

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA

Item No. 5e

ACTION ITEM

Date of Meeting January 22, 2013

DATE: January 15, 2013

TO: Tay Yoshitani, Chief Executive Officer

FROM: Michael Ehl, Director, Airport Operations
George England, Program Leader, Aviation Project Management Group

SUBJECT: North Expressway Wall 14 Improvements (#C800034)

Amount of This Request: \$0

Source of Funds: Airport Development Fund

Est. State and Local Taxes: \$0

Est. Jobs Created: 3-4

Est. Total Project Cost: \$958,000

ACTION REQUESTED:

Request Commission authorization to approve the change in project scope to include the North Expressway Wall 14 Improvements as part of the North Expressway Relocation Phase I project, and for the Chief Executive Officer to direct staff to prepare design documents, advertise for bids, and award and execute a major public works construction contract for the North Expressway Wall 14 Improvements project at Seattle-Tacoma International Airport.

SYNOPSIS:

The North Expressway Relocation Phase I project is nearly complete. It has reconfigured the Airport roadway system to support the continued growth at the Airport and the extension of Sound Transit's LINK light rail system to the Airport. The S. 160th St. return-to-terminal loop ramp includes Wall 14, which was constructed in an interim configuration given the needs of the planned North Expressway Relocation Phase II project. This Phase II project has since been delayed, and there are now structural stability concerns with the interim configuration of Wall 14. This authorization combines design and construction. The completion of the North Expressway Wall 14 Improvements project will address those structural stability concerns and support the future development of the North Expressway Relocation Phase II project.

This scope of work was not included in the 2013 – 2017 capital budget and plan of finance. Previous savings from the North Expressway Relocation Phase I project, which were transferred to the Aeronautical Allowance CIP, will be transferred back to cover the budget increase.

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

January 15, 2013

Page 2 of 6

BACKGROUND:

In 2004, the Port of Seattle Commission authorized the design of the S. 160th St. Loop Ramp project that would provide a new return-to-terminal loop ramp in the vicinity of S. 160th St. During the next few years, the Commission authorized additional project funding for this project, and for the North Expressway Relocation Phase I project, as part of the combined effort to relocate the Airport's roadway system and extend Sound Transit's LINK light rail system to the Airport. The roadway improvements were completed in 2007-2008, the landscaping and art elements were completed in 2010-2011, and the project is currently in final close out.

During the design of the roadway improvements, the Airport's 2005 Comprehensive Development Plan was under development. This plan included a project called the North Expressway Relocation Phase II, which would have relocated the southbound lanes of the North Expressway. Since this was planned to occur within five years of the completion of the planned roadway improvements, one of the retaining walls along the North Expressway, Wall 14 (as shown in Exhibit A), was designed in a temporary configuration since it would be significantly modified by the North Expressway Phase II project. Wall 14 was designed using a mechanically stabilized earth (MSE) system that incorporated a geotextile fabric in lieu of a more durable wall face. Construction began in 2006 and Wall 14 was completed in 2007. During this same time period the North Expressway Phase II project was delayed and is now considered a long-term project.

Since the completion of Wall 14 in 2007, the geotextile fabric face has been degrading due to ultraviolet light exposure. As a result, the strength of the fabric continues to degrade and the structural fill retained by this fabric has begun to fall out, which will lead to the settlement of the roadway above and the potential rotation of the shoulder barrier structure. Based upon field investigations conducted by structural engineers in the Port's Engineering Department, there is concern with the structural stability of the MSE system, and it is recommended that a more permanent wall solution be implemented within the next year in order to avoid potential safety issues and significantly more costly repairs.

The North Expressway Wall 14 Improvements project will construct a new structural face along Wall 14 that will address the stability concerns and provide a long-term solution until the North Expressway Phase II project occurs. We intend to proceed with this project using in-house design services with limited specialty consultant support and procure construction as a major works construction contract. The inclusion of the North Expressway Wall 14 Improvements as part of the larger North Expressway Relocation Phase I project represents a material change in the project scope and requires additional authorization by the Commission. This additional authorization is included in this request.

PROJECT JUSTIFICATION:

Authorization of this request will allow the North Expressway Wall 14 Improvements to be completed, which will address existing structural stability concerns with Wall 14 and provide a long-term solution until modified by future projects.

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

January 15, 2013

Page 3 of 6

Project Objectives:

- Provide a permanent wall surface on Wall 14 to protect the structural stability of the MSE system.
- Minimize the total cost of the improvements since they will be modified by future projects.

PROJECT SCOPE OF WORK AND SCHEDULE:

Scope of Work:

The North Expressway Wall 14 Improvements includes the construction of a non-architectural shotcrete wall surface along the entire face of Wall 14 that will be anchored with soil nails or screws. Landscape improvements along Air Cargo Rd. will not be included since these will be provided as part of the prospective Air Cargo Rd. Safety Improvements project (#C102162).

Schedule:

- Advertise Construction Contract: April 2013
- Begin Construction: July 2013
- Construction Complete: October 2013

FINANCIAL IMPLICATIONS:

Over the course of this combined effort, the Commission authorized \$110,238,700 in project funds, which were combined under the North Expressway Relocation Phase I (#C800034) project, and are summarized in the table below.

<i>Budget/Authorization Summary:</i>	Capital	Expense	Total Project
Original Budget	\$111,503,000	\$0	\$111,503,000
Previous Budget savings	-\$10,236,000	\$0	-\$10,236,000
Current Budget request	\$958,000	\$0	\$958,000
Revised Budget	\$102,225,000	\$0	\$102,225,000
Previous Authorizations	\$110,238,700	\$0	\$110,238,700
Current request for Authorization	\$0	\$0	\$0
Total Authorizations, including this request	\$110,238,700	\$0	\$110,238,700
Remaining budget to be authorized	\$0	\$0	\$0
Total Estimated Project Cost	\$102,225,000	\$0	\$102,225,000

In order to provide better definition of the anticipated costs for the North Expressway Wall 14 Improvements project, these costs are included in the project cost breakdown below.

