

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA
ACTION ITEM

Item No. 4c
Date of Meeting March 8, 2016

DATE: February 29, 2016
TO: Ted Fick, Chief Executive Officer
FROM: Wayne Grotheer, Director, Aviation Project Management Group
David Soike, Director, Aviation Facilities and Capital Program
SUBJECT: Concourse C Roof Replacement Project (CIP #C800702)

Amount of This Request:	\$5,047,000	Source of Funds:	Airport Development Fund and Existing Revenue Bonds
Est. Total Project Cost:	\$5,921,000		
Est. State and Local Taxes:	\$419,000		

ACTION REQUESTED

Request Commission authorization for the Chief Executive Officer to advertise and execute a contract to construct the Concourse C Roof Replacement project at Seattle-Tacoma International Airport for an amount not to exceed \$5,047,000 of a total estimated project cost of \$5,921,000.

SYNOPSIS

This project will remove and replace the current roofing system on Concourse C at the Airport. The portions of the Concourse C roof being replaced were installed in 1991 and are beyond their useful life expectancy. Warranties on existing roof system have expired and testing of roof membranes by Airport maintenance staff indicates the membranes are deteriorating.

Replacing the roof helps to assure a stronger positive customer experience and avoids potential safety issues and concourse closures that can occur with roof leaks. Replacing the roof supports the Airport Division's Strategy of Operating a World Class Airport. This is the fifth project in a series of roofing projects that replace roofing systems in a prioritized sequence. The current project budget increased during design by \$325,000 to \$5,921,000. This increase is a result of code requirements determined in design.

BACKGROUND

The first phase of the current cycle of roof replacement projects re-roofed the south end of the Main Terminal in 2011. The second phase re-roofed the Fire Station in 2012 and the north end of the Main Terminal in 2013. The third phase replaced the Concourse D roof in 2014. The fourth phase will replace the Alaska Hangar One and associated maintenance building roof this summer along with this project, the fifth phase of roof replacements, which is also scheduled for this summer. The Concourse B roof would follow in the summer of 2017.

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PROJECT JUSTIFICATION AND DETAILS

The Concourse C roof, similar to other critical systems, must be replaced as it ages and deteriorates. The current roofing system on Concourse C is 25 years old and has reached the end of its dependable leak-free lifespan. Because the roofs are exposed to the elements and experience wear and tear, when they fail the risk to the traveling public increases, and the safe availability of the facility becomes impaired. In order to provide a leak free terminal environment and safe experience for those who travel through and work in the facility, Concourse C roof has been identified as the next roof to be replaced.

The recommended replacement age for this type of roof is between 15-20 years. The warranties have expired which puts the roof beyond the industry standard life expectancy. While the existing roof is leaking, those leaks are considered relatively minor at this time. They are however leading indicators for more significant leakage in the future. Roof leaks enter the interstitial space (between the roof and the ceiling) on Concourse C. In the interstitial space much of the mechanical and electrical infrastructure serving Concourse C is housed. Damage to this underlying infrastructure will take place, and as a result, the renewal and replacement costs will grow as well. Deferring this project until significant leakage occurs does not align with the strategy to minimize long-term total cost of ownership.

As leaks occur there is the potential for leaking water to enter the public spaces, and place both tenants and passengers at risk of slips and falls. When leaks occur, the Airport secures the portion of the concourse where the leaks are occurring during wet weather events as a preventative measure. This however, is contrary to the Port's strategy of anticipating and meeting the needs of our customers, as this action would take portions of the concourse out of service during a time of increased usage and gate shortages.

Project Objectives

This project will replace the existing roof system on Concourse C at the Airport.

Scope of Work

Replace the existing roof system on Concourse C; install a new elastomeric roofing system; install ladders and fall protection; and replace and refurbish the existing Kalwall skylight window/walls.

Schedule

Commission Authorization for Construction:
Issue Notice to Proceed
Construction Complete

1st Quarter 2016
2nd Quarter 2016
4th Quarter 2016

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FINANCIAL IMPLICATIONS

Budget/Authorization Summary

	Capital	Expense	Total Project
Original Budget	\$3,820,000	\$0	\$3,820,000
Previous Budget Increases	\$1,776,000	\$0	\$1,776,000
Current Budget Increase	\$325,000	\$0	\$325,000
Revised Budget	\$5,921,000	\$0	\$5,921,000
Previous Authorizations	\$874,000	\$0	\$874,000
Current request for authorization	\$5,047,000	\$0	\$5,047,000
Total Authorizations, including this request	\$5,921,000	\$0	\$5,921,000
Remaining budget to be authorized	\$0	\$0	\$0
Total Estimated Project Cost	\$5,921,000	\$0	\$5,921,000

Project Cost Breakdown

	This Request	Total Project
Design Phase	\$0	\$874,000
Construction Phase	\$4,628,000	\$4,628,000
Sales Tax	\$419,000	\$419,000
Total	\$5,047,000	\$5,921,000

Budget Status and Source of Funds

The Concourse C Roof Replacement Project (CIP #C800702) is included in the 2016-2020 capital budget and plan of finance with a budget of \$5,596,000. The first project budget increase (during design authorization) covered an increase in scope due to added skylight replacement. The current project budget increased during design by \$352,000 due to code requirements determined late in design. This budget increase will be transferred from the Aeronautical Allowances CIP (C800404) resulting in not net change to the airport's capital budget. The funding sources will include the Airport Development Fund and existing revenue bonds.

