

**PORT OF SEATTLE**  
**MEMORANDUM**

**COMMISSION AGENDA**

**Item No.** 5a

**Date of Meeting** January 4, 2011

**DATE:** December 10, 2010

**TO:** Tay Yoshitani, Chief Executive Officer

**FROM:** George England, Program Leader, Aviation Project Management Group  
Elizabeth Leavitt, Director, Aviation Planning and Environmental Services

**SUBJECT:** Project Budget increase for stormwater quality improvements; Comprehensive Stormwater Management Program; CIP #102030

**Amount of This Request:** \$843,000      **Source of Funds:** Airport Development Fund

**State and Local Taxes Paid:** \$132,000      **Est. Workers Employed:** 18

**Total Project Cost:** \$2,343,000

**ACTION REQUESTED:**

Request authorization for the Chief Executive Officer to increase the project budget by \$843,000 to \$2,343,000 for stormwater capital improvements in the SDE4, SDS1, SDS4, and SDN1 drainage sub-basins using uncommitted previously authorized funds under the Adaptive Management phase of the Comprehensive Stormwater Management Program (CSMP), CIP 102030. No new funding is requested.

**SYNOPSIS:**

This memorandum requests authorization to increase the budget for stormwater improvement projects in four storm drainage sub-basins at Seattle-Tacoma International Airport (Airport) by transferring available uncommitted previously-authorized budget for the Adaptive Management phase of the CSMP that is intended to ‘fine-tune’ storm basin performance aspects to assure permit compliance. These projects improve existing, and create new, stormwater treatment bioswales that are intended to upgrade storm water treatment capability to help meet the water quality effluent limitations in the Port’s National Pollutant Discharge Elimination System (NPDES) permit. Without the improvements, the airport may not be able to meet the Washington Department of Ecology permit conditions. The site work will increase the ability to naturally filter out zinc and copper prior to storm water reaching local creeks and Puget Sound. No new funding authorization is necessary. This action decreases the future Adaptive Management phase budget of the program and equivalently increases the 2011 storm basin work by \$843,000 to a total cost of \$2,343,000.

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### **BACKGROUND:**

Funding for the Adaptive Management phase, and other stormwater work, was authorized by the Commission on April 11, 2006. Subsequently, based on water quality monitoring data, it was determined that water quality treatment upgrades were needed in the SDE4, SDS1, SDS4, and SDN1 sub-basins to help meet permit effluent limitations. On October 27, 2009, the Commission authorized a project budget of \$1,500,000 that included final design, preparing construction documents, advertising for bids and constructing the projects. At that time, construction was scheduled to start late summer 2010. Subsequently staff determined that construction could be deferred until spring 2011 with the intent of obtaining efficiencies and cost savings by combining and bidding this project with another stormwater project that was scheduled for 2011. This combination did not materialize due to schedule uncertainties that developed later with the other project. The deferral will meet the needs of the project sponsor since the new facilities are primarily intended to provide treatment benefits during the summer season, and will enable the post-construction earthwork to be stabilized before the fall and winter wet season to minimize potential erosion control problems.

As final design was being completed, staff in consultation with the design Consultant determined that additional budget for the design Consultant and Port staff would be required to complete the final design and support the project during construction. On November 18, 2010 the Commission was notified of a budget increase of \$300,000, and staff has included that amount in this request. The \$300,000 is for an increased cost of design and internal Port tasks driven by the schedule revision and attempting to combine projects noted above.

On December 1, 2010, the Port received the final Engineer's estimate for construction prepared by the A/E. The estimate is significantly higher than previous estimates and the budget. The increased cost is due to: the specialized bioswales filter media material required to provide increased zinc and copper treatment efficiency in order to meet the permitted water quality discharge limitations; increases in the bid items for temporary erosion and sediment control, over-excavation and backfill of unsuitable material and other unforeseen field conditions; and increases to estimated quantities and unit prices of several construction items. Staff recommends the overall construction contingency budget also be increased from the usual 10% of the engineer's estimate to 20% to account for higher than normal uncertainty in the estimated filter media bid cost. This results in a total budget increase request of \$843,000, including the previous \$300,000 notification increase, bringing the total project budget to \$2,343,000.

