



**COMMISSION
AGENDA
MEMORANDUM**

ACTION ITEM

Item No. 8h

Date of Meeting October 24, 2023

DATE: October 12, 2023

TO: Stephen P. Metruck, Executive Director

FROM: Eileen Francisco, Director Aviation Project Management
Laurel Dunphy, Director Airport Operations
Keri Stephens, Director Aviation Facility and Capital Program

SUBJECT: 2024 Airfield Projects - Contract 1 (CIP# C800930 and C801177)

Amount of this request: \$50,500,000

Total estimated project cost: \$200,300,000

ACTION REQUESTED

Request Commission authorization for the Executive Director to (1) advertise and execute a construction contract for 2024 Airfield Projects - Contract 1; (2) transfer budget/authorization, as necessary, between the 2024 Airfield Projects; (3) transfer budget/authorization for Gate B11 Passenger Loading Bridge (PLB) civil foundation from CIP C801180 PLB Phase 3 Project to CIP C800930 2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program; (4) procure long lead items; (5) include a Project Labor Agreement for the contract; and (6) authorize use of Port crews for abatement work.

2024 Airfield Projects – Contract 1 encompasses federally funded pavement and utility infrastructure. The amount of this authorization request is \$50,500,000.

EXECUTIVE SUMMARY

This construction contract is comprised of two interdependent Capital Improvement Projects (CIPs). These projects have overlapping work areas and design functionality, interdependent operational impacts, and share 2024 schedule milestones. They both encompass federally funded pavement and utility infrastructure scope. As such they were planned, designed, and phased to be delivered concurrently for purposes of Airfield safety, efficiency, and minimization of operational impacts.

The below table details the CIPs and corresponding authorizations requested. The total estimated project cost for each CIP is also included. Total authorizations to date for each of these CIP is included in the Financial Implications section of this memo.

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CIP Name/#	Amount of this Request	Total Estimated Project Cost
2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program C800930	\$32,620,000	\$160,027,559
Airfield Utility Improvement C801177	\$17,880,000	\$40,272,441
Total	\$50,500,000	\$200,300,000

The capital projects (C800930 & C801177) receive federal grant funding for eligible items meeting FAA standards with an anticipated FAA grant reimbursement of \$8,000,000 for the year 2024 and a total of \$50,000,000 expected for the life of the program.

JUSTIFICATION

The two projects being co-delivered via the 2024 Airfield Projects - Contract 1 consist of a variety of physically and functionally interdependent Capital Improvements designed to renew and replace failing infrastructure, ensure continued operational safety and security, and meet SEA’s regulatory requirements. The purpose of each project (CIP) is summarized below:

- The 2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program is an ongoing program of airfield pavement replacement and is required to provide safe and efficient conditions for aircraft operations and meet Federal Aviation Administration (FAA) requirements.
- Airfield Utility Improvement (AUI) is an ongoing project to replace aging, failing, and over-capacity utility systems serving the existing terminal and apron areas.

This request includes authorization to transfer Gate B11 PLB civil foundation scope and authorization from the PLB Phase 3 project to the 2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program to align scope, construction schedule and minimize impacts to airfield operation. The gate B11 civil foundation was authorized by Commission on April 18th, 2023, for design and construction under CIP C801180 with the amount of \$600,000.

Diversity in Contracting

The project staff, in coordination with the Diversity in Contracting Department, have established a federal Disadvantaged Business Enterprises (DBE) goal at 8%. 2024 Airfield Projects – Contract 1 will include the DBE goal in the procurement of the construction contract. The DBE achievement for 2021 airfield project was 10.46%, and 2022 projects was 10.78%. The 2023 projects are under construction with a DBE goal of 8%.

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DETAILS

These projects will interface with other projects and airline operations. Continual coordination with Airport Operations, Airlines, and related Tenants will ensure the least possible operational impact during construction.

A project labor agreement will be used for these projects based on the importance of labor continuity and the need to minimize any risk of impact to operations during construction.

Scope of Work

The 2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program replaces distressed airfield pavements, joint sealant, and supporting infrastructure at the Airport. Airfield work under this program in 2024 includes Taxilane W pavement, apron joint sealant, and supporting infrastructure between Concourse B and the Central Terminal. Staff will procure long lead items including miscellaneous frames and covers for airfield utilities.

The AUI project is a three-year project to replace aging, failing, and over-capacity utility systems serving the existing terminal and apron areas. The 2024 AUI scope is located on the north side of the South Concourse, Concourse B and the Central Terminal and includes sanitary sewer, domestic water, power, communications, and the Industrial Wastewater System (IWS).

