

**THE NORTHWEST SEAPORT ALLIANCE**  
**MEMORANDUM**

**MANAGING MEMBERS**  
**STAFF BRIEFING**

Item No.	2
Date of Meeting	February 4, 2020

**DATE:** January 22, 2020

**TO:** Managing Members

**FROM:** Mike Campagnaro, Director, Real Estate, Northwest Seaport Alliance  
Catherine Chu, Capital Project Manager, Port of Seattle

**SUBJECT:** T-18 Stormwater Treatment System Project Update

**A. BRIEFING REQUESTED**

Update the Managing Members on the status of the T-18 Stormwater Treatment System Project

**B. SYNOPSIS**

T-18 Stormwater Treatment System Project was originally authorized by the Port of Seattle Commission on July 22, 2014, as part of the 6<sup>th</sup> Amendment to the Lease between Port of Seattle and SSA Terminals, LLC, and SSA Containers, Inc. Terminal 18. The 6<sup>th</sup> Amendment to the lease created a cost-sharing commitment that obligates the Port (and now the NWSA) to pay its applicable share for stormwater improvements.

This briefing provides the Managing Members an update on the status of the project.

**C. BACKGROUND**

The 180-acre Terminal 18 (T-18) on Harbor Island was redeveloped by POS in 1998. Harbor Island is a federally-regulated Superfund site – the terminal improvements constructed by the Port include capping of contaminated soils with the pavement surfaces, and requirements for long term groundwater monitoring. Underground stormwater conveyance piping and outfalls are owned and maintained by the Port of Seattle, as part of the Stormwater Utility.

Since 1999, T-18 has been leased by POS, now NWSA, to SSA Terminals LLC (SSAT), under a 30-year lease term. Like all NWSA container terminals, T-18 is subject to the Washington State Department of Ecology Industrial Stormwater General Permit (ISGP). For T-18, SSAT is the permittee. This permit establishes benchmark limits for concentrations of turbidity, total suspended solids, zinc, and copper in stormwater discharging from the facility. Exceedances of the benchmarks are not a violation of the permit; however, they do trigger progressive Corrective Actions in three stages. Similar to other container terminals, as early as 2011, Terminal 18 experienced benchmark exceedances that triggered a Level Three Corrective Action which requires that all known, available and reasonable treatment technologies be implemented with the goal of achieving consistent attainment of benchmarks. SSAT was sued by Puget Soundkeepers Alliance (PSA) in 2011 for alleged permit violations and reached settlement in 2014. This led to a Consent Decree between

SSAT and Puget Soundkeepers Alliance outlining a three-phase, six-year end of pipe stormwater treatment system (STS) implementation schedule with Phase One completion by October 30, 2016, Phase Two completion by October 30, 2018 and Phase Three completion by October 30, 2020.

On July 22<sup>nd</sup>, 2014, Port of Seattle Commission authorized a Lease Termination Agreement for Terminal 5 and related amendments to crane and lease agreements for Terminal 18 and Terminal 30. That authorization included the Sixth Amendment to Lease between Port of Seattle and SSA Terminals, LLC, and SSA Containers, Inc. Terminal 18. The amendment stipulated that the Port and SSAT would cost share stormwater infrastructure improvements to meet SSAT's stormwater discharge requirements at Terminal 18 in the following manner:

- SSAT will be solely responsible for compliance with its industrial stormwater permit at Terminal 18.
- To the extent required to achieve regulatory compliance, SSAT would undertake construction of the stormwater infrastructure improvements ("SII") (also referred to as stormwater treatment system, or STS) necessary to comply with its industrial stormwater permit at Terminal 18.
- The Port, with regard to expenses incurred on or after June 1, 2013, would share with SSAT, calculated together, the design, and construction costs of the SII at Terminal 18 as follows:
  - i. \$0.00 - \$10 million: SSAT 75%; Port 25%
  - ii. \$10 million - \$20 million: SSAT 25%; Port 75%
  - iii. \$20 million and over: SSAT 50%; Port 50%

In addition, the amendment stipulated that SSAT will be solely and continuously responsible for performing ongoing operation and maintenance of the SII and compliance with its industrial stormwater permits.

