THE NORTHWEST
SEAPORT ALLIANCE
SEATTLE + TACOMA

TERMINAL 18 EFFICIENCY PROJECT

GRANT APPLICATION PROJECT NARRATIVE

SUBMITTED BY THE NORTHWEST SEAPORT ALLIANCE

U.S. Department of Transportation | Maritime Administration | FY 2025 Port Infrastructure Development Program (PIDP)

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SUPPORTING DOCUMENTATION / ATTACHMENTS

Supporting documentation has been submitted on www.grants.gov as attachments, separate from this Narrative, the SF-424 and SF-424C. The supporting attachments are as follows:

Attachment 1 – Project Narrative
Attachment 2 – Benefit-Cost Analysis Report
Attachment 3 – Benefit-Cost Analysis model (xls)
Attachment 4 – NWSA Funding Commitment Letter
Attachment 5 – SSA Funding Commitment Letter
Attachment 6 – Letters of Support
Attachment 7 – Cost Estimate
Attachment 8 – Economic Impact Analysis Summary

The NWSA has also set up a website for the submitted grant files:

https://www.nwseaportalliance.com/fy25-pidp

INTRODUCTORY INFORMATION

Name of lead applicant	The Northwest Seaport Alliance (NWSA)
Is the applicant applying as a lead applicant with any joint applicants?	No
Does the applicant or joint applicant own the property where the grant-funded improvements will occur?	No, Terminal 18 is a facility licensed to the NWSA and owned by the Port of Seattle.
Is the applicant seeking funding under the small project at a small port set-aside?	No
Project Name	Terminal 18 Efficiency Project
Project Description	The Terminal 18 Efficiency Project is a set of improvements that consists of two components to expand service – rehabilitating and paving the most damaged terminal surfaces (approximately 50 out of 200 total acres), and installing weigh-in-motion truck scale system at the terminal's entrance gates.
Is this a planning project?	No
Is this a project at a coastal, Great Lakes, or inland river port?	Coastal Port
Is this project located in a noncontiguous State or U.S. territory?	No
GIS Coordinates (Latitude/Longitude)	47°34'43.59"N / 122°21'5.31"W
Is this project in an urban or rural area?	Urban
Project Zip Code	98134
Has the same project been previously submitted for PIDP funding?	No
Is the applicant applying for other Federal discretionary grant programs (managed by DOT or a separate agency) in 2025 for the same work or related scopes of work?	No
Has the applicant previously received DOT funding for the same work or related scope of work?	No
Has the applicant previously received TIGER, BUILD, RAISE, FASTLANE, INFRA, USMHP, or PIDP funding?	Yes: FY20 PIDP: Terminal 5 Uplands Modernization and Rehabilitation Project ($10.7 M) FY22 PIDP: Terminal 5 Export, Expansion, and Emissions Reduction Project ($17 M) FY23 PIDP: Husky Terminal Expansion Part One ($54.2 M)

	FY24 PIDP: Pierce County Terminal Efficiency Project ($9.9 M)
PIDP Grant Amount Requested	$19,328,900
Total Project Cost	$42,798,400
Total Federal Funding	$19,328,900
Total Non-Federal Funding	$23,469,500
Will RRIF or TIFIA funds be used as part of the project financing?	No
Does the applicant use LOGINK or a similar logistics platform provided or sponsored by the People's Republic of China or Chinese state-affiliated entities?	No

I. PROJECT DESCRIPTION

The Northwest Seaport Alliance (NWSA or the Alliance) is requesting $19,328,900, 45.1% of the total Project cost, in 2025 Port Infrastructure Development Program (PIDP) grant funding to help fund the Terminal 18 Efficiency Project (the Project) at the Port of Seattle, Washington (the Port).

The Project is a set of improvements to Terminal 18 (T-18) that supports the PIDP's goals of improving the safety, efficiency, and reliability of the movement of goods into, out of, around, and within the Port with the completion of two components to improve service at the NWSA terminal – 1) rehabilitating and paving the most damaged terminal surfaces (approximately 50 out of 200 total acres), and 2) weigh-in-motion truck scales at the terminal's truck entrances. The Project has a Benefit-Cost Ratio of 1.15.

Repaving a large portion of T-18 will increase operational efficiency at the terminal. In its current state, the poor condition of the pavement throughout the terminal impacts traffic flow and service levels at the Port. Therefore, repaving the terminal will improve productivity at T-18. The installation of weigh-in-motion scales at the T-18 truck gates will save truckers time by keeping traffic moving while accurately capturing weight-related data at the terminal. When integrated into existing processes, weigh-in-motion technology allows for rapid processing of vehicles without stoppage and delays.

Figure 1: Project Components

NWSA operations support an estimated 52,100 jobs, $4.4 billion in total compensation, and nearly $14 billion in total business output throughout the state of Washington. The Project is critical to retaining and growing NWSA's share of the regional cargo market, which has been aggressively targeted by the Canadian ports of Vancouver and Prince Rupert. Over the last 20 years, the Canadian government has made it a top national priority to make significant,

coordinated investments in its West Coast ports and the multimodal infrastructure that supports them, in order to gain market share from US ports. This cargo diversion from Northwest ports towards Canada results in reduced ocean carrier calls and the supply of empty containers that US agricultural exporters rely on. Safe and efficient operations on T-18 will help the NWSA bring back this market share and provide excellent service to American import and export businesses.

