THE NORTHWEST SEAPORT ALLIANCE
MEMORANDUM

MANAGING MEMBERS
ACTION ITEM

Item No. 5B

Date of Meeting September 1, 2020

DATE: August 19, 2020

TO: Managing Members

FROM: John Wolfe, CEO

Sponsor: Tong Zhu, Chief Commercial Officer

Project Managers: Andre Elmaleh, Snr Manager, Business Development, and Brett Ozolin, Engineering Project Manager II

SUBJECT: Blair Terminal Fender System Upgrades

A. ACTION REQUESTED

As referenced in NWSA Resolution No. 2020-02, Exhibit A, Delegation of Authority Master Policy, Paragraph 8.c.iii., states project costs exceeding $300,000 require approval from Managing Members.

Requesting project authorization in the amount $802,400 for a total authorized amount of $905,000, for work associated with the Blair Terminal Fender System Upgrades, Master Identification No. 201104.01.

B. SYNOPSIS

The Blair Terminal wharf is 600 feet long and accommodates vessel berthing maneuvers with a timber wale and fender pile system. The facility is primarily used for berthing RO-RO vessels. The fender system is not designed for such large vessels and prone to damage. Based on inspection and preliminary design, 13 fender piles and 260 feet of wale need to be replaced. Remaining portions of the system are aged, near the end of their viable service life and are susceptible to impact damage due to exposed connection hardware not designed for RO-RO berthing. Project authorization would fund design, procurement and replacement of the 13 damaged fender piles and replacement of all 600-feet of timber wales, chocks and miscellaneous hardware with steel components. Replacing with steel components provides a more robust system with reduced maintenance requirements. This solution was previously completed at Terminal 7. This work is urgently needed within the current in-water work window that expires on February 15th, 2021. Long lead timber piles and steel wale assemblies will be procured by the Alliance through an Invitation To Bid (ITB) process and installed by a contractor through a competitive bid process.

C. BACKGROUND

Consultants inspected the Blair Terminal as part of the South Harbor port-wide routine condition assessments completed in 2019. The assessment identified deficiencies which led to a following detailed inspection and repair options study in 2020.

The Blair Terminal fender system consists of timber fender piles, timber chocks, timber wales, rubber fenders and miscellaneous hardware. The detailed inspection noted that 13 fender piles (21 percent) were found in need of replacement. Approximately 136 linear feet (26 percent) of timber chocks require replacement. Approximately 260 linear feet (43 percent) of the timber wales require replacement. Additionally, ten U-bolt connections (16 percent) require replacement exclusive of other connections in other noted damage areas. Figure 1 shows representative conditions of the timber fender system and a missing pile. The consulting engineer developed a holistic repair study to address immediate repair needs, the age of other facility components, and performance of the as-built system.