Section 13 of the NWSA Master policy on delegation of authorities states that actions related to property licensed to NWSA that were previously approved by either Homeport may be completed in accordance with the Resolutions and delegations that were in place when the actions were approved.

Although the lease amendment did not include a dollar threshold for the final costs of the stormwater treatment system, the cost share tiers did contemplate that total costs could exceed \$20 million and expressly obligated the Port of Seattle/NWSA to reimburse SSAT for their portion of the total costs. Phases One and Two have been completed by SSAT. Upon receiving requests for reimbursement for work completed by SSAT, before reimbursements were made, Port of Seattle staff reviewed and confirmed that the work were consistent with the agreement and had been completed. Total cost to date for the project is \$22 million and for NWSA's share is \$11 million. Phase Three design and permitting is close to complete, with construction scheduled to begin in March. This final phase of treatment installation is projected to be complete in October 2020. The currently estimated total project cost at the completion of Phase Three is \$38 million with NWSA's share expected to be at \$19 million.

While SSAT implements the stormwater treatment system project, Port of Seattle Stormwater Utility continues its condition assessments and has plans to coordinate with SSAT for renewal and replacement of the conveyance piping and outfalls, which is not part of this Stormwater Treatment System (STS) project.

#### **D. SCOPE OF WORK AND CURRENT STATUS**

##### Existing Terminal Drainage

The existing stormwater conveyance system is complex incorporating 18 individual sub-basins with corresponding individual outfalls, approximately 450 catch basins and over 12 miles of pipe. This infrastructure was not initially clearly defined and significant damage has been discovered during video survey and construction. In some cases, damaged pipes have been repaired concurrent with STS installation while others will be repaired at a future date. Of the 18 sub-basins one consistently met benchmarks and one very small basin is treated with catch basin inserts leaving 16 sub-basins/outfalls to receive treatment.

##### Initial Treatment System Approach

In order to identify a treatment technology that would meet permit requirements, the project team developed a weighted matrix that assigned values to desired features and attributes. The top three items were: (1) confidence that the product would perform as needed; (2) minimal footprint and corresponding loss of container yard space; and (3) cost (including both purchase/installation and operation and maintenance costs). The team applied the matrix to roughly a dozen products/technologies and agreed that Modular Wetland Systems would be appropriate for smaller sub-basins and that a Chitosan Enhanced Sand Filtration (CESF) System would offer the best cost per acre performance for the largest sub-basin.

##### Phase One

Five sub-basins were identified for treatment in Phase One. Each system installation required large, deep excavations with heavy shoring and de-watering requirements, vaults for flow splitters and pumps and large work zones which impeded upon on-going terminal operations. Fortunately, at that time the operations tempo was fairly moderate. During this phase, three Modular Wetland System units and one CESF unit were installed along with three new Oil/Water separators. Construction began in April of 2016 and all systems were on-line by October 26, 2016. Total cost (before cost sharing) for Phase One was \$11,442,877 for a total of 88 acres treated.

##### Phase Two

An additional five sub-basins equaling 45 acres were identified for treatment in Phase Two. Due to performance and maintenance issues experienced with Modular Wetlands the design team elected to install Aquip units provided by StormwaterRx in two sub-basins of 9.3 and 5.2 acres and one CESF system treating three sub-basins for a total of 30.6 acres. Utilizing a single system to treat multiple sub-basins minimizes above grade structures and corresponding loss of terminal working space, reduces cost for installation and O&M and speeds construction. During Phase Two SSAT was able to employ directional boring to route discharge water lines from lift stations at two sub-basins to the treatment system which

eliminated almost 1,500 linear feet of open trenching – saving cost and reducing operational disturbance. During this phase SSAT encountered several challenges including interference from the Quest cable duct bank, an unidentified concrete slab, abandoned pilings from the old Lockheed Shipyard and an un-planned water line re-route. Construction began in late April of 2018 after delays in getting City of Seattle permits. Completion was further delayed to mid-December 2018 due to the Operating Engineers going on strike in August. Total cost for Phase Two (before cost sharing) was \$10,229,268.

