

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA
ACTION ITEM

Item No. 4b
Date of Meeting May 17, 2016

DATE: May 9, 2016
TO: Ted Fick, Chief Executive Officer
FROM: Stephanie Jones Stebbins, Director, Maritime Environment and Sustainability
George Blomberg, Sr. Environmental Program Manager
Roy Kuroiwa, Sr. Environmental Program Manager
SUBJECT: Approval of an Inter-Agency Agreement with Ecology to perform bank-line repairs at Terminal 108 West

ACTION REQUESTED

Request Commission authorization for the Chief Executive Officer to execute an Inter-Agency Agreement (IAA) with the Washington State Department of Ecology (Ecology) to accept 100 percent reimbursement of up to \$25,000 to perform a one-time maintenance action at the recently completed stabilized and rehabilitated Terminal 108 West bank-line. The funds will provide reimbursement of Port staff and material costs to perform this maintenance work.

SYNOPSIS

This project will repair approximately 125 linear feet of previously stabilized and rehabilitated shoreline at Terminal 108 West. Port staff will design and conduct the maintenance work. The project cost will be 100% reimbursable through Ecology's remedial grant funds, not to exceed \$25,000. These costs will include Port staff costs, benefits, indirect charges and internal and external customer costs as outlined in the IAA. Following execution of the IAA, the repair work will be implemented and completed before October 31, 2016.

BACKGROUND

Terminal 108 West is included in the Lower Duwamish Waterway (LDW) Superfund Site. The Record of Decision (ROD) for the cleanup of the in-waterway portion of the site was published in 2014.

As a component to the overall LDW cleanup, Ecology has implemented a source control strategy for the 32 square miles of combined sewer and stormwater drainage that serves the LDW Superfund site, as well as control of sources of potential contamination from shoreline sites in the waterway. The objective of the state source control strategy is to prevent recontamination of the LDW to levels that exceed the Washington State Sediment Management Standards and the LDW sediment cleanup goals. Ecology has identified shoreline erosion as an important contamination and recontamination pathway, with the potential for release of previously placed fill materials comprising LDW shorelines.

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Approximately 345 linear feet of bank-line at Terminal 108 West, on the east shore of the Duwamish Waterway (approximately river mile 0.9-1.1), was identified as a problem erosion area by Ecology and the port, the result of vessel-generated wakes and currents in the Duwamish Waterway. Erosion disrupts shoreline and aquatic areas allowing previously placed fill materials and soils to enter the LDW, reducing the upland area available for marine industrial use and, potentially, introducing contaminants to the waterway.

On April 9, 2014, the Port and Ecology entered into an Inter-Agency Agreement (IAA) No. C1400216. As required by the IAA, in June 2015, the Port completed stabilization and rehabilitation of approximately 345 linear feet of eroding shoreline at Terminal 108 West.

Approximately 265 linear feet of bank-line at the project site was stabilized using alternative techniques, including anchored, large woody debris and native riparian vegetation. Existing riprap slopes were stabilized in an additional 80 feet of bank-line. The project provided proof-of-concept for alternative stabilization techniques, combining effective control of chronic bank-line erosion with rehabilitation of important riparian habitat beneficial to the Duwamish Waterway.

Due to persistent vessel generated wakes during high tide periods in the Duwamish Waterway, approximately 125 linear feet of the recently stabilized and rehabilitated bank-line at Terminal 108 West requires repair and maintenance. The bank-line project, as completed in June 2015, is stable, however, post-construction inspection revealed that the outer row of anchored large-woody-debris, installed as a water-ward barrier, protecting an up-slope, double rank of heavy, anchored logs, has been disrupted due to tugboat wakes, a chronic problem in the Duwamish Waterway.

PROJECT JUSTIFICATION AND DETAILS

Regular inspection and repair of bank-line stabilization work in tidally-influenced areas is prudent, serving to counter-act chronic erosion and avoid and minimize maintenance costs. In particular, inspection of the recently completed Terminal 108 West project, approximately six months following construction, was important, in light of the alternative bank-line stabilization techniques used at the site, to verify that the stabilization work was functioning properly and to determine the need for any adjustments or follow-up repairs.

The proposed bank-line maintenance actions will ensure that the previous stabilization work continues to be successful, providing a remedy for chronic shoreline erosion. In addition, the minor maintenance actions will guarantee that approximately 0.45 acres enhanced shoreline and inter-tidal fish and wildlife habitat produced by the Terminal 108 West project will be a durable contribution to the habitat goals listed in the Century agenda. There are no additional requirements or work the Port will need to perform in order to receive this reimbursement other than signing the IAA and filing for reimbursement.

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Project Objectives

- Ensure stable and environmentally beneficial Duwamish Waterway bank-line conditions at our properties
- Prevent bank-line materials from eroding and entering into the LDW
- Demonstrate LDW source control through innovative and cost-effective measures
- Reduce the Port's maintenance costs
- Demonstrate coincident benefit to Century Agenda goal of restoring, creating, and enhancing 40 additional acres of habitat in the Green/Duwamish watershed and Elliott Bay
- Sustain important maritime business needs in the Duwamish Waterway by ensuring navigational access in the waterway (2015 business plan)

Scope of Work

Task 1: Project management: Maintain project files, prepare invoices and progress reports, and coordinate with Ecology project manager.

Task 2: Plans and Permitting: Preparation of detailed work plan, including specific repair and maintenance tasks, submit for Ecology review and approval. Existing city, state, and federal authorizations remain in place from the initial repair work, allowing for the necessary repair and maintenance.

