THE NORTHWEST SEAPORT ALLIANCE
MEMORANDUM

MANAGING MEMBERS
ACTION ITEM

Item No. 7C
Date of Meeting August 4, 2020

DATE: July 24, 2020

TO: Managing Members

FROM: John Wolfe, CEO

Sponsor: Mike Campagnaro, Director NWSA Real Estate

Project Manager: Danny Good, Marine Maintenance Project Manager III

SUBJECT: Project Authorization for work associated with the Terminal 5 Hydrant Replacement.

A. ACTION REQUESTED

As referenced in NWSA Resolution No. 2016-04, Exhibit A, Delegation of Authority Master Policy, Paragraph 8.c.iii., states project costs exceeding $300,000 require approval from Managing Members.

1. Request that Managing Members of the Northwest Seaport Alliance (NWSA) approve project authorization in the amount $325,000, for a total authorized amount of $325,000, to complete work associated with the T5 Hydrant Replacement project, Master Identification No. CIP C800807.

2. Request that Managing Members of the Northwest Seaport Alliance (NWSA) authorize the use of Port Crews to complete project construction.

B. SYNOPSIS

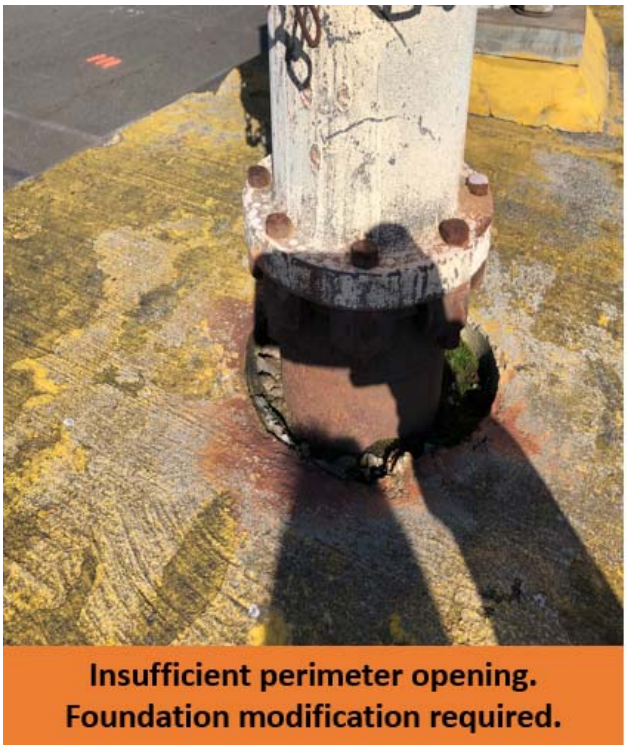
Terminal 5 (T5) in the North Harbor currently has eighty-five total fire hydrants located on the property. Forty-one of the hydrants are “M&H” brand which have known manufacturing defects that can cause potential fire-life safety issues. This memo is to request authorization for project funding and to utilize Port Crews to replace ten of the 41 M&H brand hydrants identified to pose the greatest risk to safety and infrastructure. Replacement of the remaining 31 hydrants is proposed to be accomplished over the next two to five years. Combined, replacing all forty-one hydrants has a total estimated project cost of $1.165M of which $325K is the current authorization request for ten hydrants in 2020; the remaining 31 hydrants, estimated

at $840K, will be undertaken over the next two to five years and additional authorization will be requested as required by NWSA Master Policy.

C. BACKGROUND

The fire suppression systems at NWSA container terminals have multiple types of fire hydrants connected to the underground water main. In recent years, small works construction projects have been undertaken to remove M&H brand hydrants on terminals due to their potential for failure. M&H brand hydrants are known to potentially "jump" while in use, causing unsafe working conditions, inconsistent water flow and potential for damage to the fire suppression infrastructure.

Although there are forty-one M&H hydrants located on T5, this project will replace ten hydrants on the North of the terminal that have been identified as most urgent, where the water main is deeper, the hydrant extensions are taller, and the risk of failure is greatest. The remaining thirty-one hydrants have a lower risk profile with remaining useful life and can be programed for replacement over the next two to five years. Combined, replacing all forty-one hydrants have a total estimated project cost of $1.165M of which, $325K is the current authorization request for ten hydrants in 2020, and $840K for the remaining thirty-one hydrants.