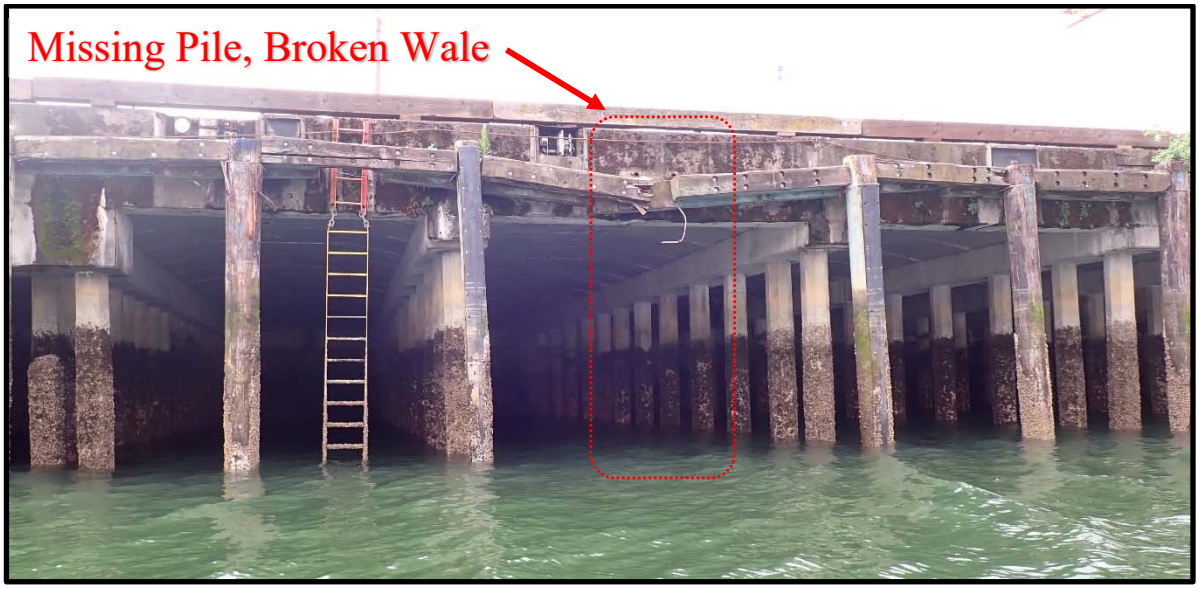


Figure 1- Blair Terminal Fender System

The Port's consulting engineer submitted an alternatives analysis study that identified four viable repair options, but the Commercial and Engineering departments determined only two options were feasible given budget and service life considerations. The recommended repair option is to replace damaged timber fender piles and the timber wale and chock system with a steel system upgrade.

Replacing timber components with steel components provides multiple advantages for a marginal increase in cost. The existing timber fender system relies on a damage susceptible connection to secure fender components. The steel component upgrade would eliminate this connection with a more redundant and robust design. In 2014 the Alliance spent $350,000 on timber repairs. With the existing timber system, the repair cycle is approximately 5 years. Engineering estimates the repair cycle for an upgraded steel system would be at least 10 years, reducing program management costs. A steel system has increased material costs,

but steel assemblies can be fabricated in a shop and bolted in place relatively quickly. Timber systems are field cut and installed by a marine contractor, leading to increased labor costs. Steel material costs are partially offset by reduced labor costs. Lastly, the proposed steel upgrades constitute a repair and fall within the Alliance's existing programmatic permit, minimizing permitting requirements and costs. Due to observed damage, repairs are urgently needed to maintain service and lease commitments at the terminal for the Port's tenant, Auto Warehousing Company.

D. PROJECT DESCRIPTION AND DETAILS

The project consists of removal and replacement of 13 timber piles and demolition and disposal of the existing timber wales, chocks, rubber fenders and associated hardware. This material will be replaced or upgraded with steel wale assemblies. The steel wale assemblies will have multiple components. The first component is a built-up beam section or wale. Secondary components of the wale include rubber fender units, connection hardware and Ultra-High Molecular Weight (UHMW) rub faces. The project will be broken into a procurement phase and a construction phase.

Timber fender piles and steel wale assemblies have an approximate lead time of 90 days from the date of contract execution to date of delivery. The Port will procure and provide these materials to the contractor to be installed. This project approach saves an estimated six to eight weeks on overall project schedule because material procurement can proceed concurrently with bid package development and bid solicitation for a marine contractor for installation. Before a contractor could order materials, at least six weeks would be required to solicit bids, review the project, execute a contract and order materials.

Project Objectives

The objective of the project is to restore the as-designed vessel berthing capacity of the Blair Terminal fender system to meet lease obligations and maintain vessel servicing capacity. Project work will replace/upgrade existing fender system components. Project work will be completed within the current in-water work window which closes February 14, 2021.

Scope of Work

The scope of work will include:

- Permitting
- Final design and construction documents
- Procurement of timber fender piles
- Procurement of steel wale assemblies, rubber fenders, and UHMW (Ultra High Molecular Weight) facings
- Demolition and disposal of existing timber wale system
- Contractor installation of Port procured materials (steel wale assemblies, rubber fenders and timber fender piles)

Schedules

The timber fender piles, steel wale assemblies and UHMW facing will have their own respective bid schedules. Bid advertisement and procurement periods for timber fender piles and the wale assemblies will be similar, but milestone dates may shift slightly based on the material. UHMW facing will have a relatively short bid and procurement period. Only one Invitation To Bid (ITB) schedule is shown below and is representative for both timber fender piles and steel wale assemblies.

Invitation To Bid Schedule (Timber Fender Pile and Steel Wale Assembly)

Advertise for Bid	September, 2020
Open Bids	September, 2020
Material Received	December, 2020

Construction Schedule Installation

Advertise for Bid	September, 2020
Open Bids	October,2020
Substantial Completion	February 14, 2021
Final Completion	March, 2021

E. FINANCIAL IMPLICATIONS

Project Cost Details

	This Request	Total Previous Requests	Total Project Cost	Cost to Date	Remaining Costs
Procurement	**$ 370,000**		$ 370,000		$ 370,000
Pre-Design		$ 26,300.00	$ 26,300	$ 26,300.00	$ -
Design		$ 76,302.00	$ 76,302	$ -	$ 76,302
Construction	**$ 432,398**		$ 432,398		$ 432,398
Total	**$ 802,398**	**$ 102,602**	**$ 905,000**	**$ 26,300**	**$ 878,700**

Source of Funds

The current Capital Investment Plan (CIP) Budget allocates $905,000 for this project.