A. Applicant Eligibility

The Northwest Seaport Alliance (NWSA) is a marine cargo operating partnership governed by the Port of Tacoma and the Port of Seattle as equal members, with each port acting through its elected commissioners. Both are port authorities under Washington State Law RCW 53.04.010[1]. The NWSA itself is a port development authority (PDA) under Washington State Law RCW Chapter 53.08[2] and as such is eligible to receive PIDP funds. Terminal 18 is the name of the facility owned by the Port of Seattle and licensed to the NWSA. SSA Terminals, LLC is the name of the private terminal operator.

The NWSA oversees much of the maritime commerce in the region, including facilities for the export and import of containerized cargo, automobiles, breakbulk cargo, heavy-lift cargo, military cargo, and project cargoes, as well as intermodal rail terminal operations. The NWSA facilities include 33 ship berths that are served by three federal waterways. By operating jointly as the NWSA, the two ports form the seventh largest container gateway, the second largest agricultural export gateway, and eighth largest export gateway by TEU (twenty-foot equivalent unit) in North America. This unique partnership strengthens the Puget Sound trade gateway and supports growth for the national economy.

B. Project Need / Transportation Challenges & Solutions

Terminal 18 (T-18) is the NWSA's largest international container terminal, spanning approximately 200 acres with 6,147 linear feet of berthing space. T-18 is an important economic driver in the Puget Sound region, and a key hub for international trade within the Pacific Northwest. Terminal traffic consists of heavy-duty trucks, top picks, forklifts, gantry cranes, employee and operations vehicles. Considering the variety of traffic at T-18, pavement conditions are expected to continue to experience significant wear and tear, which constrains terminal operations and could lead to damage to the terminal equipment and presents safety hazards to terminal operations employees. A detailed pavement and geotechnical study is currently underway to identify the most damaged terminal surfaces. The requested PIDP grant will fund the rehabilitation and paving of the most damaged terminal surfaces, estimated to be approximately 50 out of 200 total acres of paved terminal surfaces.

The weigh-in-motion system technology has been successfully installed at other NWSA terminals and will increase T-18 throughput and capacity.

[1] RCW 53.04.010
[2] RCW 53.08

C. Statement of Work / Project Components

i. Project Component 1: Targeted Rehabilitation and Paving Construction

Project Component 1 consists of paving approximately one-quarter to one-third of the surface area of T-18. The current terminal layout is shown in Figure 2, with the paving required shown in the highlighted sections. Of the full 200-acre (~8.7 million square feet) site, 185 acres need to be re-paved at the terminal, including roads, drive aisles, container storage areas, vessel berths, intermodal yards, parking lots, and truck gates. Of the total paving repair areas at the terminal, 50 acres are considered high priority and in need of the most repair. These 50 acres are within the highest operational use area and are most significantly impacting operational efficiency. The precise locations of these 50 acres within the terminal will be determined after the geotechnical and pavement assessments are complete in early 2026.

NWSA is currently conducting assessments to identify the worst paving in need of repair. This includes geotechnical tests such as FWD (falling weight deflectometer), a non-destructive test to evaluate the structural conditions of the pavement and sub-surface by simulating vehicle loading and resulting pavement deflection. Core sampling will provide insight into pavement thickness, pavement condition, sub-surface deficiencies, and load limits. Test results will be analyzed and compiled into a site wide paving condition overview with areas of repair prioritization.

The NWSA has a 20-year Paving Maintenance Plan set to address the paving repair areas at the Terminal. Based on the maintenance plan, repairs for the 50 acres at T-18 will begin in 2026 and be completed in 2031. Over the duration of the Project, the terminal will not require any major rehabilitation for these repaved areas but will still undergo minor maintenance sessions (i.e. sweeping and inspections, crack sealing, and striping) to keep the terminal up to safety standards. Routine maintenance, rehabilitation and repaving for the remaining 135 acres of the terminal surfaces repair areas will continue throughout the 20-year plan.

Figure 2: Terminal 18 Potential Paving Repair Areas

To improve the current conditions of T-18, the Paving Maintenance Plan includes asphalt repair, focusing on several key areas: crack sealing, pothole repair, proper drainage, and periodic major rehab. Crack sealing and pothole repairs prevent water from seeping in and causing further damage, which should be done routinely to avoid bigger issues. If unrepaired pavement is left unraveling, potholes and subsurface damage are likely to occur. Proper drainage ensures water does not accumulate, which can weaken the asphalt. The annual maintenance schedule is outlined in Table 1.

Table 1: Annual Maintenance Schedule at T-18

Month	Task	Description
Jan-Feb	Inspection and Planning	Conduct full-site inspection. Prioritize areas based on traffic, damage, and drainage.
Mar-Apr	Crack Sealing	Seal cracks greater than one-fourth-inch to prevent water infiltration and base erosion.
May-Oct	Major Rehab, Pothole Repair, Striping	Mill and overlay, full depth repair as needed, repair for potholes. Re-striping.
Nov-Dec	Drainage Check and Winter Preparation	Clear drains, inspect catch basins, identify areas of water ponding.