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

January 15, 2013

Page 4 of 6

<i>Project Cost Breakdown:</i>	This Request
Construction	\$524,000
Construction Management	\$187,000
Design	\$68,000
Project Management	\$109,000
Permitting	\$21,000
State & Local Taxes (estimated)	\$49,000
Total	\$958,000

Budget Status and Source of Funds:

The North Expressway Relocation Phase I (#C800034) project is included in the 2013-2017 Capital Improvement Program and Plan of Finance as an active or in-progress project. The remaining cash flows were not sufficient to cover this additional scope, so previous budget savings for this project, which had been transferred to the allowance CIP, will be transferred back, resulting in no net change to the Aviation capital budget. This project has been funded by Passenger Facility Charge revenues, revenue bonds, reimbursements received from Sound Transit, and the Airport Development Fund. The North Expressway Wall 14 Improvements project is intended to be funded by the Airport Development Fund.

Financial Analysis and Summary:

The North Expressway Relocation Phase I project represented a \$0.24 increase to the cost per enplanement (CPE) in 2008 when the roadway improvements were completed. The analysis below shows the impact of the North Expressway Wall 14 Improvements as if it were a stand-alone project.

CIP Category	Regional Transportation
Project Type	Airport Access
Risk adjusted discount rate	Not relevant to decision
Key risk factors	Not relevant to decision
Project cost for analysis	\$958,000
Business Unit (BU)	Roadways
Effect on business performance	Aviation recovers approximately 46% of the capital and operating costs of roadway projects from the airlines.
IRR/NPV	Not relevant to decision
CPE Impact	Less than \$0.01 in 2014

Lifecycle Cost and Savings:

The completion of the North Expressway Wall 14 Improvements project will not impact existing operating and maintenance costs for the Airport roadway system.

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

January 15, 2013

Page 5 of 6

STRATEGIC OBJECTIVES:

This project supports the Port's Century Agenda objective to advance this region as a leading tourism destination and business gateway by meeting the region's air transportation needs at the Airport for the next 25 years. Completion of the North Expressway Wall 14 Improvements project will support the continued operation of the Airport roadway system.

BUSINESS PLAN OBJECTIVES:

This project supports the Airport's strategic goal of operating a world-class international airport by ensuring safe and secure operations, and managing our assets to minimize the long-term total cost of ownership. Completion of the North Expressway Wall 14 Improvements project represents the least costly alternative that ensures the continued operation of the Airport roadway system.

TRIPLE BOTTOM LINE SUMMARY:

This project will increase the long-term ability of the Airport to serve a growing number of passengers. Long-term vitality of the Airport benefits the regional economy, the local environment, and nearby communities.

ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS:

Alternative 1) Do not complete the improvements to Wall 14 – With continued exposure to ultra-violet light the geotextile face of Wall 14 will continue to degrade. This will result in the eventual settlement of the roadway above and the rotation of the shoulder barrier structure, which would close the S. 160th St. return-to-terminal ramp to all traffic until it was repaired. This past summer approximately 4,700 vehicles a day used this ramp. This is not the recommended alternative.

Alternative 2) Delay the improvements to Wall 14 – The geotextile face of Wall 14 has already degraded in locations where the structural fill it retains is falling out. Delaying the improvements to Wall 14 will allow the continued exposure to ultra-violet light and the degradation of the geotextile face, which would result in the loss of additional structural fill. This will increase the project costs since additional repair costs would be required beyond the improvements to the wall face. There is also a risk that if the improvements are delayed too long the roadway could settle and require the closure of the S. 160th St. return-to-terminal ramp. This is not the recommended alternative.

Alternative 3) Complete the improvements to Wall 14 – Completing the improvements this coming year represents the least costly alternative. While the geotextile face has degraded in a few locations, the completion of the improvements this year will stabilize the wall prior to the need for any additional repair. This alternative also represents the least risk to the Airport roadway system. **This is the recommended alternative.**

COMMISSION AGENDA

Tay Yoshitani, Chief Executive Officer

January 15, 2013

Page 6 of 6

OTHER DOCUMENTS ASSOCIATED WITH THIS REQUEST:

- Attachment A – Wall 14 Location Map.

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS:

- July 27, 2004: The Commission authorized \$4,818,000 for the design, environmental review, site and hazardous material survey, and early relocation efforts for the S 160th St Loop Ramp project.
- March 3, 2005: The Commission authorized \$12,871,000 for the design, environmental review, vacation of S 170th St, relocation of existing tenant and operators, and advertise and award a General Contractor/Construction Manager contract for the North Expressway Relocation Phase I project.
- March 14, 2006: The Commission authorized an additional \$6,000,000 for several early action items (water tower demolition and Engineering modular relocation, access revisions for Airport properties, relocation of bus stops, relocation of field offices to support Port staffing, regulated materials management to support the demolition of the Radisson Hotel, and supporting utility relocations and connections for the S 160th St Loop Ramp and North Expressway Relocation Phase I projects.
- April 11, 2006: The Commission authorized an additional \$76,126,000 for the construction, including the relocation of tenants and operators from affected properties, of the S 160th St Loop Ramp and North Expressway Relocation Phase I projects. This authorization also included additional contract authority in order to construct improvements for Sound Transit at their cost.