Financial Impact

Project costs will be capitalized and depreciated over an estimated useful life of 15 years. Estimated annual depreciation expense will be $60,000.

The estimated remaining net book value of $4,000 will be expensed at project completion.

The tariff revenue at the Blair terminal was over $4 million in 2019 and will exceed $2 million in 2020. If the terminal became unusable due to the failure of the fender system, AWC would be significantly impacted in their ability to service current customers.

F. ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS

Alternative 1) Do nothing, which may render the pier unusable in the near future, possibly damage berthing vessels, and create a significant customer disadvantage if Auto Warehousing Company's customer vehicles are discharged at Terminal 7.

Alternative 2) Repair in-kind with timber at an estimated cost of $600,000 and an estimated 5-year service life.

Alternative 3) Repair by replacing/upgrading timber components with steel components at a project cost of $905,000 and an estimated 10-year service life.

Alternative 3 is the recommended course.

G. ENVIRONMENTAL IMPACTS/REVIEW

Permitting: The work is already covered under the Port's existing federal, state and local programmatic pile replacement permits. A SEPA categorical exemption was issued in 2011. No new environmental permits are anticipated to be needed as part of this project.

Remediation: There is no known contamination within the project area and no remediation is anticipated.

Stormwater: A Stormwater Pollution Prevention Plan (SWPPP) short form will be completed prior to construction. Appropriate BMPs will be implemented to control stormwater runoff during pile replacement activities.

Air Quality: Not applicable.

H. ATTACHMENTS TO THIS REQUEST

- Computer slide presentation.

I. PREVIOUS ACTIONS OR BRIEFINGS

Date	Action	Amount
March 31, 2020	Executive Authorization	$26,300
July 15, 2020	Executive Authorization	$76,302
TOTAL		**$102,602**

Item No: 5B
Date of Meeting: September 1, 2020

THE NORTHWEST SEAPORT ALLIANCE
Gateway to Solutions

Project Authorization For Blair Terminal Fender System Upgrades

Presenters:
Andre Elmaleh, Senior Manager, Business Development
Brett Ozolin, Engineering Project Manager II

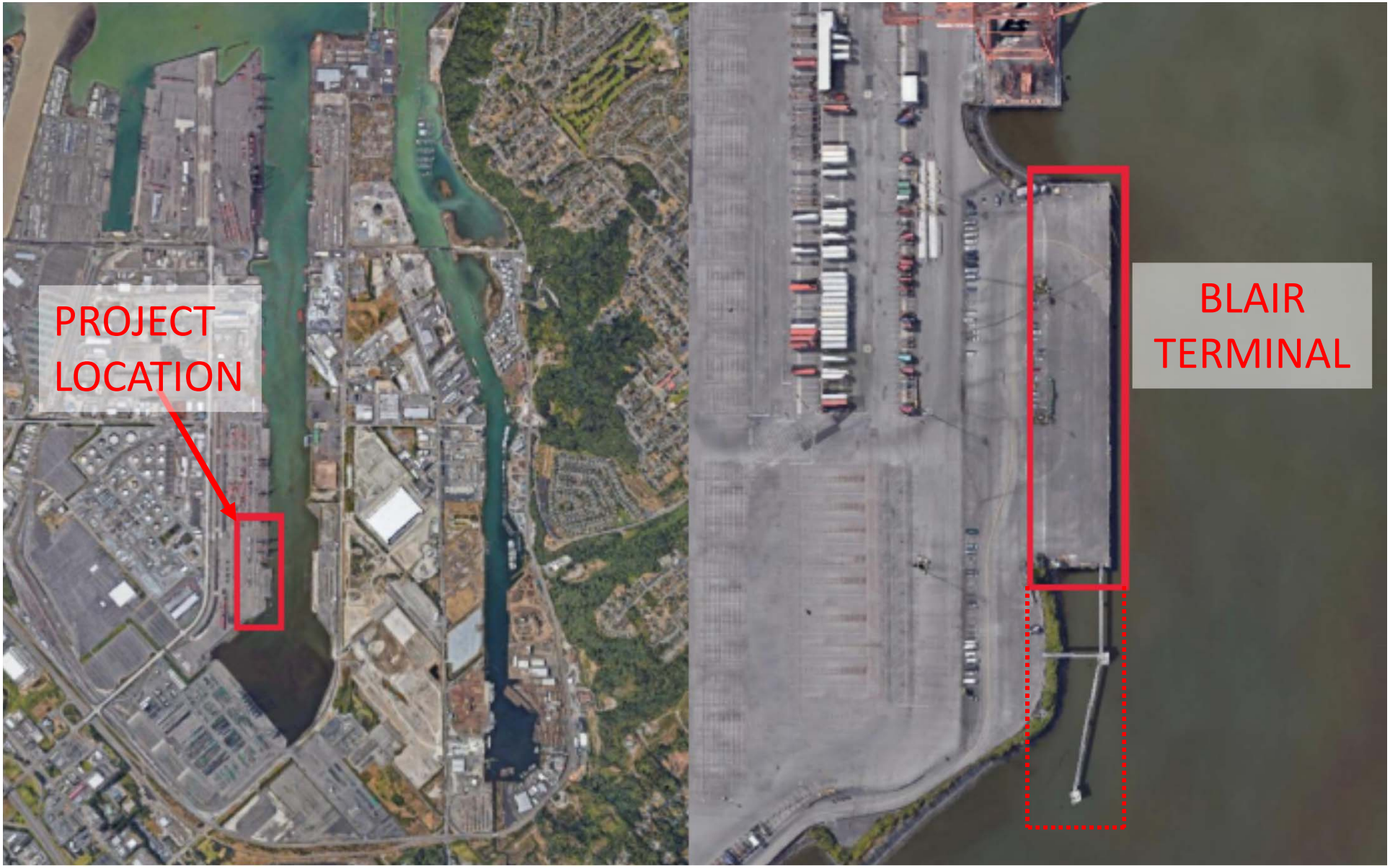
Action Requested
Blair Terminal Fender System Upgrades