Routine maintenance tasks for T-18 include:

- **Weekly:** Visual inspection of high traffic areas; sweep debris from berth vessel loading areas and container storage drive lanes.
- **Monthly:** Check for new cracks, oil spills, or pooling water; Inspect pavement markings.
- **Quarterly:** Pressure wash concrete areas; Refill joint sealants in concrete slabs and concrete to asphalt joints.

ii. Project Component 2: Weigh-in-Motion Scale Construction

Project Component 2 consists of the installation of the Intercomp weigh-in-motion scale system at the T-18 truck gate entrances, which will save truckers time by keeping traffic moving while simultaneously capturing accurate weight-related data at the terminal. When integrated into existing processes, weigh-in-motion technology allows for rapid processing of vehicles without stoppage and delays. This results in fewer trucks backing up onto local roads and increased terminal operational efficiency.

Figure 3: Weigh-in-Motion Scale Rendering

Weigh-in-motion strip sensors are the latest evolution in axle and truck scale technology. Eliminating the requirement for scale traffic to stop and wait, strip sensor systems unlock operational benefits beyond the capabilities of traditional weighing practices.

By capturing weights for each wheel independently, weigh-in-motion strip sensor systems provide collection of individual-axle, axle group, and gross vehicle weights. Strip sensor systems offer a wide range of application-specific needs, such as tracking inventories based on vehicle load weights and preventing overweight citations. Intercomp strip sensors utilize strain gauge technology, which is widely accepted as the most accurate and reliable means to weigh a vehicle. The minimally invasive installation of strip sensors, which do not require built-in drainage, allows the system to be fully operational on installation day, significantly reducing site operational downtime and construction costs. The strip sensors measure multiple wheel weights to calculate vehicle weight characteristics and can operate as part of a stand-alone configuration or be integrated with other data systems. Due to fewer civil works and minimal ongoing maintenance requirements, the system is a cost-efficient alternative to static scales.

Figure 4: T-18 Truck Gate

Weigh-in-motion systems at the NWSA port terminals are increasingly being integrated into gate and terminal operations to streamline cargo processing and improve efficiency. It supports Verified Gross Mass (VGM) compliance for container shipments, aligning with IMO/ SOLAS Method 1 standards. The integration of these weigh-in-motion systems at port gates allow trucks to be weighed while driving, improving throughput and reducing congestion at the terminal entrance. The weigh-in-motion systems are integrated with gate automation to streamline cargo processing and ensure compliance with weight regulations. NWSA's Husky Terminal has three weigh-in-motion scales integrated into its nine in-gate lanes, and Terminal 5 has two weigh-in-motion scales integrated into the terminal's OCR entry points and supports its 12 gate lanes. Weigh-in-motion scales installed at Husky Terminal resulted in a number of operational improvements: they require less servicing resulting in reduced overall operating costs, and they have improved reliability by reducing unexpected lane outages that cause congestion and driver delays.

II. PROJECT LOCATION

A. PORT LOCATION

Port of Seattle's Terminal 18 (T-18) is located in the City of Seattle, King County, Washington State, at 1050 SW Spokane St., Seattle, Washington 98134. Geocoordinates for the site are 47°34'43.59"N / 122°21'5.31"W. All proposed Project components will be located within the boundaries of T-18. The Project is a "coastal Port project" subject to the Army Corps of Engineers' regulatory jurisdiction for oceanic and coastal waters pursuant to 33 CFR § 329.12.

