


PORT OF SEATTLE  
MEMORANDUM

COMMISSION AGENDA

ACTION ITEM

**CORRECTED COPY**

Item No. 6b  
Date of Meeting April 1, 2014

**DATE:** March 19, 2014 – **Corrected April 23, 2014**  
**TO:** Tay Yoshitani, Chief Executive Officer  
**FROM:** Michael Ehl, Director, Airport Operations   
Wayne Grotheer, Director, Aviation Project Management Group   
**SUBJECT:** 2014 Airfield Improvement Project (CIP #C102573)  
North Satellite Terminal- Satellite Transit Station (NSAT-STS) Ceiling Leak Long  
Term Repair (CIP #C800609)

**Amount of This Request:** **\$4,030,000**  
~~4,056,000~~  
**Est. Total Project Cost:** \$4,470,000  
**Est. State and Local Taxes:** \$267,000

**Source of Funds:** Airport Development  
Fund and future revenue bonds

ACTION REQUESTED

Request Commission authorization for the Chief Executive Officer to advertise and execute a single construction contract comprised of Airfield Apron Pavement Replacement (CIP #C102573) and NSAT-STS Ceiling Leak Long Term Repair (CIP #C800609). This authorization request is for **\$4,030,000** ~~4,056,000~~, and the estimated total cost of the complete project is \$4,470,000.

SYNOPSIS

Three projects, two CIPs and one expense project, are to be constructed on the airfield in 2014, and have been combined into a single construction contract in order to minimize disruption to the airlines and Airport patrons.

The 2014 Airfield Improvement Project is part of an ongoing pavement management program to replace aged and distressed concrete pavement and joint sealant in non-runway areas.

The Runway 16C/34C panel replacement project will replace distressed concrete pavement panels to ensure the safe operation of the runway before the scheduled reconstruction of the Runway in 2015. Replacement of these panels will be paid for using \$220,000 expense funds because they will not meet the longevity requirements for capitalization.

NSAT-STS Ceiling Leak Long Term Repair will replace the failed concrete topping slab at gate N10 to prevent rain water from entering the NSAT above the STS lobby.

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Both CIPs were included in the 2014 capital budget and plan of finance. The 2014 operating budget includes \$160,000 for the Runway 16C/34C maintenance.

### **BACKGROUND**

The Port has replaced distressed concrete pavement panels and joint sealant on the airfield as part of an ongoing airfield pavement program. Concrete pavement panels and joint sealant typically have respective design lives of 20 and 10 years. Currently, there is a significant amount of airfield pavement and joint sealant that have far exceeded their expected service lives. Concrete debris resulting from the deteriorating pavement can become a hazard for aircraft and personnel. The replacement of the distressed panels is necessary for the safe operation of aircraft. The replacement of joint sealant reduces water intrusion and helps to extend the life of pavements.

The 2014 Airfield Improvement Project will replace twelve deteriorated panels located near the North Satellite. Eleven panels are currently identified for replacement on Runway 16C/34C. Expense funds will be used for the replacement of panels on Runway 16C/34C, due to its planned reconstruction in 2015. Pavement joint seal will be replaced on portions of Taxiway B and Taxiway W that are located west of the South Satellite.

The NSAT-STS Ceiling Leak Long Term Repair project will eliminate ceiling leaks at the NSAT that occur between the STS and the elevators. Rainwater currently infiltrates through the severely cracked topping slab. The existing water-proofing membrane between the topping slab and underlying structural slab is now over 40 years old and has exceeded its service life. There is also inadequate drainage to keep water from ponding on the slab. The combination of the cracked slab, inadequate drainage, and non-functional water-proofing membrane allows water to enter the interior of the NSAT at the STS lobby. Ceiling leaks create risk in an area with a high amount of passenger traffic that contains electrical and mechanical equipment, such as escalators. The timing of the project is critical to limit exposure of the interior of the STS lobby to weather while exterior components are being replaced.

The estimated total project cost includes \$300,000 previously authorized for design of 2014 Airfield Improvement Project and \$220,000 for design of the NSAT-STS Ceiling Leak Long Term Repair.

The Commission previously authorized use of a project labor agreement for both projects.

### **PROJECT JUSTIFICATION AND DETAILS**

#### ***Project Objectives:***

- Provide structurally sound pavements for current and future customers.
- Provide reliable and appropriate-sized infrastructure systems.
- Minimize total lifecycle cost (capital and expense).
- Minimize operational impacts.

