

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA

Item No. 6b

Date of Meeting February 9, 2010

DATE: January 25, 2010

TO: Tay Yoshitani, Chief Executive Officer

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

SUBJECT: Airport runway 16 Center/34 Center (16C/34C) surface panel replacement –
CIP C800112.

Amount of This Request: \$5,650,000
SALES TAX PAYOUT: \$385,000

Source of Funds: Airport Development Fund
CONSTRUCTION JOBS: 65

ACTION REQUESTED:

Request Port Commission authorization to execute and award outside professional services agreements, design, perform contract administration, advertise for construction bids, and award contracts for the runway 16C/34C panel replacement project (CIP C800112) at Seattle-Tacoma International Airport (Airport) in the amount of \$5,650,000.

This authorization is combining two steps of the Resolution No. 3605 process (authorization to design and authorization to advertise) into one to expedite a project identified in December 2009 as a safety concern and to take advantage of potential cost savings through addition of this work into the 2010 Airfield Improvement Project - Contract 1.

SYNOPSIS:

This project will replace failing concrete surface panels on runway 16C/34C during the 2010 construction season, thus allowing the continued operation of the runway until full reconstruction of the runway can be completed. Full construction is slated for 2016. The project team has identified a potential savings of \$500,000 to \$1,000,000 through the adjustment of this the project's schedule to coincide with other Contract 1 work, previously authorized for 2010.

This panel replacement project is being undertaken for safety reasons to help assure the integrity of the aging runway surface and to eliminate some concrete debris that can harm aircraft and that arises from heavily cracked panels. The project will necessitate closing the runway for two months to perform the work, however the closure should have minimal impact to the Part 150 study, because the noise contours will be based off of 2009 operations and fleet mix when all

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runways were operational. Aircraft operations and noise will continue to be monitored and evaluated during 2010 and 2011, but will only be used as a validation tool, to understand seasonal variations in runway use.

BACKGROUND:

Runway 16C/34C was constructed of concrete in 1969, with a 20-year design life. The Airport began a Runway Improvement Program in 1993, which was designed to rehabilitate and extend the useful life of the runway. More than 400 concrete panels have been replaced since the beginning of the program. This project, a continuation of the overall Runway Improvement Program, will replace additional concrete panels where the useful life of the surface panels has been exceeded.

Typical degradation of the runway is occurring, such as cracking, spalling, and faulting. Cracks and spalls result in Foreign Object Debris (FOD), which can cause aircraft damage. Faulting results in a rough ride, but is also indicative of further pavement and subgrade deterioration.

In order to attempt to extend the life of runway 16C/34C until 2016, staff has identified panels in need of replacement. This project will assist in maintaining safety and operational continuity until the runway is reconstructed. However, the runway condition is such that panels are deteriorating, and it is not possible to predict future pavement performance. If it is necessary to ensure continued operational safety, staff will return to Commission prior to the reconstruction in 2016, to request additional panel replacement funds.

PROJECT DESCRIPTION/SCOPE OF WORK:

Project Statement:

Perform runway 16C/34C panel replacement in 2010, for a cost of approximately \$5,650,000.

Project Objectives:

The immediate project objective is to replace damaged concrete panels on runway 16C/34C. The rehabilitation will require the runway to be closed for approximately 60 days. The overall objective is to maintain the runway in an operational condition until its planned reconstruction in 2016.

Scope of Work:

The scope of work includes replacing approximately 150 concrete panels on runway 16C/34C. Work will also include removal and replacement of in-pavement runway lights and associated

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infrastructure; installation and removal of temporary runway and taxiway markings; and repainting runway and taxiway markings.

Project Labor Agreement:

This project will include a Project Labor Agreement due to the time sensitivity and safety issues associated with runway work.

STRATEGIC OBJECTIVES:

This project supports the Port's strategy to "Ensure Airport Vitality" by maintaining a safe operating environment as well as maximizing asset utilization.

FINANCIAL IMPLICATIONS:

Budget/Authorization Summary

The original 2007 budget anticipated a reduced scope to maintain the runway until it could be reconstructed in 2010. On February 26, 2008, the Commission authorized \$450,000 for runway 16C/34C joint resealing. These expenditures were accounted for as an operating expense in 2008. The remaining budget, for panel replacement, was deferred until 2012 (the runway reconstruction date at that time was under review). In the fall of 2009, staff inspected the runway and deemed it wise to increase the budget to replace panels in 2010, in order to attempt to extend the full reconstruction until 2016.

