

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA

Item No.	<u>6d</u>
Date of Meeting	<u>July 26, 2011</u>

DATE: July 20, 2011

TO: Tay Yoshitani, Chief Executive Officer

FROM: Michael Ehl, Director, Airport Operations
Wayne Grotheer, Director, Aviation Capital Improvement Program

SUBJECT: Design for Pavement and Joint Seal Replacement. (CIP # C102573)

Amount of This Request: \$465,000 **Source of Funds:** ADF

Total Program Cost: \$30,800,000 for a multi-year program.

ACTION REQUESTED:

Request Port Commission to authorize the Chief Executive Officer to complete the design and perform any advance work in support of the 2012 Pavement and Joint Sealant Project for non-runway concrete pavement panels and joint seal replacement, spall repair and associated or temporary facilities, such as striping, lighting, etc., on the Aircraft Operations Area in anticipation of a 2012 construction contract. Budget requested for this work is \$465,000 out of an estimated total program cost of \$30,800,000 for the multi-year program.

SYNOPSIS:

The Airport Airfield is a very large area where a variety of design and construction activity must occur each year. As a result, multiple requests for authorization can reach the Commission each year. This July 26th Commission meeting includes three separate authorization requests. The work area for this particular authorization is shown on Attachment A.

This authorization continues progress on a multi-year, non-runway airfield pavement replacement program begun in 2010. This project will produce the final design for non-runway concrete pavement panels and joint seal replacement, spall repair, and associated or temporary facilities such as striping, lighting, etc. on the Aircraft Operations Area (AOA) in anticipation of a 2012 construction contract. The design is being performed by the Port's Engineering department. The design will include utilities and other scope items related to the project. The final design will be completed in early 2012. Port staff will return to the Commission in early 2012 to request authorization to advertise and award a major construction contract and to provide construction funding.

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The scope of work associated with the advance work includes the design of temporary measures needed to mitigate airline impacts due to anticipated gate closures. Closure of gates may be required by the construction of the project and may cause reassignment of domestic and international flights on multiple concourses. Advance work to mitigate these impacts may be required to allow the major construction to occur during the 2012 construction season without delay. The temporary measures may include infrastructure modification to existing gates, signage, and other items to accommodate airline gate reassignments. Budget for this advance work is in this request and is estimated to be less than \$300,000. Advance work may include the use of Port Crews, consulting services, small works contractors, and/or pre-purchasing some materials and equipment related to the temporary measures.

BACKGROUND:

Airport staff has been and is continuing to conduct visual surveys of the non-runway pavement on the airfield to determine which pavement needs replacing and in what sequence. The extent of the panel and joint seal replacement in 2012 will be based upon this ongoing monitoring. The concrete and joint seal work must occur in a phased sequence, to minimize impacts to the airlines and the airport patrons. Airport staff has identified multiple locations on taxiways, taxilanes, and ramp areas for replacement, due to the deteriorating condition of the pavement, which is at the end of its useful life. The proposed work in 2012 will focus on replacing pavement as well as associated utilities in a number of locations on the AOA.

Typical degradation of the concrete is occurring. Joint seal in the area has also degraded and in some cases is nonexistent.

This project is part of a multi-year program to replace some of the worst pavement and joint seal on the airfield. The project will generally replace the most critical pavement first, but will include other pavement sections when it makes sense. The criticality and order of the pavement replacement may change over time, based on pavement deterioration, operational impacts, and available budget. The total 2012 project cost will be developed when the scope of panel, joint seal and associated items replacement, impact to taxilanes and taxiways, and phased sequencing have been determined during the design phase. The overall program amount is \$30.8 million, of which \$6,629,000 has been previously authorized for panel and joint seal replacement

PROJECT JUSTIFICATION:

In areas around the AOA, the age of the existing concrete is resulting in cracked and damaged panels. There are areas of pavement throughout the AOA that need to be replaced. Concrete debris resulting from the deteriorating pavement can become a hazard for aircraft and personnel.

This project may displace airline operations at various gates located throughout the airport as well as taxiway and taxilane configurations. Advance work, internal and external to the terminals, may be necessary to facilitate airline temporary relocations.

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PROJECT STATEMENT AND OBJECTIVES:

Project Statement:

Perform the concrete pavement panel and joint seal replacement final design including any temporary modifications necessary to accommodate airline reassignments.

Project Objectives:

Complete the final design for the pavement and joint seal replacement and advance work in preparation for construction beginning in spring of 2012.

PROJECT SCOPE OF WORK AND SCHEDULE:

Scope of Work:

Produce final design for the apron pavement, and joint seal replacement. The design will include utilities, temporary striping and lighting and other scope items related to the project. The final design will be completed by early 2012. Construction is anticipated in 2012.