Financial Analysis and Summary

CIP Category	Renewal/Enhancement
Project Type	Renewal & Replacement
Risk adjusted discount rate	N/A
Key risk factors	N/A
Project cost for analysis	\$5,921,000
Business Unit (BU)	Terminal
Effect on business performance	NOI after depreciation will increase
IRR/NPV	N/A
CPE Impact	\$.02 increase in 2017

Lifecycle Cost and Savings

The new roof system is not expected to have significant repair costs for the first 15 years. Pre-planned preventive maintenance tasks, and therefore maintenance costs, will be consistent with

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the current maintenance program. Unplanned reactive maintenance call-outs, and those associated costs to repair roof leaks are expected to be avoided in future years. Unplanned responses to leaks on Concourse C have resulted in approximately \$73,000 in additional expense costs since 2012 for this current roofing system. Without replacement, it is anticipated that these costs will climb over time.

STRATEGIES AND OBJECTIVES

This project supports the Port's Century Agenda objective of meeting the region's air transportation needs at the Airport for the next 25 years. The Airport must maintain its existing facilities to accommodate current as well as future tenant needs.

Replacing the most distressed Airport roofs in a timely manner as they deteriorate supports the objectives identified in the Aviation Division's Strategy of operating a World Class International Airport by: ensuring safe and secure operation; meeting the needs of our tenants and the region's economy; and managing our assets to minimize the long-term total cost of ownership.

The Project Manager and the Office of Social Responsibility determined a 5% SCS requirement for this project.

Environmental Responsibility

The new roof system will have a solar reflective index that exceeds .80. This index level is an industry standard for white reflective roofing systems and the value required to obtain the Leadership in Energy & Environmental Design (LEED) new construction Credit 7.2. The new roofing systems will also be Energy Star rated. The insulating value of the new roof systems will be greater than that of the existing roofing system. By replacing the roof systems and preventing damage to the underlying building systems, the life of the existing building systems will be prolonged. Roof materials may be sourced locally from the Pacific Northwest. Opportunities will also be investigated to recycle the existing roof and associated components.

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1) Status Quo – Delay replacement of the Concourse C roof.

Cost Estimate: \$25,000-\$50,000 potential ongoing annual expense cost per year for major repairs.

Pros:

- No capital funding required. Leaves capital funds available for other projects.

Cons:

- Will likely increase maintenance and emergency repair response over time.
- The cost of a future roofing project in the event of roof failure would be the full cost of replacement (\$5.6 million) plus escalation and the cumulative on going expense costs. Risk cost of lost terminal space due to emergency repairs – unknown but high.
- Increases the chances that the interior of the facility will be damaged due to water infiltration.

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- Damage to the interior of the facility would affect customer service.
- Safety of the public could be compromised due to the slip hazard to traveling public and employees.
- The risk of significant or catastrophic failure increases over time with the further breakdown of roof system materials.
- Indefinite deferral leads to the risk of catastrophic failure.

This is not the recommended alternative.

Alternative 2) Replace the Concourse C roofing system with a system that could last up to 30 years.

Capital Costs: Estimated \$9.8 Million

Pros:

- Helps to assure a stronger positive customer experience and avoids potential safety hazards and concourse closures.
- Provides protection of port assets.
- Avoids the need for a future renewal and replacement project that will be disruptive to the terminal operation at the 15 year mark.

Cons:

- Based on the age of the concourse, the existing infrastructure, and the current building configuration it is expected that the concourse configuration may change significantly at a future date before the end of the useful life for a 30 year roof.
- Due to the added material cost, handling cost, and structural design considerations to strengthen ceiling framing, this is the most expensive alternative.
- This alternative would require a re-engineering of the project, delaying construction approximately one year.

This is not the recommended alternative.

Alternative 3) Replace Existing Roof with a 15 year roofing system.

Capital Costs: \$5,921,000

Pros:

- Provides for the viability of the facility for the foreseeable future.
- Based on information from planning staff, this building will not be affected by the SAMP for the 15 year life of the roof.
- This project would provide for a warranted roof that will minimize the cost of roof repairs going forward for the foreseeable life of the roof.
- Helps to assure a stronger positive customer experience and avoids potential safety hazards and concourse closures.
- Provides protection of port assets. This option does the best job of supporting the goal of managing Port assets to minimize the long term total cost of ownership.

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Cons:

- This project would consume capital funds that could possibly be utilized on other projects.

This is the recommended alternative.

ATTACHMENTS TO THIS REQUEST

- Computer slide presentation of the Airport Roof Map.

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

- February 9, 2016 – the Commission authorized construction funds for the 2014-2015 Roof replacement.
- May 19, 2015 – the Commission authorized design funds for the Concourse C roof replacement.
- June 10, 2014 – the Commission authorized design funds for the 2014-2015 Roof Replacement project.
- April 1, 2014 – the Commission authorized a budget increase of \$219,000 and execution of a major public works construction contract with the low responsive and responsible bidder for the Concourse D roof replacement.
- January 28, 2014 – the Commission authorized construction funds for the Concourse D roof replacement.
- July 9, 2013 – the Commission authorized design funds for the Concourse D roof replacement.
- January 8, 2013 – the commission authorized construction funds for the North End Main terminal roof replacement.
- January 24, 2012 – the Commission authorized construction funds for the Fire Station roof replacement.
- July 26, 2011 – the Commission authorized design funds for the second phase of the Airport re-roofing program including design of the Fire Station and North End Main Terminal roof replacements.
- November 30, 2010 – the Commission authorized construction funds for the South End Main terminal roof replacement.
- April 27, 2010 – the Commission approved design funds for the South End Main terminal roof replacement.
- September 22, 2009 – the Commission was briefed on the facility renewal project that was necessary in future years. The Airport re-roofing program was included in the presentation.