As referenced in NWSA Resolution No. 2020-02, Exhibit A, Delegation of Authority Master Policy, Paragraph 8.c.iii., states project costs exceeding $300,000 require approval from Managing Members.

Request project authorization in the amount $802,400, for a total authorized amount of $905,000, for the Blair Terminal Fender System Upgrades, Master Identification No. 201104.01.

Background
Blair Terminal Fender System Upgrades

- 2019 routine Condition Assessment identified deficiencies
- 2020 inspection repair inspection reported recommended repairs
- 600-foot long timber component berthing face
  - 13 fender piles require replacement (21 percent)
  - 136 feet of chock require replacement (26 percent)
  - 260 feet of wales require replacement (43 percent)
  - Damaged hardware and rubber fender units



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Fender Pile

Rubber Fender

Chock

Wale

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Project Description and Details
Blair Terminal Fender System Upgrades

- **The proposed improvements include the following:**
  - Demolish and replace timber wale and chocks with steel wale and chocks
  - Remove and replace 13 timber fender piles
  - Remove and replace rubber fenders and connection hardware
- **Authorization includes:**
  - Permitting
  - Design and construction documents
  - Port staff time
  - Construction

Project Description and Details
Blair Terminal Fender System Upgrades

- **Port will procure and provide through competitive bid:**
  - Timber fender piles
  - Steel wale/chock assembly
  - Wale Ultra-High Weight Molecular rub facings
- **Contractor to install Port procured items under separate contract**
- **Port procure and contractor install approach saves 6 to 8 weeks on schedule to enable start in current in-water work window**

Project Schedule
Blair Terminal Fender System Upgrades

Invitation to Bid Schedule (Wale Assembly)

Activity	Timeframe
Advertise Bids	September, 2020
Bid Opening	September, 2020
Material Received	December, 2020

Wale procurement schedule shown, each procurement item has varying schedule

Project Schedule
Blair Terminal Fender System Upgrades

Construction Schedule Installation

Activity	Timeframe
Advertise Bids	September, 2020
Bid Opening	October, 2020
Contract Completion	February 14, 2021

Financial Implications
Blair Terminal Fender System Upgrades

- The estimated cost of the Procurement/Design for this project is $472,000.
- The estimated cost of the Construction for this project is $433,000.
- The estimated budget for this project is $905,000.
- The current Capital Investment Plan (CIP) allocates $905,000 for this project.
- This work and associated budget is consistent with the NWSA valuation.

Financial Summary
Blair Terminal Fender System Upgrades

Item	This Request	Total Previous Requests	Total Project Cost	Cost to Date	Remaining Costs
Procurement	$370,000		$370,000		$370,000
Pre-Design		$26,300	$26,300	$26,300	$0
Design		$76,302	$76,302	$0	$76,302
Construction	$432,398		$432,398		$432,398
Total	$802,398	$102,602	$905,000	$26,300	$878,700

Environmental Impacts/Review
Blair Terminal Fender System Upgrades

Permitting:

- Covered by existing federal, state, and local programmatic pile permits
- No new environmental permits

Remediation – No known contamination and not anticipated

Stormwater – Standard SWPPP form

Air Quality – Not applicable

Conclusion
Blair Terminal Fender System Upgrades

Request project authorization in the amount $802,400, for a total authorized amount of $905,000, for the Blair Terminal Fender System Upgrades, Master Identification No. 201104.01.