### **PROJECT JUSTIFICATION:**

The CSMP was initiated in June 2002 in response to permit conditions associated with the Airport's Master Plan Update. Stormwater flow control and water quality treatment facilities best management practices (BMPs) were implemented during 2005 through 2007 under the CSMP and are now operational. The Stormwater Engineering Report submitted to the Department of Ecology guided the implementation of BMPs to meet the effluent limitations prescribed in the NPDES permit in effect at that time. The BMPs were based on an All Known Available and Reasonable methods of Treatment (AKART) report approved by Ecology. The original design and construction of each CSMP facility incorporated an approach focused on

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minimizing initial capital costs with the understanding that future upgrades may be needed to meet the conditions of a renewed, but more stringent, NPDES permit. In 2006, the Adaptive Management phase of the CSMP was authorized to provide for increased treatment capability, if needed. The renewed NPDES permit became effective in April 2009 and included lower copper and zinc effluent limits.

Water quality monitoring of the sub-basin outfalls conducted over the last several years provides data on the effectiveness of pollutant removal. The monitoring data has revealed several instances where copper and zinc concentrations exceeded the limits set forth in the renewed permit. Except for one water quality exceedance that occurred in August 2009, approximately twelve other exceedances were recorded, but they did not cause permit non-compliance conditions since they occurred when the previous permit was in effect.

In response, under the Adaptive Management phase of the CSMP, selected stormwater sub-basins were evaluated to determine what additional BMP improvements could be made to reduce the risk of exceeding effluent limits in the renewed permit. The proposed work is an outcome of that evaluation.

### **PROJECT STATEMENT AND OBJECTIVES:**

#### ***Project Statement:***

Construct stormwater capital improvements for the SDE4, SDS1, SDS4, and SDN1 drainage sub-basins, including new facilities and upgrades to existing facilities, to increase water quality treatment capability.

#### ***Project Objectives:***

Increase water quality treatment capability in the stormwater sub-basins to reduce the risk of exceeding effluent limits set forth in the renewed NPDES permit and being in a permit non-compliance condition.

### **PROJECT SCOPE OF WORK AND SCHEDULE:**

#### ***Scope of Work:***

SDE4 sub-basin: Modify an existing bioswale with filter media.

SDS1 sub-basin: Modify an existing bioswale with filter media and modify an existing stormwater vault to enable separation of the SDE4 and SDS1 flows.

SDS4 sub-basin: Construct a new bioswale with filter media and associated pipelines and structures.

SDN1 sub-basin: Construct a new bioswale with filter media and associated pump system, piping, and structures; construct energy dissipation structure on SDN1 pond inflow pipe.

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### ***Schedule:***

Construction contractor procurement: January – March, 2011

Construction (Substantial Completion): April – November, 2011

### **FINANCIAL IMPLICATIONS:**

#### **Budget/Authorization Summary:**

This project and request utilizes uncommitted previously authorized stormwater budget for Adaptive Management work. Including this request, \$2,853,000 of the \$12,700,000 stormwater budget for the Adaptive Management phase of CIP 102030 has been apportioned to projects. No additional authorization is requested. The following capital budget and authorization summary is for CIP 102030, Comprehensive Stormwater Management Program.

Original Budget	\$76,749,515
Budget Transfers	\$(58,149)
Revised Budget	\$76,691,366
Budget Reductions	\$(28,376,573)
Current Budget	\$48,314,793
Previous Authorizations this CIP	\$78,853,027
Authorization Transferred with Budget Transfers	\$(2,120,676)
Net Previous Authorizations	\$76,732,361
Current Request for Authorization	\$0
Total Authorizations, including this request	\$76,732,351
Remaining budget to be authorized	\$0

#### **Project Cost Breakdown:**

Construction costs	\$1,429,000
Sales tax	\$132,000
Outside professional services	\$424,000
Aviation PMG and other soft costs	\$358,000
Total	\$2,343,000

#### **Budget Status and Source of Funds:**

The project is included in the 2011 – 2015 capital budget and plan of finance under CIP #102030. The funding source will be Airport Development Fund and the 2010 revenue bonds.

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### **Financial Analysis and Summary:**

CIP Category	Compliance
Project Type	Environmental
Risk adjusted Discount rate	Not applicable
Key risk factors	Not applicable
Project cost for analysis	\$2,343,000
Business Unit (BU)	Stormwater costs are allocated 86% to Airfield cost center and 14% to Landside
Effect on business performance	NOI after depreciation for this project will be positive due to recovery of 86% of the operating and capital costs in the Airfield cost center through landing fees.
IRR/NPV	Not applicable
CPE Impact	CPE will increase by less than \$0.01 in 2012. However, no change to business plan forecast as the total budget for this CIP has not changed and was included.