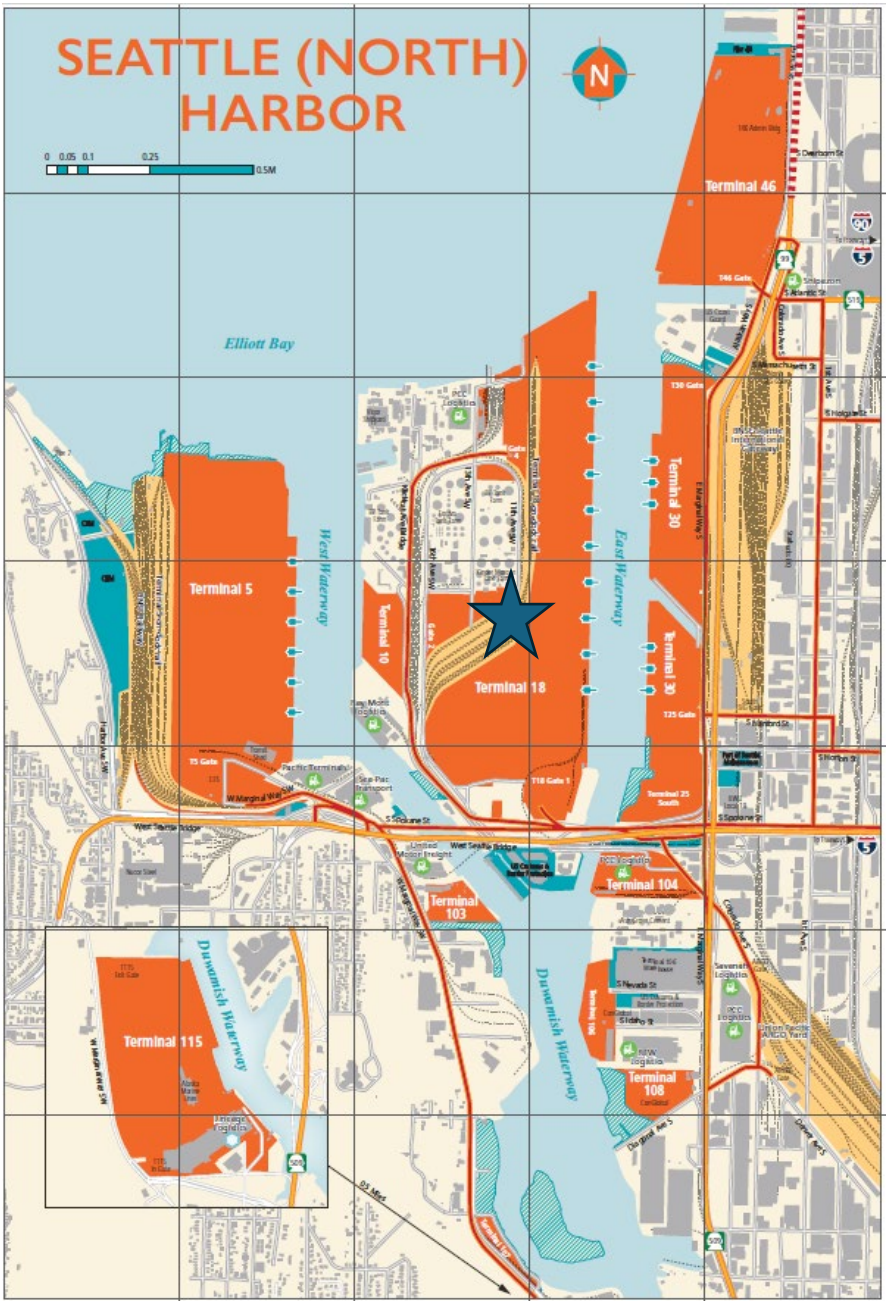

Figure 5: Port of Seattle and Terminal 18

B. Project Site

The Project is located inside the boundaries of the NWSA's Terminal 18, which is part of the NWSA's Seattle international container terminal facilities, at 47°34'43.59"N / 122°21'5.31"W, as shown in Figure 6.

Figure 6: T-18 Configuration

C. Census-Designations

The Project is located within the Seattle Urbanized Area #80389, as defined by the U.S. Census Bureau. The Urbanized Area's 2020 population was 3,544,011[3]. The City of Seattle's 2020 population was 737,015[4].

D. Transportation Connections

T-18 is served by a designated National Highway System Freight Intermodal Connector, SW Spokane Street, which connects the terminal to Interstate 5, Interstate 90, warehousing and distribution centers, and both international and domestic rail yards operated by Class I railroads Burlington Northern Santa Fe (BNSF) and Union Pacific (UP). T-18 has on-terminal rail providing immediate access to the nation's Class 1 rail network, connecting the Pacific Northwest to America's heartland and the East Coast. Ease of access to these national transportation corridors reduces the costs of moving cargo through T-18, making American goods more competitive on

[3] 2020 Census Urban Areas
[4] U.S. Census Bureau QuickFacts: Seattle city, Washington

the international market and supporting reliable delivery of components needed for domestic manufacture of U.S. products. The NWSA is the key supplier of goods to Alaska.

Figure 7: T-18 Transportation Connections

E. Qualified Opportunity Zones

T-18 is located adjacent to Census Tract 53033009300, which is designated as a Qualified Opportunity Zone, as shown in Figure 8 . Both BNSF and UP railways operate intermodal rail yards in the Opportunity Zone, and there are several warehousing and distribution centers that serve domestic and international cargo moving through NWSA terminals.

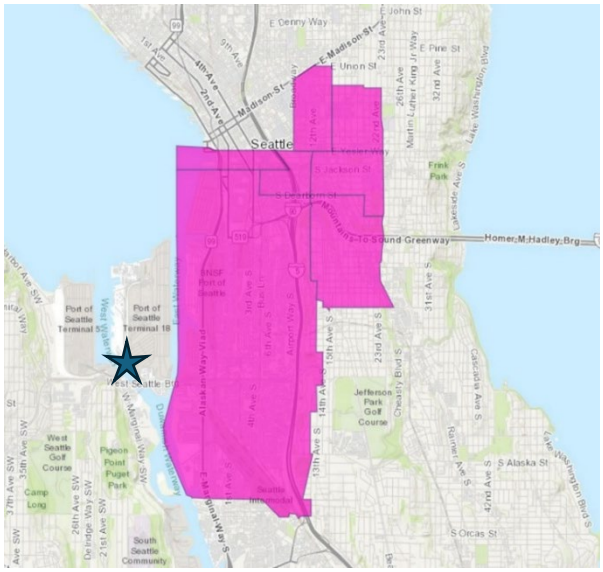

Figure 8: Project-Adjacent Opportunity Zones

The weigh-in-motion truck gate scales project component will help to improve efficiency and reduce congestion between cargo handling facilities in the Opportunity Zone and the NWSA's international container Terminals 5, 18, and 30 as well as Terminal 115, its domestic container terminal in Seattle. These benefits will also be shared by other businesses and industry in the Opportunity Zone, and by longshore workers from Seattle's ILWU Local 19, whose dispatch hall is in the Opportunity Zone.

