

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA
ACTION ITEM

Item No. 4c
Date of Meeting June 10, 2014

DATE: June 2, 2014
TO: Tay Yoshitani, Chief Executive Officer
FROM: David Soike, Director, Aviation Facilities and Capital Program
Wayne Grotheer, Director, Aviation Project Management Group
SUBJECT: Fire Station Network Upgrade (CIP #C800421)

Amount of This Request:	\$52,000	Source of Funds:	Airport Development Fund
Est. Total Project Cost:	\$330,000		
Est. State and Local Taxes:	\$13,000		

ACTION REQUESTED

Request Commission approval for the Chief Executive Officer to: (1) increase the Airport Fire Station Network Upgrade project authorization by \$52,000 for a total authorization of \$330,000; (2) authorize the completion of the Fire Station Network Upgrade project; and (3) authorize the Port to purchase and install communications hardware.

SYNOPSIS

The Fire Station Network Upgrade project replaces the existing fiber optic backbone, adds a communications room, upgrades the network cabling in the Airport Fire Station, upgrades the wireless access points, and upgrades the telephone system to current Airport standards.

This project was included in the 2014-2018 capital budget and plan of finance.

BACKGROUND

The fire station communications system is inadequate to support current technology needs. One example is on-line training. The current system does not have sufficient bandwidth to support on-line training. The software tends to crash during training and associated testing. Also, the existing communications system is not compatible with the telephone system that was installed at the Airport in 2009. The 2009 system operates over the data lines not the existing telephone lines. The majority of the existing data lines in the fire station do not have the bandwidth required to support the 2009 phone system. The data lines must be upgraded prior to installing the new phone system. As a result, the telephone system has not been upgraded. The telephone system will be upgraded as part of this project.

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

June 2, 2014

Page 2 of 4

This project is included in the 2014 capital budget at a cost of \$278,000. However, after further analysis, the costs for the fiber optics and select communications equipment are higher than previously estimated, increasing the project cost to approximately \$330,000, including \$7,700 in contingency.

The original budget forecast was below \$300,000. We did not anticipate bringing the project to Commission. The Fire Station Network Upgrade project was previously authorized for design and construction as a Small Jobs project on May 17, 2013.

PROJECT JUSTIFICATION AND DETAILS

The existing fiber optics backbone of the Fire Station communications system is undersized for current data transmission needs and several of the system components are in excess of ten years old. The expected life of the components is approximately seven years. Most of the existing data cabling does not provide the bandwidth required to properly interface with other Airport data systems or to support the new phone system.

Project Objectives:

- Increase the efficiency and bandwidth of the fiber optics backbone between the fire station and the communication room in Concourse D.
- Increase the efficiency of and capacity of the existing communications network inside the fire station.
- Add a new communications room.
- Upgrade the existing wireless network to increase the coverage within the fire station.
- Update the telephone system.

Scope of Work:

- Upgrade the existing multi-mode fiber optics backbone with a new single mode fiber optics backbone. Convert existing office to a new communications room.
- Install the communications network and associated hardware.
- Install network equipment and upgrade telephones.

Schedule:

- Design and Construction authorized as a Small Jobs project on May 17, 2013.
- Start Installation of Fiber Optics/Data Cable/Conduit – September 2013
- Commission Authorization – June 10, 2014
- Construction Complete – August 2014

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

June 2, 2014

Page 3 of 4

FINANCIAL IMPLICATIONS

<i>Budget/Authorization Summary</i>	Capital	Expense	Total Project
Original Budget	\$278,000	\$0	\$278,000
Previous Authorizations (Small Jobs)	\$278,000	\$0	\$278,000
Current request for authorization	\$52,000	\$0	\$52,000
Total Authorizations, including this request	\$330,000	\$0	\$330,000
Remaining budget to be authorized	\$0	\$0	\$0
Total Estimated Project Costs	\$330,000	\$0	\$330,000

<i>Project Cost Breakdown</i>	This Request	Total Project
Construction	\$222,000	\$222,000
Design	\$95,000	\$95,000
State & Local Taxes (estimated)	\$13,000	\$13,000
Total	\$330,000	\$330,000

Budget Status and Source of Funds

The Fire Station Network Upgrade project, CIP #C800421, was included in the 2014-2018 capital budget and plan of finance with a budget of \$278,000.

Financial Analysis and Summary

CIP Category	Renewal/Enhancement
Project Type	Airport Infrastructure
Risk adjusted discount rate	N/A
Key risk factors	N/A
Project cost for analysis	\$330,000
Business Unit (BU)	Primarily allocated to Airfield Movement Area
Effect on business performance	NOI after depreciation will increase
IRR/NPV	N/A
CPE Impact	Less than \$.01.

Lifecycle Cost and Savings

The Fire Station Network Upgrade Project replaces existing communications infrastructure with a more dependable, higher capacity system. This should decrease the number of maintenance related calls due to system failures. The basic cost to maintain the system will remain the same.

STRATEGIES AND OBJECTIVES

The Fire Station Network project supports the Century Agenda objective to meet the region's air transportation needs at Sea-Tac Airport for the next 25 years by maintaining and upgrading our existing facilities.

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

June 2, 2014

Page 4 of 4

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative 1) – Replace the existing fiber optics backbone in the existing location and upgrade the remainder of the system. The existing fiber optics route runs through medium voltage vaults. This is not considered safe and the maintenance personnel can't access the vaults without electrical support. This is not the recommended alternative.

Alternative 2) – Leave existing system in place. The existing system is not adequate for current or future needs. The existing fiber optics connection is a multi-mode strand. This type of fiber does not support the 2000 plus feet to the communication rooms in the Airport. We current have issues with insufficient bandwidth that gives us slow data downloads as well as dropped data. As discussed above, the existing data lines inside the fire station also create slow downloads and loss of data. Also, the existing communications system does not support the 2009 telephone system. The telephone system cannot be upgraded until the data system is brought up to date. This is not the recommended alternative.

Alternative 3) – Replace the existing fiber optics backbone using an alternate route to Concourse D. Update the existing communications system including the wireless access points, and update the existing telephone system. Updating the existing system will improve efficiency by increasing data speed, and bandwidth. The improvements will also increase system reliability and allow the upgrade of the telephone system. **This is the recommended alternative.**

ATTACHMENTS TO THIS REQUEST

- None.

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

- None.