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COMMISSION**AGENDA****MEMORANDUM** Item No. 10a**ACTION ITEM** Date of Meeting March 12, 2024**DATE:** March 5, 2024**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 2 (CIP# C800930 and C801333)

Amount of this request: \$13,074,500

Total estimated combined \$189,650,500

project cost:

ACTION REQUESTED

Request Commission authorization for the Executive Director to (1) advertise and execute a construction contract for 2024 Airfield Projects—Contract 2; (2) transfer budget/authorization, as necessary, between the 2024 Airfield Projects; (3) procure long lead items; (4) include a Project Labor Agreement for the contract; and (5) authorize use of Port crews for abatement work.

The amount of this authorization request is \$13,074,500.

EXECUTIVE SUMMARY

This construction contract is comprised of two interdependent Capital Improvement Projects (CIP).

The two projects have overlapping work areas and design functionality, interdependent operational impacts, and share 2024 schedule milestones. They both encompass airfield 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 purpose of each CIP is summarized below:

- C800930: The 2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program (APSIRP) replaces distressed airfield pavements, joint sealant, and supporting infrastructure at SEA. The APSIRP portion of 2024 Airfield Projects—Contract 2 includes Concourse A channel drain replacement, N Concourse channel drain and fire hydrant vault cover replacement, and miscellaneous airfield pavement replacement (Taxiway B, Taxiway C, Taxilane W, N Concourse Taxilane, and A Concourse apron).

Template revised January 10, 2019.

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- C801333: The N14 Wide-Body (WB) and N15 Narrow-Body (NB) Common Use Gates Program converts Gate N14 to be able to be used for NB and WB aircraft operations to accommodate gate closures that will be taken out of service because of upcoming planned construction projects.

JUSTIFICATION

The two projects being delivered via 2024 Airfield Projects—Contract 2 consist of physically and functionally interdependent Capital Improvements designed to renew and replace failing infrastructure, ensure continued operational safety and efficiency, and meet Seattle-Tacoma International Airport (SEA) regulatory requirements.

Diversity in Contracting

The project staff, in coordination with the Diversity in Contracting Department, have set a 14% Woman and Minority Business Enterprise (WMBE) aspirational goal.

DETAILS

These projects will interface with other projects and airline operations. Continual coordination with Airport Operations, the FAA, 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 APSIRP replaces distressed airfield pavements, joint sealant, and supporting infrastructure at the Airport. The APSIRP portion of 2024 Airfield Projects—Contract 2 includes the following:

- (1) Concourse A channel drain replacement
- (2) N Concourse channel drain replacement.
- (3) N Concourse fire hydrant vault cover replacements at Gates N13 and N15, and
- (4) Miscellaneous airfield pavement replacement.
 - a. Taxiway B.
 - b. Taxiway C.
 - c. Taxilane W.
 - d. N Concourse Taxilane.
 - e. A Concourse apron.

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The N14 WB and N15 NB Common Use Gates Program modifies Gate N14 to be used for WB aircraft operations to accommodate gate closures that will be taken out of service because of upcoming planned construction projects. The N14 WB and N15 NB Common Use Gates portion of 2024 Airfield Projects–Contract 2 includes the following:

- (1) Apron pavement replacement at Gates N14, N15, and N16.
- (2) Supplemental High Mast lighting installation at Gate N14.
- (3) PCAir unit for WB aircraft at Gate N14.
- (4) 400 Hz power unit for WB aircraft at Gate N14.
- (5) SafeDock aircraft guidance system unit for WB aircraft at Gate N14.
- (6) Airfield markings (striping) at Gates N14, N15, and N16.
- (7) Fuel hydrant pits and associated infrastructure.
 - a. Two at Gate N14.
 - b. One at Gate N16.

Schedule

Activity

Construction Contract # Contract #2

Construction start 2024 Quarter 3

In-use date 2025 Quarter 2

Cost Breakdown This Request Total Project

2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Prog. (C800930)

Design \$0 \$16,000,000

Construction \$7,864,000 \$164,270,000

Total \$7,864,000 \$180,270,000

N14 WB and N15 NB Common Use Gates (C801333)

Design \$0 \$1,670,000

Construction \$5,210,500 \$7,710,500

Total \$5,210,500 \$9,380,500

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1 – Proceed only with C800930 APSIRP scope. Do not proceed with the C801333

N14 WB and N15 NB Common Use Gates Program scope.

Cost Implications: \$7,864,000 in Capital Cost for 2024 Airfield Pavement and Supporting infrastructure Replacement Project.

Pros:

- (1) Reduced capital spending in 2024 and 2025.
- (2) Less complexity for budget tracking during construction.
- (3) Gates N13 and N16 operations continue without interruption.
- (4) Distressed airfield pavement will be replaced.

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Cons:

- (1) Gate N14 not fully capable to accommodate WB aircraft.
- (2) No hydrant fueling capability for current interim WB aircraft position at Gate N14.
- (3) Gate N16 not fully capable to accommodate WB aircraft.
- (4) Slower WB aircraft turns due to slower fueling operations at Gate N16.
- (5) Loss of fuel system redundancy in the event existing FHP at Gate N16 requires

maintenance or in the event of aircraft maintenance on the port side of the WB aircraft at Gate N16.

This is not the recommended alternative.

Alternative 2 – Proceed only with C801333 N14 WB and N15 NB Common Use Gates scope. Do not proceed with the C800930 APSIRP scope.

Cost Implications: \$7,710,500 in Capital Cost for N14 WB and N15 NB Common Use Gates project.