### Phase Three

The third and final phase will be the most challenging. The terminal operations tempo has increased and the remaining 6 sub-basins to be treated include those that are directly behind the center berth and will impede the major north/south traffic corridor. One sub-basin of 5.6 acres will be routed to the existing CESF system installed in Phase One. SSAT's experience with the Modular Wetland and StormwaterRx Aquip units has shown inconsistent treatment performance as solids loading has clogged the inert media layers quickly after maintenance cycles during the winter season (requiring nearly weekly maintenance to avoid treatment bypass). Therefore, SSAT made the decision to install only CESF system in Phase Three. Based on site sampling results, CESF has proven its dependability to meet permit benchmarks by providing flexibility to adjust the system to meet site pollutant loading over time by (1) chemical selection (type), (2) dosing rates (amount), and (3) ability to lengthen treatment time of the stormwater based on real-time turbidity readings. Three CESF systems will be installed. Two will treat single sub-basins of 6.6 and 12.1 acres while a third will treat three combined sub-basins totaling 22 acres. SSAT and POS have agreed that SSAT's project will include repair of one significant area of existing damaged pipeline that is closely connected to SSAT's improvements. SSAT has agreed to accept cost share for this repair in order to mitigate potential delay and risk to their treatment installation. Construction is scheduled to begin in March of 2020 following receipt of City of Seattle permits. SSAT's estimated Phase Three total cost (before cost sharing) is \$15,424,550.

Outside this SSAT Stormwater Treatment System project, Port of Seattle Stormwater Utility (SWU) is responsible for maintaining underground stormwater conveyance piping and outfalls. SWU has completed assessments of the conveyance piping and outfalls, has performed some repair, renewal and replacement work, is working with SSAT in planning the remaining and on-going additional infrastructure projects, and is coordinating construction activities with SSA to minimize impact to SSAT operations.

## **E. FINANCIAL IMPLICATIONS**

Cost breakdown:

	<b>Phase 1 Actual</b>	<b>Phase 2 Actual</b>	<b>Phase 3 Estimated</b>	<b>Estimated Total at Completion</b>
Construction	\$9,945,548	\$8,760,926	\$13,054,650	\$31,800,000
Soft costs*	\$2,348,329	\$1,468,342	\$2,369,900	\$6,200,000
Project Total	\$11,442,877	\$10,229,268	\$15,424,550	\$37,100,000
<b>NWSA Total</b>	<b>\$3,582,158</b>	<b>\$7,253,915</b>	<b>\$7,712,275</b>	<b>\$18,550,000</b>

\*Soft costs include design, survey, project management, permits, etc.

Prior to 2020, NWSA has reimbursed SSAT for approximately \$11 million. The current NWSA Capital Improvement Plan includes \$7.9 million for additional reimbursement costs to complete the cost share agreement, which is currently estimated at \$18.5 million.

Funding is be provided through capital contributions from the two homeports.

Once completed this will be treated as a post-formation asset for the NWSA and assigned a depreciable life. Future expenses will be reflected as depreciation for the NWSA.

## **F. ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS**

Design alternatives are discussed in the Scope of Work discussion above.

## **G. ATTACHMENTS**

None

## **H. PREVIOUS ACTIONS OR BRIEFINGS**

July 22<sup>nd</sup>, 2014, Port of Seattle Commission authorization of Lease Termination Agreement for Terminal 5 and related amendments to crane and lease agreements for Terminal 18 and Terminal 30

## **I. NEXT STEPS**

SSAT will proceed with construction of Phase Three of the T-18 Stormwater Treatment System project. Execution of construction agreements are planned for early February and construction is scheduled to begin in March. NWSA will reimburse SSAT for NWSA's share of costs, per July 22<sup>nd</sup>, 2014 Port Commission Authorization and subsequently executed 6<sup>th</sup> Amendment to the lease agreement with SSAT at Terminal 18.