Schedule:

100% Design	December 2011
Commission Authorization	January 2012
Advertise for Bids	January 2012

FINANCIAL IMPLICATIONS:

Budget/Authorization Summary:

Original Budget	\$30,800,000
Budget Increase	\$0
Revised Budget	\$30,800,000
Previous Authorizations this CIP	\$6,629,000
Current request for authorization	\$465,000
Total Authorizations, including this request	\$7,094,000
Remaining budget to be authorized	\$23,706,000

The \$30,800,000 original budget for pavement replacement was set by the Aviation Investment Committee and is intended to cover replacement over the next several years. Each successive authorization will be requested on a yearly basis.

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Project Cost Breakdown:

Design	\$150,000
Project Management	\$50,000
Survey	\$25,000
Internal POS Support and Review	\$10,000
Outside Professional Services	\$30,000
Port Construction Services	\$200,000
Total	\$465,000

Budget Status and Source of Funds:

This project is included in the 2011-15 capital budget and plan of finance within CIP #C102573. The funding source for the 2011 and 2012 work will be existing revenue bond proceeds and the Airport Development Fund.

Financial Analysis and Summary:

CIP Category	Renewal/Enhancement
Project Type	Infrastructure Upgrade
Risk adjusted Discount rate	n/a
Key risk factors	n/a
Project cost for analysis	\$30,800,000
Business Unit (BU)	Airfield
Effect on business performance	NOI after depreciation will increase since capital and operating costs will be recovered through landing fees.
IRR/NPV	N/A
CPE Impact	Will increase CPE by \$0.15 by 2015, but no change to business plan forecast as this project was included.

ECONOMIC IMPACTS AND BUSINESS PLAN OBJECTIVES:

There are no new economic impacts related to renewal/enhancement projects since they are primarily related to preservation of existing business activity. Ensuring reliable aircraft operating surfaces aligns with the Airport's business plan that stresses providing safe and secure airport facilities.

STRATEGIC OBJECTIVES:

This project supports the Port's strategy to "Ensure Airport Vitality" by maintaining a safe operating environment as well as the Airport strategy to provide appropriate facilities and infrastructure to ensure operation of a world class airport.

The Airport's ramp area and taxiways are comprised of a series of concrete pavement panels, and the associated utilities around the various Airport concourses. The ramp provides parking and

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access to the gate positions for aircraft. The taxiways provide access to and from the runways. Maintaining the ramp and taxiways is critical for preserving access to aircraft parking and runways.

ENVIRONMENT SUSTAINABILITY AND COMMUNITY BENEFITS:

The concrete panel replacement and maintenance is eligible for a Categorical Exclusion and Categorical Exemption under the National Environmental Policy Act (NEPA) and State Environmental Policy Act (SEPA) due to the nature of the project. The environmental review for the project will be completed before the project is advertised for construction.

During repair and maintenance activities, various sustainable practices will be considered and implemented when practicable. These include, but are not limited to, performing a life cycle analysis of materials used to ensure that resources being used and/or recycled are environmentally and economically practical; utilizing onsite water for dust control and irrigation; the reuse of materials such as concrete and soil; and employing low emission construction equipment.

TRIPLE BOTTOM LINE SUMMARY:

Replacement of concrete pavement panels and the joint sealant are a financially responsible way to ensure continued access to the gate areas and runways for the airline tenants and continued gate availability for the traveling public.

ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS:

- 1) Do nothing: This alternative would result in operational and safety impact since the concrete pavement is continuing to deteriorate. There would be an increase in risk of aircraft ingesting concrete debris into aircraft engines for aircraft transiting the taxiways and taxilanes. This is not the recommended alternative.
- 2) Replace the pavement and joint seal during the 2012 construction season as part of a previously established, ongoing pavement panel replacement program. **This is the recommended alternative**

OTHER DOCUMENTS ASSOCIATED WITH THIS REQUEST:

Attachment A – Map indicating where future construction may occur on a portion of the pavement within the large ramp area.

PREVIOUS COMMISSION ACTION OR BRIEFING:

On August 10, 2010, the Commission authorized the Chief Executive Officer to direct staff to: 1) proceed with project management, design, environmental support, and preparation of 100 percent design level construction documents for the replacement of slot drains, pavement and joint seal at the South Satellite at Seattle-Tacoma International Airport; 2) execute and award outside professional service agreements; 3) pre-purchase common-use gate equipment; and 4) allow Port

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Construction Services to self-perform, advertise for bids, and execute and award small works construction contracts for common use equipment installation.

On March 1, 2011, the Commission authorized the advertisement and award of a construction contract for the 2011 Airfield Improvement Projects – Contract 2, consisting of slot drain, pavement and joint seal replacement at Seattle-Tacoma International Airport (Airport).