Pros:

- (1) Reduced capital spending in 2024.
- (2) Less complexity for budget tracking during construction.
- (3) Less construction impacts to airport/airline operations in 2024.
- (4) Gate N14 fully capable of accommodating WB aircraft.
- (5) Gate N16 fully capable of accommodating WB aircraft.
- (6) Meet current airport operational demand.
- (7) Help mitigate the impacts of WB aircraft gate outages during planned construction.

Cons:

(1) Risk of airfield pavement failure at multiple locations:

- o Taxiway B.
- o Taxiway C.
- o Taxiway W.
- o N Concourse Taxiway.
- o A Concourse apron.

(2) Risk of failure of IWS and catch basins.

(3) Risk of failure of fire hydrant vault lids.

(4) Deferred resiliency improvements to Industrial Wastewater System (IWS) at Gate A3.

This is not the recommended alternative.

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Alternative 3 – Construct each individual project with separate construction contracts.

Cost Implications: \$16,363,000 in total Capital Cost to deliver the projects via two major construction contracts, \$788,500 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 and potential rework due to overlapping projects/contractors.
- (2) Additional labor costs for contractor on-boarding and mobilizations, double-project ramp up and close out.
- (3) Increased coordination required between overlapping projects/contractors.
- (4) Increased construction safety risk due to overlapping projects/contractors.
- (5) Additional and recurring impacts to airfield operations until all efforts are completed.
- (6) Additional Phasing Required.

This is not the recommended alternative.

Alternative 4 – Move forward to construct both projects as a single coordinated effort.

Cost Implications: \$15,574,500.

Pros:

- (1) Reduces safety risks, minimizes operational impacts, and increases efficiencies as coordination and construction is managed as a single effort.
- (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.
- (4) Gates N14 and N16 fully capable of accommodating WB aircraft.
- (5) Meet current airport operational demand.
- (6) Help mitigate the impacts of WB aircraft gate outages during planned construction.

Cons:

- (1) Earlier capital spending in 2024 and 2025.

This is the recommended alternative.

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FINANCIAL IMPLICATIONS

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

Cost Estimate/Authorization Summary

Cost Estimate Capital Expense Total

COST ESTIMATE

Original estimate \$155,740,000 \$560,000 \$156,300,000

Previous changes – net \$23,970,000 \$0 \$23,970,000

Revised estimate \$179,710,000 \$560,000 \$180,270,000

AUTHORIZATION

Previous authorizations \$145,682,000 \$360,000 \$149,159,641

Transfer from C801177 AF Utility \$3,117,641 \$0 \$3,117,641

Current request for authorization \$7,864,000 \$0 \$7,864,000

Total authorizations, including this request \$156,663,641 \$360,000 \$157,023,641

Remaining amount to be authorized \$23,046,359 \$200,000 \$23,246,359

N14 WB and N15 NB Common Use Gates (C801333)

Cost Estimate/Authorization Summary

Cost Estimate Capital Expense Total

COST ESTIMATE

Original estimate \$9,380,500 \$0 \$9,380,500

Previous changes – net \$0 \$0 \$0

Revised estimate \$9,380,500 \$0 \$9,380,500

AUTHORIZATION

Previous authorizations \$4,170,000 \$0 \$4,170,000

Current request for authorization \$5,210,500 \$0 \$5,210,500

Total authorizations, including this request \$9,380,500 \$0 \$9,380,500

Remaining amount to be authorized \$0 \$0 \$0

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Annual Budget Status and Source of Funds

2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program

(CIP C800930)

This project was included in the 2024-2028 capital budget and plan of finance with a budget of \$159,467,559. The capital increase of \$20,242,441 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. The capital project C800930 receives 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.

N14 WB and N15 NB Common Use Gates (CIP C801333)

This project was included in the 2024-2028 capital budget and plan of finance with a budget of \$9,380,500. The funding sources would be the Airport Development Fund and existing Airport Revenue Bonds.

Financial Analysis and Summary

C800930 2021-2025 Airfield Pavement and Supporting Infrastructure Replacement Program

Project cost for analysis \$180,270,000

Business Unit (BU) Airfield movement and Airfield Apron Area

Effect on business performance NOI after depreciation will increase due to inclusion of (NOI after depreciation) capital (and operating) costs in airline rate base.

IRR/NPV (if relevant) N/A

CPE Impact Total project cost CPE of \$0.43 in 2026; annual CPE of \$0.12

C801333 N14 WB and N15 NB Common Use Gates

Project cost for analysis \$9,380,500

Business Unit (BU) Gates

Effect on business performance NOI after depreciation will increase due to inclusion of (NOI after depreciation) capital (and operating) costs in airline rate base.

IRR/NPV (if relevant) N/A.

CPE Impact \$0.03 in 2026

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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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.

N14 WB and N15 NB Common Use Gates (CIP C801333).

An increase in annual operating & maintenance (O&M) costs is anticipated as a result of this project providing additional infrastructure to support larger aircraft activity. This will primarily affect the Electronic Technicians, with having an additional SafeDock unit, boarding gate readers, cameras, access controls and common use equipment to maintain in support of widebody operations. This will result in an annual increase of approximately 240 labor hours for Electronic Technicians.

ATTACHMENTS TO THIS REQUEST

(1) Presentation slides.

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

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

October 24, 2023 – The Commission authorized 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.

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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.

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.

N14 WB and N15 NB Common Use Gates (CIP C801333)

August 8, 2023 – The Commission authorized the Executive Director to complete final design, prepare construction bid documents, and procure long-lead material items for the N14 Wide Body and N15 Narrow Body Common-Use Gates at Seattle-Tacoma International Airport (SEA). The amount of this authorization request was \$3,875,000 for a total authorization of \$4,170,000.

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