it is anticipated that new concrete bases will be required and will be more cost-effective than retrofitting the existing sign bases. An analysis of the airfield lighting vault will be conducted to demonstrate a need to replace the runway lighting regulators to provide for more efficient and reliable operation.

This project meets all applicable AIP eligibility requirements of Order 5100.38D, Airport Improvement Program Handbook including Appendix J, Table J-4.c. Rehabilitating the runway lighting and signage to improve current lighting conditions and meet standards enhances safety of the national air transportation system, thereby meeting PFC eligibility requirements of FAA Order 5500.1, Passenger Facility Charge, Section 4-7.

Project No. 11 – Passenger Terminal Building Security Improvements – Phase 2 (Construction Phase)

PFC Level: \$4.50
Actual Total Project Cost: \$11,111,100
Actual Total PFC Eligible Cost (County Share): \$555,555
Actual Non-Financed Cost: \$11,111,100
Actual PFC Eligible Bond Capital and Financing Cost: \$0
AIP Funding (Grant #85-19): \$118,056
Other Revenue (NYS Match): \$555,555
Actual Start Date: March 18, 2019
Actual Physical Completion Date: December 31, 2019

Description:

Tompkins County/Ithaca Tompkins International Airport had undertaken a transformative terminal expansion program to meet present-day passenger security clearance requirements and current passenger demand. Work under this phase of the project expanded the building by 8,500 SF, including an expanded and reconfigured passenger security checkpoint screening area, expanded concourse and passenger hold room space, expanded public restrooms (pre- and post-security), and expanded gate areas with new seating. Other improvements included upgrades to the lobby area (lighting, wayfinding signage), public area concession improvements (pre-security café area, post-security eatery and kitchen), a new curbside overhead canopy, enclosed passenger entryway and sidewalk areas, one new passenger boarding bridge (New Gate 2), and one rehabilitated boarding bridge (New Gate 3). To accommodate post 9-11 security enhancements, the passenger screening area was expanded to accommodate new baggage screening operations and screening equipment. This was the second of two overall construction phases. The first phase was funded by Tompkins County and NYSDOT to address various building upgrades in advance of the second phase, as well as improve AIP ineligible portions of the terminal building.

Justification:

The previous terminal building was undersized to meet current passenger circulation and queuing needs and did not meet present-day security standards. This project had been included on the Airport's ALP and ACIP, and addressed much needed improvements including passenger screening area expansion, increased hold room space and seating, new passenger boarding bridges, and new passenger amenities including updated concessions areas. This project meets all applicable AIP eligibility requirements of Order 5100.38D, Airport Improvement Program Handbook including Appendix N, Tables N-5 and N-6. Expanding and modernizing the Passenger Terminal Building to improve passenger screening, passenger queuing, and circulation needs to meet standards enhances safety of the national air transportation system, thereby meeting PFC eligibility requirements of FAA Order 5500.1, Passenger Facility Charge, Section 4-7.

Project No. 12 – Construct ARFF Building (Feasibility Study)

PFC Level: \$4.50
Actual Total Project Cost: \$136,111
Actual Total PFC Eligible Cost (County Share): \$6,558
Actual Non-Financed Cost: \$136,111
Actual PFC Eligible Bond Capital and Financing Cost: \$0
AIP Funding (Grant #82-18): \$118,056
Other Revenue (NYS Match): \$6,558
Actual Start Date: September 1, 2018
Actual Completion Date: October 1, 2020

Description:

Ithaca Tompkins International Airport received FAA AIP grant assistance to pursue the development of a new combined ARFF/SRE building on Airport property to replace the existing facility (CFR Building) being used to store ARFF/SRE vehicles and equipment. A feasibility study was necessary to review alternate locations on the airport for a new ARFF/SRE facility that would allow emergency vehicles to respond to the site in an expeditious manner while reducing the risk of an incursion between ARFF vehicles and aircraft. As part of this project, time trials were conducted to determine ARFF response times based on each of the three building site locations being considered. Upon determination of the preferred project site, topographic survey was obtained for the preferred site, and a preliminary building size was determined to develop programming costs and evaluate conceptual eligibility for future AIP grant funds.

Justification:

In a Compliance Letter written to Ithaca Tompkins International Airport (ITH) on November 2, 2017 the FAA stated that the existing ARFF/SRE building site presents several clearance problems in the event of an emergency. Specifically, The aircraft that routinely exist at the tie-down apron area in front of the ARFF/CFR building make it difficult for ARFF vehicles to safely negotiate the exiting of the building to access the airfield during emergency response situations. In addition, the size of the newer replacement vehicles has resulted in very limited space within the current building, and has become a challenge to safely store and maneuver vehicles into and out of the building, jeopardizing the safe storage of these AIP-funded assets. A new building in a less congested area will reduce the chances of an incursion with ARFF vehicles and aircraft. In addition, the configuration of the existing ARFF/SRE Building is not optimized for efficiency and ARFF readiness. Providing a new facility of adequate configuration will protect the AIP-funded SRE and ARFF assets, improve overall safety, and enhance operational efficiency. The results of a 2020 feasibility study funded in FY18 justified the location for this new facility, the findings of which were accepted by the FAA. This project meets all applicable AIP eligibility requirements of Order 5100.38D, Airport Improvement Program Handbook including Appendix O, Section O-2, Table O-1, and Table O-3. Providing a new ARFF/SRE facility located in a less congested area enhances safety of the national air transportation system, thereby meeting PFC eligibility requirements of FAA Order 5500.1, Passenger Facility Charge, Section 4-7.

Project No. 13 – PFC Project Administration

PFC Level: \$4.50

Estimated Total Project Cost: \$30,800

Estimated Total PFC Eligible Cost: \$30,800

Estimated Non-Financed Cost: \$30,800

Estimated PFC Eligible Bond Capital and Financing Cost: \$0

AIP Funding: \$0

Other Revenue (NYS Match): \$0

Estimated Start Date: November 1, 2021

Estimated Completion Date: December 30, 2025

Description:

Provide reimbursement for the costs incurred in the preparation of the PFC application, general administration of the program including maintaining accounting records and submitting reports as required, performing annual audits, and preparation of documents for closeout of the program.

Justifications:

Public agencies may use PFC revenues to pay for the allowable administrative support costs during the life of the Passenger Facility Charge program as described in 14 CFR Part 158. This project is being undertaken to allow recovery of PFC allowable eligible projects. The PFC Project Application contains projects that meet PFC project eligibility criteria by preserving or enhancing the safety, security, and capacity of the national air transportation system.