Schedule

Activity

Construction Contract #	Contract #1
Construction start	2024 Quarter 2
In-use date	2024 Quarter 4

Cost Breakdown

This Request

Total Project

2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Prog. (C800930)		
Design	\$0	\$16,000,000
Construction	\$32,620,000	\$144,027,559
Total	\$32,620,000	\$160,027,559
Airfield Utility Improvements (C801177)		
Design	\$0	\$4,283,000
Construction	\$17,880,000	\$35,989,441
Total	\$17,880,000	\$40,272,441

ALTERNATIVES AND IMPLICATIONS CONSIDERED

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Alternative 1 – Proceed only with Airfield Pavement and Supporting Infrastructure Replacement Program scope. Do not proceed with the project scope in the Airfield Utility Improvements which includes sanitary sewer main pipe, domestic water, power, and the Industrial Wastewater System (IWS)

Cost Implications: \$32,620,000 in Capital Cost for 2024 Airfield Pavement and Supporting infrastructure Replacement Project.

Pros:

- (1) Reduced capital spending in 2024.
- (2) Less construction impacts to airport/airline operations in 2024.
- (3) Grant funded pavement renewal and replacement work still proceeds.

Cons:

- (1) Risk of both: a failed sanitary sewer and water system to Main Terminal and South Concourse operations.
- (2) Sewer capacity will not meet current or future needs of the Main Concourse C, and South Concourse.
- (3) Will cause future operational impacts to repair, replace, or install other utilities in the same areas.

This is not the recommended alternative.

Alternative 2 – Construct each individual project with separate construction contracts.

Cost Implications: \$54,000,000 in Capital Cost to deliver the projects via two major construction contracts, \$3,500,000 more than delivering via one major construction contract as proposed by the recommended alternative.

Pros:

- (1) Less complexity for budget tracking during construction.

Cons:

- (1) Reduced efficiencies due to rework and separate jurisdictional coordination such as with the FAA.
- (2) Additional labor costs for contractor on-boarding and mobilizations, double-project ramp up and close out.
- (3) Increased coordination required between overlapping projects.
- (4) Increased construction safety risk due to overlapping work areas.
- (5) Additional and recurring impacts to airfield operations until all efforts are completed.

This is not the recommended alternative.

Alternative 3 – Move forward to construct both projects as a single coordinated effort.

Cost Implications: \$50,500,000

Pros:

- (1) Reduces safety risks, minimizes operational impacts and increases efficiencies as coordination and construction is managed as a single effort.

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- (2) Minimizes time to completion, limiting exposure to future cost increases, while delivering benefits expeditiously.
- (3) Programmatic replacement of aged and distressed pavements and related infrastructures.

Cons:

- (1) Earlier capital spending in 2024.

This is the recommended alternative.

FINANCIAL IMPLICATIONS

2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program (C800930) - Cost Estimate/Authorization Summary

<i>Cost Estimate</i>	Capital	Expense	Total
COST ESTIMATE			
Original estimate	\$155,740,000	\$560,000	\$156,300,000
Previous changes – net	\$3,727,559	\$0	\$3,727,559
Revised estimate	\$159,467,559	\$560,000	\$160,027,559
AUTHORIZATION			
Previous authorizations	\$113,062,000	\$360,000	\$113,422,000
Current request for authorization	\$32,620,000	\$0	\$32,620,000
Total authorizations, including this request	\$145,682,000	\$360,000	\$146,042,000
Remaining amount to be authorized	\$13,785,559	\$200,000	\$13,985,559

Airfield Utility Improvements (C801177) – Cost Estimate/Authorization Summary

<i>Cost Estimate</i>	Capital	Expense	Total
COST ESTIMATE			
Original estimate	\$34,592,000	\$0	\$34,592,000
Previous changes – net	\$5,680,441	\$0	\$5,680,441
Revised estimate	\$40,272,441	\$0	\$40,272,441
AUTHORIZATION			
Previous authorizations	\$5,267,641	\$0	\$5,267,641
Current request for authorization	\$17,880,000	\$0	\$17,880,000
Total authorizations, including this request	\$23,147,641	\$0	\$23,147,641

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Remaining amount to be authorized	\$17,124,800	\$0	\$17,124,800

Annual Budget Status and Source of Funds

The capital projects (C800930 & C801177) receive federal grant funding for eligible items meeting FAA standards with an anticipated FAA grant reimbursement of \$8,000,000 for the year 2024 and a total of \$50,000,000 expected for the life of the program.

2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program (CIP C800930)

This project was included in the 2022-2026 capital budget and plan of finance with a budget of \$152,940,000. The capital increase of \$6,527,559 was transferred from the Aeronautical Allowance¹ CIP C800753 resulting in no net change to the Airport capital budget. This project has a Majority-In-Interest approval from the airlines in January 2020. The funding sources will be the Airport Development Fund, AIP grants, and revenue bonds.

Airfield Utilities Improvements (AUI) - (CIP C801177)

This project was included in the 2022-2026 capital budget and plan of finance with a budget of \$46,200,000. The capital decrease of \$5,927,449 was transferred to the Aeronautical Allowance¹ CIP C800753 resulting in no net change to the Airport capital budget. This project has a Majority-In-Interest approval from the airlines in September 2021. The funding sources would be Airport Development Fund and Airport Revenue Bonds.