T5 Hydrant Replacement - Extension Perimeter Opening

Similar small works capital projects have been completed in 2018 to replace eight M&H brand hydrants at Terminal 30 (T30), and in 2019 to replace two M&H brand hydrants at Terminal 46 (T46), eliminating their presence on these NWSA properties. At T5, only recently were ten of the forty-one M&H hydrants identified as those in urgent need of replacement as the common end of life maintenance and repair and as such are excluded from the T5 Berth Modernization Program.

D. PROJECT DESCRIPTION AND DETAILS

Project Objectives

The objective of this project is to remove ten existing M&H brand fire hydrants on the North end of Terminal 5 and replace with new fire hydrants.

Scope of Work

Remove and replace ten fire hydrants, with four locations requiring concrete foundation modifications buttressing the existing hydrant pedestal. For these four hydrants, insufficient perimeter openings surrounding the hydrant extensions make removal and replacement within the pedestal not feasible. These locations will have the hydrants removed, extensions within the pedestals abandoned, and new hydrants and extensions installed within the newly constructed concrete foundation.

- All hydrants to be replaced with new fire hydrants which have similar take-outs, profile and flow characteristics.
- Asphalt or concrete adjacent to each hydrant pedestal to be saw cut and sub-grade excavated in order to access below grade pipe and hydrant connections.
- Drain rock to be backfilled in excavated areas once connections are made, and new asphalt or concrete surface to be poured.
- Hydrant system to be tested and commissioned upon completion.
- All onsite construction work will be self-performed using Port of Seattle, Marine Maintenance Crews who have unique institutional knowledge of the terminal utility infrastructure and hydrant operations. As shown with similar hydrant replacement projects at T30 and T46 in 2018, and 2019, using Port crews reduces overall project cost with reductions in project management support, design services and contract procurement.

Hydrant Replacement Locations on the north end of T5

Schedule

NWSA Managing Member Authorization Request	August 4, 2020
Material Procurement and Delivery	September 2020
Port Crew Construction	Sept./Oct. 2020

E. FINANCIAL IMPLICATIONS

Project Cost Details

	This Request	Total Project Cost	Cost To Date	Remaining Cost
Procurement	$70,000	$70,000	$0	$70,000
Pre-Design	$0	$0	$0	$0
Design	$10,000	$10,000	$0	$10,000
Construction	$245,000	$245,000	$0	$245,000
Total	**$325,000**	**$325,000**	**$0**	**$325,000**

Source of Funds

The current Capital Investment Plan (CIP) Budget allocates $300,000 for this project. It will be updated during the 2021 budget cycle.

Financial Impact

Project costs will be capitalized and depreciated over an estimated useful life of 20 years resulting in annual depreciation expense of $16,250. Estimated depreciation expense for 2020 will be $32,500 based on a substantial completion date of October 2020.

These costs were included in the 2021-2024 NWSA operating forecast presented during the 2020 budget cycle at a total cost of $300,000 starting January 2021. The $25,000 variance in total cost and earlier depreciation start date will not have a material impact on the financial performance of the NWSA.

F. ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS

Alternative 1) Do Nothing. This option potentially results in fire-life safety issues or water supply infrastructure damage.

Alternative 2) Remove and replace all forty-one M&H hydrants at the same time. This would potentially gain economies of scale during procurement and construction of the hydrants. However, this large capital expenditure was not included in the current CIP and would take away opportunities for alternative capital investments. It would also replace hydrants with remaining useful life that have a lower risk of failure and can wait for replacement in future years.

Alternative 3) Remove and replace ten M&H hydrants identified as those with the highest risk for failure. This option reduces risk on the terminal for potential fire-life safety issues and limits the capital expenditure to align with the budgeted amount in the existing NWSA CIP. <u>This is the recommended alternative.</u>

G. ENVIRONMENTAL IMPACTS / REVIEW

<u>Permitting</u>: Shoreline Exemption & SEPA Exemption.

<u>Remediation</u>: Not applicable.

<u>Stormwater</u>: Port of Seattle Stormwater & Grading review to be conducted. Appropriate Best Management Practices (BMPs) will be applied during construction activities.

Air Quality: Not applicable.

H. ATTACHMENTS TO THIS REQUEST

- Computer slide presentation.