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**Scope of Work:** This request includes the following elements:

- Apron panel replacement of approximately twelve panels.
- Runway panel replacement (for RW 16C/34C) of approximately eleven panels.
- Replace joint seal on portions of Taxiway B and Taxilane W.
- Replace failed pavement and waterproofing membrane and construct drainage facilities at Gate N10 of the North Satellite.

### **Schedule:**

Commission Authorization to Advertise and Execute a Contract	April 2014
Advertisement	April 2014
Notice to Proceed	May 2014
Begin Construction	July 2014
Construction Complete	October 2014

## FINANCIAL IMPLICATIONS

### **CIP C102573 Budget/Authorization Summary**

	Capital	Expense	Total Project
Original Budget	\$30,800,000	\$0	\$30,800,000
Budget Decrease	<b>\$903,505</b>	\$0	<b>\$903,505</b>
Revised Budget	<b>\$29,896,495</b>	\$0	<b>\$29,896,495</b>
Previous Authorizations	<b>\$25,179,495</b>	\$0	<b>\$25,179,495</b>
Current request for authorization	<b>\$2,500,000</b>	\$0	<b>\$2,500,000</b>
Total Authorizations, including this request	<b>\$27,679,495</b>	\$0	<b>\$27,679,495</b>
Remaining budget to be authorized	\$2,217,000	\$0	\$2,217,000
Total Estimated Project Cost	<b>\$29,896,495</b>	\$0	<b>\$29,896,495</b>

### **CIP C800609 Budget/Authorization Summary**

	Capital	Expense	Total Project
Original Budget	\$0	\$0	\$0
Previous Authorizations	\$220,000	\$0	\$220,000
Current request for authorization	\$1,530,000	\$0	\$1,530,000
Total Authorizations, including this request	\$1,750,000	\$0	\$1,750,000
Remaining budget to be authorized	\$0	\$0	\$0
Total Estimated Project Cost	\$1,750,000	\$0	\$1,750,000



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### *Project Cost Breakdown*

	This Request	Total Project
Construction	<b>\$3,006,100</b>	<b>\$3,006,100</b>
Construction Management	\$413,800	\$440,800
Design	\$81,100	\$321,100
Project Management	\$114,700	\$254,700
Central Procurement Office	\$64,300	\$71,300
Administration	\$46,300	\$52,300
Environmental & Permitting	\$30,700	\$30,700
State & Local Taxes (estimated)	\$267,000	\$267,000
Total	<b>\$4,030,000</b>	\$4,470,000

The total Project cost includes expense cost of \$220,000.

### *Budget Status and Source of Funds*

Both CIPs are included in the 2014 – 2018 capital budget and plan of finance. The RW 16C/34C expense work was included in the 2014 operating budget for \$160,000. The Airport will seek to absorb the increase through savings or use of contingency. The funding sources for these projects include the Airport Development Fund and future bonds. The Port plans to issue bonds in 2014 to fund a number of projects.

### *Financial Analysis and Summary*

<b>CIP Category</b>	Renewal/Enhancement
<b>Project Type</b>	Renewal & Replacement
<b>Risk adjusted discount rate</b>	N/A
<b>Key risk factors</b>	N/A
<b>Project cost for analysis</b>	\$4,470,000
<b>Business Unit (BU)</b>	Airfield Movement Area and Airfield Apron Area
<b>Effect on business performance</b>	NOI after depreciation will increase
<b>IRR/NPV</b>	N/A
<b>CPE Impact</b>	\$.01 in 2014 due to expense work, \$.02 in 2015 and beyond due to capital costs.

### *Lifecycle Cost and Savings*

The replacement of concrete panels and joint seal will result in cost avoidance for maintaining them. Geometric constraints limit the depth of the pavement that can be constructed at the North Satellite and may reduce the life of those particular concrete panels. The elimination of rainfall intrusion into the North Satellite will minimize the risk of damage and associated cost to components within the building. The reconstruction of joint sealant between existing concrete panels helps to extend the life of pavements, which will reduce the long-term, lifecycle cost.

## STRATEGIES AND OBJECTIVES

This project supports the Port's Century Agenda objective of meeting the region's air transportation needs at Seattle-Tacoma International Airport for the next 25 years. Ensuring safe

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and secure operations and managing assets to minimize the long-term total cost of ownership assist in meeting this objective.

### TRIPLE BOTTOM LINE

#### *Economic Development*

Generally, there are no economic impacts related to renewal/enhancement projects since they are primarily related to preservation of existing business activity.

#### *Environmental Responsibility*

The project contains appropriate environmental controls to prevent sediments from entering stormwater systems. Removed concrete panels are anticipated to be crushed and recycled as has occurred on previous, similar projects.

