

PORT OF SEATTLE
MEMORANDUM

COMMISSION AGENDA

Item No. 5b

Date of Meeting February 28, 2012

DATE: February 17, 2012

TO: Tay Yoshitani, Chief Executive Officer

FROM: Mike McLaughlin, Director, Cruise & Maritime Operations
Fred Chou, Project Manager, Seaport Project Management

SUBJECT: Pier 66 Apron Pile-Wrap Project Design Funding Request
CIP #C800516

Amount of This Request: \$135,000

Source of Funds: General Fund

Total Project Cost: \$2,378,000

ACTION REQUESTED:

Request Port Commission authorization for the Chief Executive Officer to proceed with design development, environmental review, permit applications, and preparation of construction documents for the Seaport Pier 66 Apron Pile-Wrap Project for an estimated cost of \$135,000 bringing the total authorized cost of this project to \$167,000. The total estimated project cost is \$2,378,000.

SYNOPSIS:

The Pier 66/Bell Harbor complex is a 193,000 square-foot multi-use facility built in 1995 as part of the Central Waterfront Project. Most of the facility is over water and is supported by a combination of precast concrete and steel pipe piles. To protect the upper section of pipe pile, which is exposed to oxygen and subject to corrosion, the steel pilings were coated with an epoxy-based material at the time of installation. Additionally, a cathodic protection system installed during construction of the facility continues to protect the lower submerged portion of the steel piling. Recent investigative effort has confirmed the cathodic system is functioning well.

The typical performance life of an epoxy protective coating applied to steel piles in a marine environment has a span of 10-15 years. At this facility, the coating has reached the end of its design life. Evidence of oxidation forming of varying degrees is clearly visible on the surface of the steel piling. If left unattended, corrosion will continue and distress the steel pipe piles.

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Maintaining focus on proactive asset stewardship is the key to achieving consistent performance and maximum life of the pile support system.

For these reasons Port Maintenance has been monitoring the condition of the piling for several years, applying remedial measures as needed to distressed piles. Through scheduled expense work projects over the last few years, select piles showing severe corrosion have been recoated with an additional layer of epoxy material. In addition, as a corrective maintenance action, some piles have been armored with a high density polyethylene pile-wrap material to address the corrosion. To extend maximum performance life of the structural piling system, the need for further remedial measures has expanded and generally applies to all steel pilings at Pier 66.

Preliminary design work confirmed that pile wrapping is an effective way to address the corrosion problem. However, additional diving inspection, testing, detailed design analyses, material selection, and permitting must be completed before a construction package can be finalized and future work begun. The pile-wrap installation project is projected to be performed under a multi-year program, over a period of five years.

This project will address steel corrosion on piling/structures associated with Seaport operations. A separate project will address corrosion associated piling/structures that are managed by Real Estate. The timing of the Real Estate pile-wrap project is to be coordinated with the upcoming City of Seattle Seawall Replacement Project.

The Real Estate pile-wrap project, i.e., wave break structure protecting the Bell Harbor Marina, has been included in the 2012 capital plan and will tentatively begin in 2013. The Port and the City entered into a memorandum of understanding (MOU) in 1989 prior to the building of the Central Waterfront project including the marina. The MOU states that under current conditions, major capital improvements will be cost shared, 30% City and 70% Port. Although the City has not confirmed its obligations under the MOU, staff are currently working with the City and discussing this improvement as well as several elements of the MOU. Much of the work invested in the Seaport pile-wrap project design and permitting efforts will also be applicable to the future Real Estate pile-wrap project at Bell Harbor and other facilities, including Pier 69, on similar steel pile support systems.

Following completion of design, staff will return to the Commission to seek final authorization for construction.

PROJECT JUSTIFICATION:

The proposed project would preserve an important asset. Authorization to proceed with this project will allow a new pile-wrap system to be installed to replace a coating system that has reached its expected service life. If left unattended, corrosion will continue and distress the steel pipe piles. Maintaining focus on proactive asset stewardship is the key to achieving consistent performance and maximum life of the pile support system.

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Project Objectives:

- Preserve the structural integrity of the steel piling
- Complete project on time and within budget
- Protect the environment while performing the work
- Minimize disruptions to facility operations

PROJECT SCOPE OF WORK AND SCHEDULE:

Scope of Work:

The scope of work of this project includes design development and permitting of a pile-wrap system for Seaport steel piling at the Pier 66/Bell Harbor facility. Design will also include the cleaning and replacement of an epoxy coating at the structural connection on top of some steel piles.