I. PREVIOUS ACTIONS OR BRIEFINGS

None.

Item No: 7C
Date of Meeting: August,4, 2020

THE NORTHWEST SEAPORT ALLIANCE
Gateway to Solutions

Project Authorization For T5 Hydrant Replacement

Presenters:

Emma Del Vento, T5 Program Manager, NWSA Capital Program Lead
Danny Good, Marine Maintenance Project Manager III

Project Authorization
T5 Hydrant Replacement

As referenced in NWSA Resolution No. 2016-04, Exhibit A, Delegation of Authority Master Policy, Paragraph 8.c.iii., states project costs exceeding $300,000 require approval from Managing Members.

1. **Request project authorization in the amount $325,000 for the T5 Hydrant Replacement project, Master Identification No. CIP C800807.**
2. **Request authorization to use Port Crews to complete construction.**

Background
T5 Hydrant Replacement

- M&H brand hydrants have known manufacturing defects
  - Hydrants have potential to “jump” while in use
    - Potential cause for fire-life safety issues
    - Potential cause for fire suppression infrastructure damage

- Forty-one M&H brand hydrants are located at T5
  - Ten have been identified as having greatest risk of failure
    - Water main is deeper on North end of terminal
    - Hydrant extensions are taller

T5 Hydrant Replacement - Locations

T5 Hydrant Replacement
Extension Perimeter Opening

Insufficient perimeter opening.
Foundation modification required.

Replace hydrant in existing pedestal.

Project Description and Details
T5 Hydrant Replacement

- **Project objective is to replace ten M&H brand hydrants**
  - All ten hydrants to be replaced with new fire hydrants
  - Four hydrants to be installed in new concrete foundations
    - Insufficient hydrant extension perimeter openings on existing foundations

- **Hydrant replacements include:**
  - Saw-cut pavement, excavation, below grade pipe connections
  - Backfill & compaction, new asphalt-concrete pavement
  - Hydrants to be tested & commissioned upon installation
  - Construction self-performed using Port of Seattle, Marine Maintenance Crews

Project Schedule
T5 Hydrant Replacement

Activity	Timeframe
NWSA MM Authorization Request	August 4, 2020
Material Procurement / Delivery	September, 2020
Port Crew Construction	Sept./Oct. 2020

Source of Funds
T5 Hydrant Replacement

- **The estimated cost of Procurement, Design & Construction for this project is $325,000.**
- **The estimated budget for this project is $325,000.**
- **The 2017-2022 Capital Investment Plan (CIP) allocates $300,000 for this project.**
- **This work and associated budget is consistent with the NWSA valuation**

Financial Summary
T5 Hydrant Replacement

Item	Budget Estimate	Cost to Date	Remaining Cost*
DESIGN	$10,000	$0	$10,000
CONSTRUCTION	$315,000	$0	$315,000
PROJECT TOTAL	$325,000	$0	$325,000

Alternatives Considered
T5 Hydrant Replacement

Alternative 1) Do Nothing. This option potentially results in fire-life safety issues or water supply infrastructure damage.

Alternative 2) Remove and replace all forty-one M&H hydrants at the same time.

- Potentially gain economies of scale during procurement and construction of the hydrants.
- Large capital expenditure was not included in the current CIP and would take away opportunities for alternative capital investments.
- Would replace hydrants with remaining useful life that have a lower risk of failure and can wait for replacement in future years.

Alternative 3) Remove and replace ten M&H hydrants identified as those with the highest risk for failure.

- Reduces risk on the terminal for potential fire-life safety issues and limits the capital expenditure to align with the budgeted amount in the existing NWSA CIP.
- **<u>This is the recommended alternative.</u>**

Environmental Impacts/Review
T5 Hydrant Replacement

Permitting: Shoreline Exemption & SEPA Exemption.

Remediation: Not Applicable.

Stormwater: Port of Seattle Stormwater & Grading Review to be conducted. Appropriate Best Management Practices (BMPs) will be applied during construction activities.

Air Quality: Not Applicable.

Conclusion
T5 Hydrant Replacement

1. **Request project authorization in the amount $325,000 for the T5 Hydrant Replacement project, Master Identification No. CIP C800807.**
2. **Request authorization to use Port Crews to complete construction.**