III. GRANT FUNDS, SOURCES, AND USES OF PROJECT FUNDS

A. Project Costs

The cost estimate for the Project is $42,798,400. Table 2 shows the expected project costs divided by Project Component. The estimate is based on appropriate engineering and unit cost data from similar NWSA projects, area suppliers, and area construction costs. A more detailed Cost Estimate is provided as Attachment 7.

B. PIDP Funding Request and Matching Funds

The NWSA funding request is $19,328,900 (45.1% of the total project cost) in PIDP grant funding. The NWSA and SSA Terminals will match the request with $23,469,500 (54.9% of the total project cost) to fund the remainder of the Project. Details of the funding split between project components are shown in Table 2.

Table 2: Project Costs and Funding Sources

Funding Source	Project Component			Total Cost
	Paving Project	Weigh-In-Motion System	Project Administration	
PIDP Funds (45.1%)	$16,501,935	$328,500	$2,498,465	**$19,328,900**
Non-Federal Funds (NWSA 54.1%)	$20,098,065	$0	$3,042,935	**$23,141,000**
Non-Federal Funds (SSA 0.8%)	$0	$328,500	$0	**$328,500**
TOTAL	**$36,600,000**[5]	**$657,000**	**$5,541,400**	**$42,798,400**

C. Funding Sources

The NWSA has developed a comprehensive, multi-sourced funding program for the Project, with the requested PIDP grant funding essential to the NWSA's goal of meeting the needs of the freight and logistics industry and the region. The requested PIDP grant funding represents 45.1% of the total Project costs.

D. Documentation of Funding Commitment

The Project's 54.9% non-federal match will be funded through non-federal funding sources. The cost share will come from the NWSA and SSA Terminals, LLC. Details about the Project's funding sources and their authorization can be found in the letter of commitments provided as Attachments 4 and 5 of this grant application.

[5] Does not include planning, design, environmental studies and permitting

IV. MERIT CRITERIA

A. Achieving Safety, Efficiency, or Reliability Improvements

The Project will support the FY25 PIDP program goals of improving the safety, efficiency, and reliability of the movement of goods into, out of, around, and within the Port, as described below.

i. Safety

Cargo container terminals are extremely active operations where heavy container-handling equipment is moving repeatedly and quickly to efficiently accommodate port volumes. Longshoremen accessing terminals on foot need to focus on terminal activity and machine operations, not watching where they put their feet on uneven paving. At T-18, current pavement conditions present serious risks for longshoremen working at the terminal. There are significant cracks and potholes throughout the terminal which are covered with steel plates to prevent major disruptions in traffic flow, as represented in Figure 9. These tripping hazards, both the steel plates and even greater tripping hazards such as potholes, are a significant concern for the longshoremen working at T-18, since these areas are present throughout the terminal.

Figure 9: T-18 Current Pavement Conditions

T-18 uses Top Picks, which are giant forklifts for moving containers around the terminal, to load and unload trucks and trains. Safe ship-to-truck crane handling requires trucks to sit level at the terminal. A Top Pick running over uneven paving while a container is suspended in the air could cause the top pick and the loaded container to tip over. Containers are large and heavy, and the terminal equipment moving container volumes at the Port are also experiencing wear and tear from the poor paving conditions. Smooth and level pavement is essential for safe handling at the terminal, allowing containers to be stacked five high, as represented in Figure 9 and Figure 10. This presents additional safety risks at the terminal, emphasizing the need for pavement repairs at T-18.