Task 3: Construction: Conduct repair and maintenance tasks and record field inspections post-construction. This task includes resetting and adjusting existing large-woody-debris log anchor chains and installing additional chain-binder links. The port will install and fasten up to 25 additional coir (plant fabric) bundles to fill gaps between logs where soil and plants have been eroded. Additional native marsh vegetation will also be installed. The repair and maintenance actions do not require excavation of sediments or use of machinery in shoreline area at the site.

Task 4: Reporting. Prepare an as-built performance report for Ecology for review and approval. The report will include photos, performance observations and a summary of effectiveness.

Schedule

The proposed repair and maintenance actions will begin following execution of the IAA, anticipated in the end of May 2016. Repair and construction plans will be completed in April 2016. Construction is expected to require five working days, with completion in May 2016.

All project tasks and reporting will be complete, no later than October 31, 2016.

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FINANCIAL IMPLICATIONS

The Port will submit invoices quarterly, and receive 100% reimbursement up to the full amount of the IAA if funding is available.

<i>Budget/Authorization Summary</i>	Capital	Expense	Total Project
Original Budget	\$0	\$25,000	\$25,000
Previous Authorizations	\$0	\$0	\$0
Current request for authorization	\$0	\$0	\$0
Total Authorizations, including this request	\$0	\$25,000	\$25,000
Remaining budget to be authorized	\$0	\$0	\$0
Total Estimated Project Cost	\$0	\$25,000	\$25,000

<i>Project Cost Breakdown</i>	This Request	Total Project
Construction	\$19,300	\$19,300
Construction Management	\$1,000	\$1,000
Design	\$300	\$300
Project Management	\$1,400	\$1,400
Permitting	\$0	\$0
State & Local Taxes (estimated)	\$3,000	\$3,000
Total	\$25,000	\$25,000

Budget Status and Source of Funds

A maximum amount of \$25,000 will be spent by the Port and reimbursed by Ecology summing a net total, including staff time and direct costs, of \$0.00.

Lifecycle Cost and Savings

Please note that the cost for a comprehensive replacement of this section of Terminal 108 West bank-line, should the bank fail completely, is estimated at \$350,000.

STRATEGIES AND OBJECTIVES

- The proposed bank-line repairs demonstrate alternative, cost-effective bank-line stabilization methods. Bank-line repair actions will function as “source control” at the Duwamish Waterway site, minimizing erosion of previously placed fill and sediments to the waterway, a primary route of potential recontamination of the LDW Superfund site.
- Controlling the source of bank-line erosion will contribute to the health of the waterway and adjacent communities.
- The proposed bank-line repair site, at the southwest margin of Terminal 108 West, is adjacent to the existing Diagonal Avenue South public shoreline access site, and will protect and enhance the public shoreline access site.
- The proposed minor maintenance actions will sustain the riparian bank-line and aquatic area habitat enhancements accomplished by the Terminal 108 West bank-line

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stabilization project, confirming approximately 0.45 acres progress toward the Century Agenda habitat goal.

- The proposed project supports port business plan goals, providing stable shoreline conditions at an existing marine industrial asset site and aiding maritime business and trade by reducing eroding sediments and resulting shoaling in the Duwamish Waterway.

ALTERNATIVES AND IMPLICATIONS CONSIDERED

Alternative (1): Do not sign the IAA, with port responsible for project repair and maintenance costs. Defer maintenance work until additional funds can be identified.

Cost Implications: No staff resources or construction costs for repair and maintenance actions would be required. Future staff and construction costs would be the port's responsibility, with the potential for greater future costs.

Pros:

- (1) This will allow the port to defer the maintenance work.
- (2) Staff resources necessary to obtain Ecology reimbursement will not be required.

Cons:

- (1) Delay of repair and maintenance actions may lead to further shoreline erosion and increased future repair and maintenance costs.
- (2) Ecology may not have funds for use in repair and maintenance under a future IAA.

This is not the recommended alternative.

Alternative (2): Do not sign the IAA and defer repair and maintenance work until the bank-line fails, with port funds necessary for subsequent expanded scope repair.

Cost Implications: Staff resources and construction costs necessary for timely bank-line repair and maintenance would not be required. However, bank-line erosion would be substantial, leading to subsequent failure of the bank-line, resulting in costs approximately ninety percent greater than present repair and maintenance costs (Potentially up to \$350,000).

Pros:

- (1) Costs for this work will be postponed
- (2) Ecology and port staff resources will not be required
- (3) Alternative (1) costs would be delayed

Cons:

- (1) Delay of maintenance actions may lead to significant bank-line failure causing further erosion along the shoreline and significantly increase the maintenance costs.
- (2) A catastrophic failure of the bank-line may require a complete bank replacement resulting in increased project costs.
- (3) Cost to the Port for rehabilitation or replacement of a failed bank-line may reach \$350,000.

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This is not the recommended alternative.

Alternative (3): Sign the IAA, with the Port performing the work and reimbursement by Ecology, up to \$25,000.

Cost Implications: Timely repair and maintenance would be accomplished, using funds provided by Ecology. Port repair and maintenance costs would be avoided.

Pros:

- (1) Necessary repair and maintenance work will be reimbursed by Ecology.
- (2) Timely repair and maintenance of the bank line will be accomplished

Cons:

- (1) None

This is the recommended alternative.

ATTACHMENTS TO THIS REQUEST

- Currently proposed IAA (Inter Agency Agreement)

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS

- None