Schedule:

This will be a multi-year project and will be closely coordinated with the Pier 69 North Apron Corrosion Control Project since it also includes a pile wrap component. The preliminary project schedule is as follows:

Commission Approval	February 2012
Permit/Design Complete	August 2012
Construction Funding Approval	September 2012
Construction (5-Year Program)	October 2012 – October 2017

FINANCIAL IMPLICATIONS:

Budget/Authorization Summary:

Original Budget (2012 Plan of Finance)	\$2,378,000
Previous Authorizations (Preliminary Planning)	\$32,000
Current request for authorization	\$135,000
Total Authorizations, including this request	\$167,000
Remaining budget to be authorized	\$2,211,000
Total Estimated Project Cost	\$2,378,000

Project Cost Breakdown:

Construction *	\$1,869,000
Construction Management *	\$130,000
Design	\$112,000
Project Management	\$56,000

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Permitting	\$33,000
State & Local Taxes (estimated) *	\$178,000
Total	\$2,378,000

* Preliminary information only. Costs will be reviewed in detail during design development.

Budget Status and Source of Funds:

This project was included in the 2012 plan of finance under committed CIP #C800516, P66 Apron Pile Wrap, in the amount of \$2,378,000.

This project will be funded from the General Fund.

Financial Analysis and Summary:

CIP Category	Renewal/Enhancement																								
Project Type	Renewal/Replacement																								
Risk adjusted discount rate	N/A																								
Key risk factors	<ul style="list-style-type: none"> • Material costs could fluctuate as a result of the extended project timeline. • Final bottom elevation of the pile wrap will determine whether divers would be needed for the installation. Higher construction costs would result if diver participation is required. • Environmental permitting may cause project delays. 																								
Project cost for analysis	\$2,378,000																								
Business Unit (BU)	Seaport Cruise & Maritime Operations																								
Effect on business performance	<p>This project will not generate any incremental revenue.</p> <p>Depreciation expense based on actual project costs will be determined as assets are put in use. It is estimated that 20% of the assets will be put in use annually during the five-year project with an estimated useful life of 20 years.</p> <p>As a result, Net Operating Income after Depreciation for this facility is projected to be as follows, stabilizing at \$119,000 per year in 2017.</p> <table border="1"> <thead> <tr> <th>NOI (in \$000's)</th> <th>2012</th> <th>2013</th> <th>2014</th> <th>2015</th> <th>2016</th> </tr> </thead> <tbody> <tr> <td>NOI</td> <td>\$0</td> <td>\$0</td> <td>\$0</td> <td>\$0</td> <td>\$0</td> </tr> <tr> <td>Depreciation</td> <td>\$0</td> <td>(\$24)</td> <td>(\$48)</td> <td>(\$71)</td> <td>(\$95)</td> </tr> <tr> <td>NOI After Depreciation</td> <td>\$0</td> <td>(\$24)</td> <td>(\$48)</td> <td>(\$71)</td> <td>(\$95)</td> </tr> </tbody> </table>	NOI (in \$000's)	2012	2013	2014	2015	2016	NOI	\$0	\$0	\$0	\$0	\$0	Depreciation	\$0	(\$24)	(\$48)	(\$71)	(\$95)	NOI After Depreciation	\$0	(\$24)	(\$48)	(\$71)	(\$95)
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IRR/NPV	N/A																								

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Lifecycle Cost and Savings:

Annual Operating and Maintenance costs are not forecasted to change appreciably and will be analyzed in detail during the design phase of the project when more specific information on materials is available.

STRATEGIC OBJECTIVES:

This project supports the Port's strategy to "Ensure Airport and Seaport Vitality" by maintaining and preserving vital Seaport assets.

ENVIRONMENTAL SUSTAINABILITY:

Design and project implementation will include practices to avoid and minimize potential negative environmental effects. The project will identify construction and maintenance methods, materials, and practices for effective under-pier work while avoiding release of deleterious materials to the environment and reducing the potential for adverse effects on aquatic area natural resource values. Timely asset preservation extends the service life of existing infrastructure, as an alternative for avoiding more environmentally disruptive and resource/materials consumptive large scale structure replacement actions.

BUSINESS PLAN OBJECTIVES:

The Cruise and Maritime Operations Business Strategy is to market Seattle as a homeport and a port of call to cruise lines serving Alaska and the Pacific Northwest. Proceeding with the project will help preserve the integrity of the steel piles and allow continued operations at the facility.

TRIPLE BOTTOM LINE SUMMARY:

Preserving existing assets defers high-impact and high-cost asset replacement, and therefore reduces environmental impact and supports the economic vitality by reducing Port costs and generating construction jobs. The proposed construction methods will have minimal noise and traffic impact to the surrounding communities.

ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS:

Alternative 1: Do nothing. This alternative would allow corrosion to continue and spread, causing distress to the critical structural support system. This alternative is not recommended.

Alternative 2: Replace the deteriorated epoxy-based coating system with another epoxy-based coating system. Port's experience with recoating epoxy-coated piling in the tidal zone has been unfavorable since the work is not done in a controlled environment, which often leads to compromised coating durability. This alternative is not recommended.

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Alternative 3: Replace the deteriorated epoxy-based coating system with a pile-wrap system. This would provide a longer design life and more durable alternative to an epoxy-based coating system. **This alternative is recommended for implementation.**

OTHER DOCUMENTS ASSOCIATED WITH THIS REQUEST:

Photos of pilings at Pier 66

PREVIOUS COMMISSION ACTIONS OR BRIEFINGS:

None