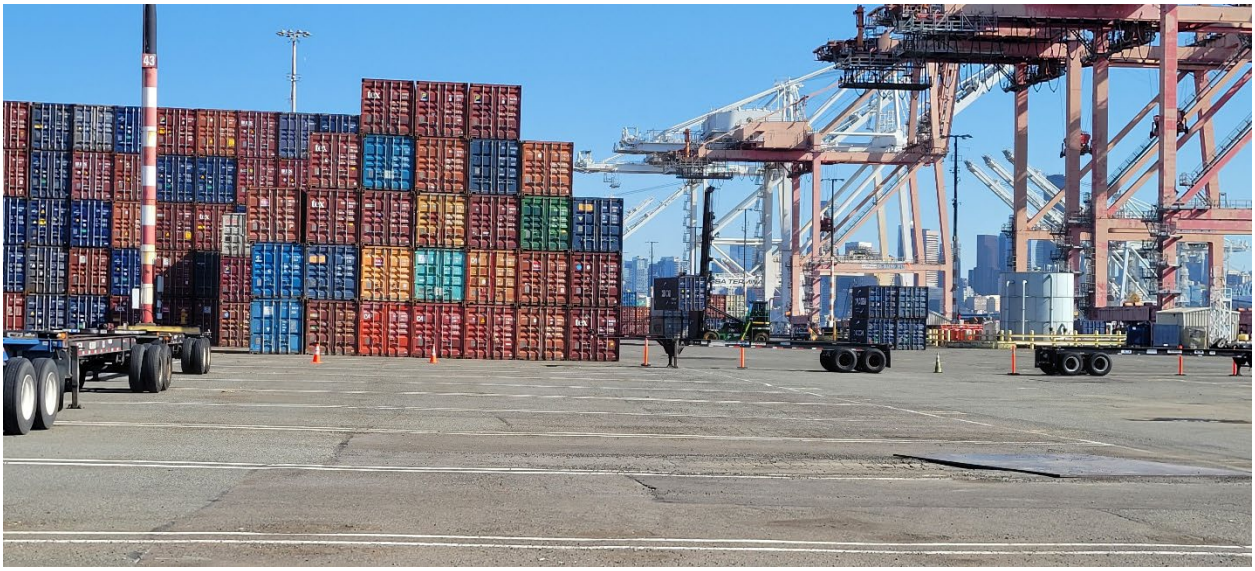

Figure 10: Containers Stacked at T- 18

ii. Efficiency

The Project will rehabilitate and pave the most degraded terminal surfaces. This will allow cargo handling equipment to operate at uniform speeds through T-18; eliminate steel plates and major pothole hazards; and minimize the current ad hoc paving and patching operations that reduce T-18 efficiency, throughput, and capacity. The Project will also make terminal operations more efficient and cost effective with the installation of weigh-in-motion scales at the truck gate that will save time by keeping traffic moving while accurately capturing weight-related data at the terminal. When integrated into existing processes, weigh-in-motion technology allows for rapid processing of vehicles without stoppage and delays, resulting in truck turnaround time savings. By eliminating the need to stop on a scale, the time that each truck spends in the terminal is reduced, thereby increasing cargo velocity, and benefiting local truckers by reducing their turn times.

Figure 11: Gantry Crane Operating Loading Containers onto Trucks at T-18

iii. Reliability

Operating effectively and efficiently is a port's primary goal. Improving terminal conditions will eliminate any strains to operations from avoiding severe cracks and potholes throughout T-18. Operations will not be disrupted from continued, heavy maintenance repairs. New terminal pavement is crucial for ensuring operations perform sufficiently under various traffic (i.e. terminal equipment, trucks) and environmental conditions. Installing weigh-in-motion scales at T-18's truck gate will also aid in keeping traffic flow moving throughout the Port. The enhanced vehicle processing system will reduce truck operator time allocated at the terminal, improving truck turnaround times and terminal operations.

B. Supporting Economic Vitality at the Regional or National Level

The Project supports the long-term competitiveness of the Northwest Seaport Alliance (NWSA) and the strong export market it supports, as shown in Figure 12. The world's largest shipping lines connect the Seattle and Tacoma trade gateway with major ports throughout the Asia Pacific, Oceania, Latin America, the Mediterranean, Middle East, Europe and Alaska and Hawaii. As the closest mainland U.S. port to Asia and a frequent first and last port of call on international ocean services, shippers can count on faster transits and greater flexibility from NWSA routings.

Nearly 80% of TEU volumes at the NWSA represent international imports or exports, with the remaining 20% representing containers shipped domestically to Alaska and Hawaii. In addition to international and domestic container handling capabilities, the NWSA's marine cargo facilities are a major center for bulk, breakbulk, project/heavy-lift cargoes, automobiles and trucks.

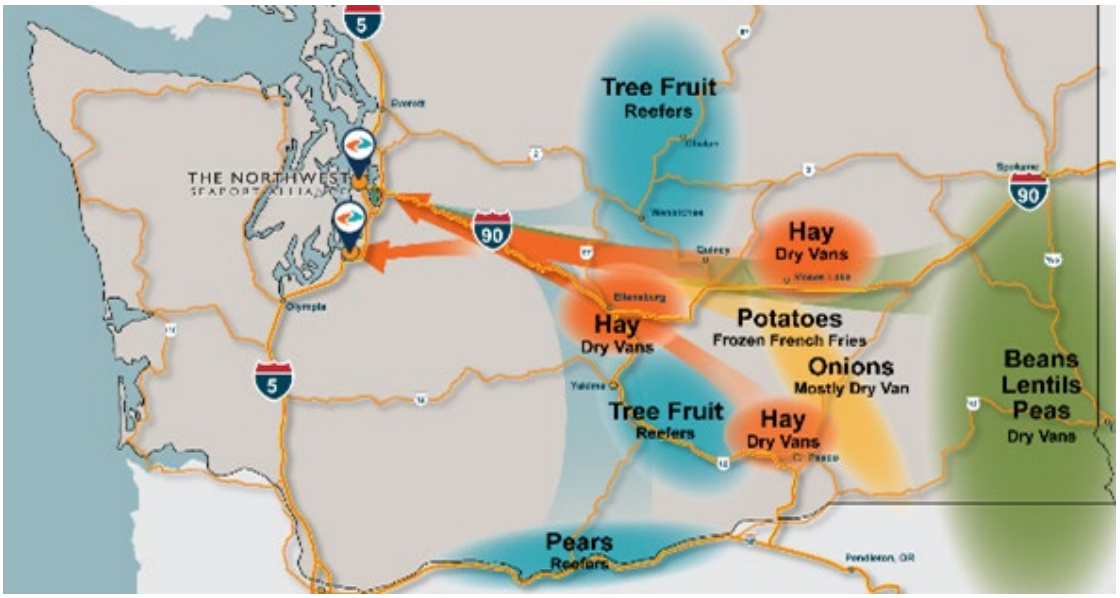

Figure 12: NWSA Exporters

According to a July 2025 Economic Impact Analysis completed for NWSA, Port of Tacoma and Port of Seattle (Attachment 8), in 2023, NWSA operations supported an estimated 52,100 jobs, $4.4 billion in total compensation, and nearly $14 billion in total business output throughout the state of Washington.

i. Benefit-Cost Analysis Summary

The benefits quantified pursuant to USDOT guidelines in the Benefit-Cost Analysis (Attachment 2) stem from the two Project components: repairing the most degraded pavements at T-18 and installing weigh-in-motion scales at the terminal's truck gate.