### **ECONOMIC IMPACTS AND BUSINESS PLAN OBJECTIVES:**

This project will increase stormwater quality treatment capability. Proceeding with this project will reduce the Port's risk of non-compliance with NPDES permit water quality limitations and the associated potential penalties.

### **STRATEGIC OBJECTIVES:**

This project supports the following Port-wide strategies to exhibit Environmental Stewardship through our Actions to become the cleanest, greenest, and most energy efficient Port in the world.

The project also supports the Airport's Environmental strategies:

- **Improve Water Quality:** Implement stormwater best management practices to improve stormwater runoff quality.
- **Meet Environmental Obligations:** The Port is obligated as a steward within the community to comply with all environmental regulations. In addition, compliance with water quality effluent limitations is a requirement of the Airport's NPDES permit. Failure to comply may subject the Port to enforcement actions by Ecology which could include monetary fines.

### **ENVIRONMENT SUSTAINABILITY AND COMMUNITY BENEFITS:**

Stormwater quality treatment facilities require ongoing maintenance to perform at the design intent and work towards meeting regulatory conditions over the long run. This request does not change the previously identified annual maintenance costs for the project.

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### **TRIPLE BOTTOM LINE SUMMARY:**

The CSMP is driven by Port environmental stewardship, environmental regulatory requirements, and the mandatory conditions of the 401 Certification for the Master Plan Update and NPDES 402 Permit. The program provides a cost-effective means of accomplishing necessary environmental regulatory requirements. Facilities completed under this program provide an overall benefit to the drainage basins, the community, and the region by enhancing stormwater flow control and water quality that enhances fish habitat and improves the ability for further development within the Airport and the adjacent communities.

### **ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS:**

Alternative 1 – Implement the facility upgrades and additions as proposed. This alternative will substantially increase treatment capability and reduce the chance of exceeding effluent standards that would result in permit non-compliance. **This is the recommended alternative.**

Alternative 2 – Reduce the scope of the proposed work by eliminating one or more of the facility upgrades or additions. This will reduce the project budget, but will not provide the increased treatment capability believed to be necessary to significantly reduce the risk of exceeding effluent limits. This is not the recommended alternative.

Alternative 3 – Do not implement any of the proposed improvements. The facilities would remain in their existing condition, exceedances of effluent limits would likely occur in the future, and an increased probability of permit non-compliance situations would result. The Department of Ecology could impose penalties for permit non-compliance. This is not the recommended alternative.

### **OTHER DOCUMENTS ASSOCIATED WITH THIS REQUEST:**

None

### **PREVIOUS COMMISSION ACTION OR BRIEFING:**

Previous Commission funding actions on CIP 102030 Comprehensive Stormwater Management Plan include:

- On June 11, 2002, the Commission authorized \$1,000,000 to conduct preliminary studies and finalize program definition and planning for a new Comprehensive Stormwater Management Program, CIP 102030.
- On March 11, 2003, the Commission authorized \$9,354,000, which included an additional \$4,125,000 for continuation of CIP 102030 Comprehensive Stormwater Management Program Plan and Definition; \$3,731,000 for initiating CIP 102108 Drives Connection to IWS Project; \$668,000 for initiating CIP 102109 Stormwater Pollution Prevention Project; and \$830,000 for initiating CIP 102146 Low Flow Pilot Program.
- On February 10, 2004, the Commission authorized \$10,000,000 for continuation of CIP 102030, Comprehensive Stormwater Management Program Plan and Definition.

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- On May 5, 2005, the Commission authorized \$14,981,000 for continuation of CIP 102030, Comprehensive Stormwater Management Program Plan and Definition.
- On October 25, 2005, the Commission authorized \$12,408,000 for continuation of CIP 102030, Comprehensive Stormwater Management Program Plan and Definition.
- On April 11, 2006, the Commission authorized an additional cost of \$36,208,000 for continuation of CIP 102030, Comprehensive Stormwater Management Program Plan and Definition. Funding for Adaptive Management phase stormwater projects was authorized by this action.
- On March 31, 2009, the Commission authorized final design and construction of capital upgrades to the North Snowmelt and North Cargo stormwater pump stations under the Adaptive Management phase of the CSMP.
- On October 27, 2009, the Commission authorized final design and construction of new stormwater quality improvements at Northeast and Southeast portions of airfield to meet national permit requirements in the amount of \$1,500,000.00.
- On November 18, 2010, the Commission was notified the project budget needed to be increased by \$300,000.