#### *Community Benefits*

Maintaining runway and airfield apron pavement benefits both our airline customers and travelers.

### ALTERNATIVES AND IMPLICATIONS CONSIDERED

1) Do nothing: This alternative would result in an increasing risk of aircraft ingesting concrete debris into aircraft engines from distressed pavement, adversely affecting Airport operations and allow water from rainfall to continue to leak through the North Satellite ceiling. This is not the recommended alternative.

2) Replace the deteriorated and aged pavement panels and joint sealant on runway and non-runway areas during the 2014 construction season. This allows for the programmatic replacement of aged and distressed pavement and joint sealant and addresses the North Satellite ceiling leaks. **This is the recommended alternative.**

### ATTACHMENTS TO THIS REQUEST

- Diagram of Construction Area

### PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

#### *2014 Airfield Improvement Project:*

- On August 6, 2013, the Commission authorized the use of a project labor agreement for the project.
- On April 2, 2013, the Commission authorized \$300,000 and for the Chief Executive Officer to complete the design and perform any advance preparatory work for the 2014 Airfield Apron Pavement Replacement project.
- On March 26, 2013, the Commission authorized for the Chief Executive Officer to advertise and execute a single construction contract comprised of Airfield Panel Replacement and Joint Seal Replacement (CIP #102573) and Runway 16C/34C Panel

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Replacement. This authorization request is for \$8,967,000, and the estimated total cost of the complete project is \$9,377,000.

- On July 24, 2012, the Commission authorized \$200,000 and for the Chief Executive Officer to complete the design and perform any advance preparatory work for the 2013 Airfield Apron Pavement Replacement project.
- On April 10, 2012, the Commission authorized an additional \$1,467,000 because the bids exceeded the Engineer's Estimate by greater than 10 percent; and authorized the Chief Executive Officer to execute a contract in the amount of \$6,553,964 with the low responsive and responsible bidder for the 2012 Exterior Gates and Airfield Improvement Projects. This authorization increased the budget by \$1,467,000 due to the higher than expected bids, for a total project cost of \$10,500,000.
- On January 24, 2012, the Commission authorized \$4,707,000 and for the Chief Executive Officer to advertise and execute a construction contract that included Apron Pavement Replacement, Exterior Gate Improvements, Runway 16C/34C Panel Replacement, and South Snow Dump Pavement Expansion
- On July 26, 2011, the Commission authorized \$465,000 and for the Chief Executive Officer to complete the design and perform any advance work in support of the 2012 Pavement and Joint Replacement and Sealant Project for non-runway concrete pavement panels, joint seal replacement, spall repair, and associated or temporary facilities, such as striping, lighting, etc., on the Aircraft Operations Area.
- On March 1, 2011, the Commission authorized \$6,235,000 and for the Chief Executive Officer to advertise and execute a construction contract that included slot drain, pavement, and joint seal replacement at the South Satellite and perform installation of temporary facilities in concourses.
- On August 10, 2010, the Commission authorized \$394,000 and for 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 Construction Services to self-perform, advertise for bids, and execute and award small works construction contracts for common use equipment installation.
- On February 9, 2010, the Commission authorized \$5,650,000 for the design, advertisement, and award of a construction contract for the 2010 Airfield Improvement Projects – Contract 1, consisting of panel replacements on Runway 16C/34C.
- On September 22, 2009, senior Aviation staff briefed the Commission on Seattle-Tacoma International Airport Facility Functionality and Readiness.
- On February 26, 2008, the Commission authorized \$450,000 for joint seal replacement on Runway 16C/34C (CIP 800112).

*Note: On October 30, 2003, Runway 16 Right/34 Left (16R/34L) was renamed runway 16C/34C, in preparation for the Third Runway to assume the runway 16R/34L designation.*



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- On January 14, 2003, the Commission authorized \$5,000,000 for a multi-year program of panel replacement on Runway 16R/34L (CIP 102037).
- On November 26, 1996, the Commission authorized \$2,000,000 for a multi-year program of panel replacement on Runway 6R/34L (CIP 100663).
- On June 13, 1993, the Commission authorized \$10,422,000 for Runway 16R/34L rehabilitation and other airfield improvements (CIP 100663).

### ***NSAT-STIS Ceiling Leak Long Term Repair:***

- On August 6, 2013, the Commission authorized the use of a project labor agreement for the project.
- On May 28, 2013, the Commission authorized \$220,000 for the design and preparation of construction documents.