- **Reduction in terminal maintenance costs.** Repaving T-18 will reduce maintenance required in the repaved areas per the maintenance plan, providing annual maintenance cost savings.
- **Reduction in terminal equipment maintenance costs.** By repaving the terminal, there will be less wear and tear on the terminal equipment, resulting in reduced maintenance costs.
- **Reduction in truck turnaround time.** Installing weigh-in-motion scales at the T-18 truck gate will allow for quick and efficient processing of vehicles without stoppage or delays, resulting in reduced truck operator time at the terminal.
- **Reduction in truck operating costs.** The new weigh-in-motion system will reduce truck operating costs at T-18.
  Reduction in truck emissions. With reduced truck delays, there will be a reduction in truck emissions at the terminal.

For this analysis, the following Build and No-Build Scenario assumptions were considered:

- **Build Scenario:** Repaving T-18 will improve operational efficiency and safety at the terminal, resulting in reduced maintenance. Of the 185-acre paving site, approximately 50 acres identified as the worst for wear will be repaired, with continued preventive maintenance of the remaining pavement areas over the analysis period. Under the maintenance plan, repair costs will be reduced following the completion of repairs to approximately 50 acres of T-18 in 2031, reducing capital maintenance costs. With the new pavement, terminal equipment will sustain less damage due to the poor pavement conditions, resulting in additional maintenance costs savings. In addition, the new weigh-in-motion system will eliminate the 2-second per truck delay experienced by trucks from the time when the truck makes a complete stop to when the scale can capture the final reading. This results in reduced truck turnaround times at the terminal. In total, it will save on average 10 seconds per truck given the time it takes to approach, stop, and go through the system, resulting in reduced truck operating and emission costs at T-18.
- **No-Build Scenario:** T-18 will remain in its current state, continuing to use steel plates to cover hazardous dips or holes throughout the terminal in order to maintain operations and address safety risks. The poor paving conditions will likely cause damage to terminal equipment from excessive wear and tear over the years, increasing maintenance costs at the terminal. Without the updated weigh-in-motion system, trucks will continue to experience approximately 150-333 minutes (2.6-5.6 hours) of daily delay time at the terminal gate.

The Benefit-Cost Analysis (BCA) reflects the US Department of Transportation's (USDOT) standard guidance[6] regarding forecast periods and discount rates. As such, all estimates were calculated over a 20-year period, beginning in 2032 following the completion of the Project in 2031. A discount rate of 7% was used throughout the analysis as suggested in USDOT BCA guidelines for 2025[6]. **The Terminal 18 Efficiency Project has an overall Benefit-Cost Ratio of 1.15**. The results of the BCA are summarized in Table 3, which also provides the results for each individual project component.

Table 3: Summary of Project Benefits (PV Discounted @ 7% in 2023 US$)

Category	Pavement	Weigh-In-Motion	Total Project
Economic Competitiveness	$31,753,486	$323,481	$32,076,967
Environmental Sustainability	$0	$273,759	$273,759
Total Benefits	**$31,753,486**	**$597,239**	**$32,350,726**
Project Costs	$27,743,984	$468,432	$28,212,416
Net Present Value	$4,009,502	$128,808	$4,138,310
Benefit to Cost Ratio	**1.14**	**1.27**	**1.15**

C. Leveraging Federal Funding to Attract Non-Federal Sources of Investment

Currently, no federal funds have been provided for the Project. The $19,328,900 in requested PIDP grant funding represents approximately 45.1% of the Project's total cost of $42,798,400. The 54.1% non-federal match of $23,469,500 will come from the NWSA ($23,141,400) and SSA Terminals, LLC ($328,500). Details about the Project's funding sources, and their authorization, can be found in Attachments 4 and 5: Funding Commitment Letters.

Leveraging the requested federal funding with a local match will help fund construction jobs and other opportunities, allowing the NWSA to improve its status as one of the nation's premier cargo ports. The Project reinforces the NWSA's commitment to provide an environment where private organizations can remain competitive, resulting in job creation and further economic development in the region.

D. Port Resilience

A series of global supply chain shocks have tested the global ports system's resilience over the last several years. Improving resilience is critical to ports' success and the continuity of trade flows. Ports that aren't improving their resilience risk losing business that will be hard to attract back. The NWSA launched the Resilient Gateway Program with a Vulnerability Assessment and Response Framework in 2023 to assess environmental risks, both on- and off-terminal. The Response Framework guides program and policy development, project prioritization and design, and asset management. The NWSA will lead development of implementation plans in 2025 for itself, the Port of Tacoma, and the Port of Seattle for Alliance-licensed facilities.

