

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA

Item No. 6c

Date of Meeting July 26, 2011

DATE: July 19, 2011

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: \$200,000 previously authorized

Source of Funds: ADF

Total Estimated Cost: \$4,169,262

ACTION REQUESTED

Request Port Commission authorization for the Chief Executive Officer to modify the Scope of Work for the Runway 16C/34C Surface Panel Replacement project by extending the project period through the end of 2012, and approval of the use of \$200,000 of the previously authorized funds to prepare design documents for a surface panel replacement construction contract to be advertised and constructed in 2012. The total cost of this project is \$4,169,262.

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 airfield authorization requests. The work area for this particular authorization is Runway 16C/34C

This authorization requests design for additional concrete panel replacements in 2012 on Runway 16C/34C similar to work performed earlier in 2010. Additional panel replacements are expected because the now 42-year old runway was originally designed for a 20-year life. No additional budget is requested because adequate budget was already authorized in 2009. In fact, budget savings are anticipated even with additional panel replacements. This work extends the life of the aging runway in anticipation of its overall demolition and reconstruction currently scheduled for 2016. If panels deteriorate more quickly than anticipated between 2012 and 2016, then more panel replacements will be necessary which would require a future separate authorization request. Following design, staff will return in early 2012 to request authorization for construction.

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

July 19, 2011

Page 2 of 5

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.

A previous project replaced failing concrete surface panels on Runway 16C/34C during the 2010 construction season. It was noted in the February 9, 2010 request for authorization that, "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." Since there were savings from funds previously authorized and a further need for the replacement of surface panels evolved, this request is to extend the use of those funds to prepare contract documents for a construction contract to be advertised and constructed in 2012 for additional surface panel replacement on runway 16C/34C. The replacement of panels on runway 16C/34C is planned to be part of a single contract that includes the replacement of panels on non-runway surfaces (i.e., taxi-ways, taxi-lanes, ramp areas).

Funds were previously authorized for the design, advertisement, and execution for a 2010 surface panel replacement on runway 16C/34C in the amount of \$5,650,000. Of that amount, \$2,769,262 has been expended and \$1,480,738 has been returned as savings leaving an unexpended and previously authorized amount of \$1,400,000. Up to \$200,000 of this amount will be used for design with the remaining \$1,200,000 reserved for the 2012 construction contract. A request for authority to advertise the construction contract will be brought to the Commission in early 2012. There are currently four panels on runway 16C/34C identified for replacement and another twelve that are being monitored. Given that pavement distress will continue to occur between now and 2012, additional panels will likely be added. Staff believes that even should a significant accelerated deterioration occur, the \$1.4 million for the design and construction should be sufficient to cover the scope of panel replacement and there may be possible future savings available to return after the project is complete.

Design would begin in the third quarter 2011 and advertisement would occur no later than the spring of 2012 so any pavement distress that will have occurred over the winter is identified and included in the contract. Runway 16C/34C is scheduled to be replaced in 2016 and therefore 2012 is the last year that the replacement of those distressed panels can be capitalized.

PROJECT JUSTIFICATION:

Project Statement:

Perform Runway 16C/34C panel replacement in 2012, for a cost not to exceed \$1,400,000 using previously authorized funds.

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

July 19, 2011

Page 3 of 5

Project Objectives:

The project objective is to replace damaged concrete panels on Runway 16C/34C. The rehabilitation will require the runway to be closed with the exact duration of closure dependent on the number of panels to be replaced. The overall objective is to maintain the runway in an operational condition until its planned reconstruction in 2016.

PROJECT SCOPE OF WORK AND SCHEDULE:

Scope of Work:

The scope of work includes design to replace deteriorated concrete panels on runway 16C/34C. Work may also include removal and replacement of in-pavement runway lights and associated infrastructure; installation and removal of temporary runway and taxiway markings; and repainting runway and taxiway markings.

Schedule:

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

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 prudent to increase the budget to replace panels in 2010, in order to attempt to extend the full reconstruction until 2016.

Original Budget in 2007	\$2,415,000
Budget Additions in 2009	\$3,235,000
Total Budget	\$5,650,000
Returned Savings in 2011	\$1,480,738
Revised Current Budget	\$4,169,262
Previous Authorizations	\$5,650,000
Current Request for Authorizations	\$0
Total Authorizations, Including This Request	\$5,650,000
Remaining Budget to be Authorized	\$0

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

July 19, 2011

Page 4 of 5

Source of Funds

This project is included in the 2011-15 capital budget and plan of finance within CIP# C800112. The funding source will be the Airport Development Fund.

Financial Analysis Summary

The project savings of \$1,480,738 will translate into a reduced CPE impact of approximately \$0.02 through 2015.

LIFECYCLE COSTS & SAVINGS:

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

ENVIRONMENT AND SUSTAINABILITY:

The runway repair and maintenance project 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 should an aircraft engine ingest FOD from deteriorated runway concrete.

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.

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.

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

July 19, 2011

Page 5 of 5

ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS

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.
2. Replace all currently identified and emergent failing panels on Runway 16C/34C within the 2012 construction season with separate projects. Since the work would be identical in nature to a project to replace panels on non-runway surfaces, this approach would be inefficient and likely result in more operational impact with two projects possibly underway at the same time by two different contractors. This is not the recommended alternative.
3. Replace all currently identified and emergent failing panels on Runway 16C/34C and non-runway surfaces within the 2012 construction season with a single construction project. This approach would be the most efficient means and result in a coordinated effort to replace surface panels on Runway 16C/34C and non-runway surfaces. **This is the recommended alternative.**

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

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).

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.