Financial Analysis and Summary

C800930 2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program

Project cost for analysis	\$159,467,559
Business Unit (BU)	Airfield movement and Airfield apron
Effect on business performance (NOI after depreciation)	NOI after depreciation will increase due to inclusion of capital (and operating) costs in airline rate base
IRR/NPV (if relevant)	N/A
CPE Impact	Total project cost CPE of 0.35 in 2026; annual CPE of 0.10

C801177 Airfield Utility Improvements

Project cost for analysis	\$40,272,441
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¹ The Aeronautical Allowance is included in the Capital Improvement Plan to ensure funding capacity for unspecified projects, cost increases for existing projects, new initiatives, and unforeseen needs. This ensures funding capacity for unanticipated spending within the dollar amount of the Allowance CIP.

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Business Unit (BU)	Airfield movement and airfield apron
Effect on business performance (NOI after depreciation)	NOI after depreciation will increase due to inclusion of capital (and operating) costs in airline rate base
IRR/NPV (if relevant)	N/A
CPE Impact	\$0.13 in 2026

Future Revenues and Expenses (Total cost of ownership)

2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program (CIP C800930)

The AIP project will not have an impact on annual Aviation Maintenance Operating and Maintenance (O&M) costs for the pavement assets. This project may lead to a reduction in the amount of time currently spent by the Port Maintenance team on joint seal and pavement spall repairs. After implementing the project, the improved portions of the pavement will have a renewed 40-year asset life and a greatly reduced risk of the pavement producing loose gravel and rock Foreign Object Debris (“FOD”) that could be picked up by vehicle tires or blown by jet engine exhaust and spread across the apron, taxiways and runways.

Airfield Utilities Infrastructure (AUI) (CIP C801177)

The AUI project will not have an impact on annual Aviation Maintenance O&M costs for mechanical or electrical systems and may lead to a reduction in the amount of time currently spent by the field crew on pipe inspections due to the current condition of the water and sewer systems. After implementing the project, the improved portions of the water and sewer systems will have a renewed 50-year asset life and a greatly reduced risk of failures, emergency repair and maintenance work, and impacts to operations.

ATTACHMENTS TO THIS REQUEST

- (1) Presentation slides

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program (CIP C800930)

October 25, 2022 – The Commission authorized the Executive Director to (1) advertise, execute two separate construction contracts, and transfer budget/authorization, as necessary, among the 2023 Airfield Projects; (2) procure long lead items; (3) include a Project Labor Agreement for both contracts; (4) authorize use of Port crews for abatement work. The amount of this authorization request is \$67,153,000. The total estimated cost for all projects included in this authorization is \$255,945,000.

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November 16, 2021 - The Commission authorized the Executive Director to (1) advertise and execute a major works construction contract and (2) include a Project Labor Agreement for the 2022 Airfield Pavement and Supporting Infrastructure Replacement Project, at the Seattle-Tacoma International Airport. This authorization is for \$24,000,000 with a total authorized to date of \$79,195,000 and a previously approved total 2021-2025 program budget of \$153,500,000.

August 10, 2021 – The Commission authorized the Executive Director to advertise and award a major public works contract to replace the North Runway Protection Zone Culvert (NRPZ Culvert), a year 2022 component of the 2021 to 2025 Airfield Pavement and Supporting Infrastructure Replacement Program. This construction authorization is for \$3,800,000 for a total program authorization to date of \$55,195,000. The total 2021-2025 program cost is \$153,500,000.

November 10, 2020 – The Commission authorized the Executive Director to (1) advertise and execute a major works construction contract and (2) include a project labor agreement for the replacement of distressed pavements and supporting infrastructure for the 2021 portion of the 2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program at the Seattle-Tacoma International Airport. This construction authorization is for \$37,900,000 for a total authorization to date of \$51,395,000. The total 2021-2025 program cost is \$153,500,000.

October 22, 2019 – The Commission authorized the Executive Director to authorize design and preparation of construction documents for the 2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Projects at the Seattle-Tacoma International Airport in the amount of \$16,000,000 and approve the use of a project labor agreement (PLA) for each year's construction contract.

Airfield Utilities Infrastructure (AUI) (CIP C801177)

October 25, 2022 – The Commission authorized the Executive Director to (1) advertise, execute two separate construction contracts, and transfer budget/authorization, as necessary, among the 2023 Airfield Projects; (2) procure long lead items; (3) include a Project Labor Agreement for both contracts; (4) authorize use of Port crews for abatement work. The amount of this authorization request is \$67,153,000. The total estimated cost for all projects included in this authorization is \$255,945,000.

August 10, 2021 – The Commission authorized the Executive Director to (1) complete design and prepare construction documents for the Airfield Utilities Infrastructure (AUI) project at Seattle-Tacoma International Airport (SEA) and (2) enter into reimbursable agreements with the Federal Aviation Administration. This design authorization is for an amount of \$6,300,000 out of a total estimated project cost of \$46,200,000.

Passenger Loading Bridge (PLB) Renewal and Replacement Phase 3 (CIP C801180)

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April 18, 2023 – The Commission authorized the Executive Director to (1) Increase the project scope and associated budget by \$1,000,000 for a final revised total budget of \$15,000,000 and, (2) Purchase one PLB and associated equipment for Gate B11.