Original Budget	\$2,415,000
Budget Additions	\$3,235,000
Total Budget	\$5,650,000
Returned Savings	\$0
Revised Budget	\$5,650,000
Previous Authorizations	\$0
Current Request for Authorizations	\$5,650,000
Total Authorizations, Including This Request	\$5,560,000
Remaining Budget to be Authorized	\$0

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Project Cost Breakdown

Construction Costs	\$4,000,000
Sales Tax	\$385,000
Outside Professional Services	\$100,000
Port Administrative Costs	\$1,165,000
Total	\$5,650,000

Source of Funds

This project is included in the 2010-14 capital budget and plan of finance within CIP C800112. The funding source will be the Airport Development Fund.

Financial Analysis Summary

The requested action has a higher than normal Cost Per Enplanement (CPE) impact due to the short amortization period. The normal amortization period would be ten or more years. However, runway 16C/34C is planned to be reconstructed in 2016, therefore the amortization only goes through 2015.

CIP Category	Renewal/Enhancement
Project Type	Renewal & Replacement
Risk adjusted Discount Rate	N/A
Key risk factors	N/A
Project cost for analysis	\$5,650,000
Business Unit (BU)	Operations, Airfield
Effect on Business Performance	NOI after depreciation will increase
IRR/NPV	N/A
CPE Impact	\$0.086 in 2011

As a cost recovery project, traditional financial analysis measures such as net present value (NPV) and internal rate of return (IRR) are not meaningful.

ECONOMIC IMPACTS:

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

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An estimated sixty-five different jobs of varying crafts, with an approximate average duration of two months, will be employed on-site to complete the construction contract.

ENVIRONMENTAL SUSTAINABILITY AND COMMUNITY BENEFITS:

The runway repair 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 advertises for bid.

During repair and maintenance activities, various sustainability 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, asphalt, and soil; and employing low emission construction equipment.

The Airport's three runways allow for various landing and departure scenarios that improve air quality and increase the efficiency of air traffic control. Maintaining runway 16C/34C is critical in preserving the three-runway system.

In addition, when runways are not maintained, there are a wide range of serious consequences that could occur after an aircraft engine ingests runway concrete.

TRIPLE BOTTOM LINE SUMMARY:

This project is a financially responsible way to delay a much larger project (runway 16C/34C reconstruction) while continuing to allow the runways to be used in an efficient fashion. Maintaining an operating runway benefits both our airline customers and travelers.

PROJECT SCHEDULE:

Bid Advertisement	First Quarter 2010
Construction Start	Second Quarter 2010
Construction Complete	Third Quarter 2010

ALTERNATIVES CONSIDERED/RECOMMENDED ACTION:

- 1) Do nothing: This alternative would result in runway 16C/34C becoming a potentially unsafe surface, which would require closure of the runway. This is not the recommended alternative.

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- 2) Replace the panels over two years (2010 and 2011): This alternative provides the same end result as the preferred alternative, but at an increased cost due to two years of construction costs as well as inflation. This alternative exposes the Port to risk from FOD damage, for an additional year. This is not the preferred alternative.
- 3) Replace fewer runway panels: Airport staff conducted a thorough inspection of runway 16C/34C in October 2009 and began special daily and weekly inspections in December. Staff believes that replacing the approximately 150 panels is the minimum that can be done to maintain a safe operating environment while helping to extend the life of the runway to 2016. This is not the preferred alternative.
- 4) Complete the project as described; to replace all 150 panels within the 2010 construction season: This is the preferred alternative.

PREVIOUS COMMISSION ACTION:

On June 13, 1993, the Commission authorized \$10,422,000 for runway 16R/34L rehabilitation and other airfield improvements (CIP 100663).

On November 26, 1996, the Commission authorized \$2,000,000 for a multi-year program of panel replacement on runway 16R/34L (CIP 100663).

On January 14, 2003, the Commission authorized \$5,000,000 for a multi-year program of panel replacement on runway 16R/34L (CIP 102037).

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.

On February 26, 2008, the Commission authorized \$450,000 for joint seal replacement on runway 16C/34C (CIP 800112).

DOCUMENTS ASSOCIATED WITH THIS REQUEST:

Attachment A – Airport Map

Attachment B – Runway 16C/34C Pavement Photographs