All components for the Project will include design for durability of the systems to provide for longevity in a marine environment. Durable products will be selected for the exact purpose of

[6] Benefit Cost Analysis Guidance 2025 Update II (Final).pdf

being resilient to corrosive natural elements. Depending on the installation method, appropriate protections will be installed to protect against wind and wave energy, salt water, and structural forces from dock and pier operations.

The NWSA has prioritized the development of Resilient Gateway implementation planning, considering it a Key Initiative for 2025. Our proposed suite of elements will be subject to the Resilient Gateway Program Implementation Plans and will include designs that anticipate infrastructure improvements or adaptation techniques to minimize damage to infrastructure or disruption to services related to environmental risks. Maintaining safe, functional infrastructure is critical to successful Port operations; considering this, staff recommends integration of protection options during future development to avoid the most considerable impacts of climate change at the Port.

V. ADDITIONAL CONSIDERATIONS

A. PROJECT READINESS

i. Technical Capacity

Experience and Understanding of Federal Requirements

The Project team has overseen the construction of $569 million in NWSA improvements since the Port of Seattle and Port of Tacoma created the NWSA in 2015. That in-house capital program experience will oversee the Terminal 18 Efficiency Project.

The Project team has the requisite experience and understanding of federal requirements, from contracting to construction, to ensure the Project can be delivered on time and within budget. The Project team already has in place partnerships with local, state, and federal agencies to support streamlined permitting for the site that will reduce the likelihood of environmental challenges to the project under the National Environmental Policy Act (NEPA), State Environmental Policy Act (SEPA), Section 7 of the Endangered Species Act (ESA), Section 106 of the National Historic Preservation Act (NHPA), among others.

The Project team has extensive experience procuring services and goods in compliance with the Federal Acquisition Regulation and is committed to maintaining an open, competitive bidding and procurement process for all components proposed within this application. If awarded PIDP funds, the Project team will quickly begin issuing FAR-compliant bidding packages to enable the Project to begin moving forward shortly after entering into a grant agreement with the Maritime Administration.

Experience Working with Federal Agencies and Federally Funded Projects

The Project team has a long history working with a range of federal agencies, including the U.S. Department of Transportation, Maritime Administration, U.S. Army Corps of Engineers, U.S. Coast Guard, the Federal Emergency Management Administration, National Oceanic and Atmospheric Administration/National Marine Fisheries Service, and U.S. Fish and Wildlife Service. Partnerships with these and other federal agencies have resulted in direct funding of critical infrastructure projects, knowledge sharing and development of best practices, regional readiness

planning for disasters, early compliance with forthcoming rules and regulations, and preparing for future economic and community growth.

The NWSA has direct experience with federal grants that will be leveraged to help implement the Project on time and on schedule. In 2020, the NWSA was awarded $10,687,333 for the Terminal 5 Uplands Modernization and Rehabilitation Project: Final Phase, which consisted of infrastructure improvements including paving, installation of Phase 2 of a terminal-wide storm water treatment system, as well as infrastructure to increase the electric refrigerated plug capacity and on-terminal rail infrastructure improvements. The project, managed by the Port of Seattle with NWSA support, is currently under construction and work will continue through 2026.

The NWSA, together with the Port of Seattle, is also administering $17 million via the 2022 PIDP program for the Terminal 5 Export, Expansion, and Emissions Reduction Project. The FY22 project is currently under construction and will meet its obligation, construction, and performance goals. The NWSA is also administering $54.2 million via the 2023 PIDP program for the Husky Terminal Expansion Part One Project. The grant agreement was executed in May of 2025 and the Project is underway and is expected to meet its obligation, construction, and performance goals once construction commences. The NWSA was also awarded $9.9 million in 2024 PIDP funding for the Pierce County Terminal Efficiency Project, which is under negotiation.

Additionally, the NWSA has been successful in securing federal Diesel Emission Reduction Act (DERA) grant dollars, most recently for upgrades to yard tractors at the Tacoma South intermodal yard. In addition, in April 2024 the NWSA was awarded FHWA PROTECT funding for their Wapato Creek Culvert Replacement Project, as well as FHWA RTEPF funding to transition to zero-emission port trucks. In 2023, the Port of Seattle hired a full-time Grant Administrator to support post-award management activities for maritime grants, including NWSA grants in the north (Seattle) harbor.

Feasibility / Constructability

The NWSA is experienced with the process of port-related development and for decades its governing ports of Tacoma and Seattle have completed similar types of projects requiring planning, stakeholder outreach and coordination, preliminary and final design, environmental review and permitting, bidding, and construction.

Terminal 18 will remain operational throughout Project construction. This will require constraints to be imposed upon the Contractor with respect to work areas, access, staging/laydown areas and allocation of workdays to perform

Consistency with Ongoing Planning Efforts

The NWSA has a five-year Capital Improvement Plan (CIP). The NWSA also developed a Coordinated Course to 2035, an internal guidebook that describes how an optimal NWSA gateway can look and function in 2035, or sooner.

Schedule

The Project schedule in Figure 13 shows that the Project will be completed without unreasonable delay. Construction is scheduled to commence around April 2028 (Component 2 may commence sooner if allowable following all MARAD requirements) and construction end is scheduled for December 2031. This date is in alignment with the obligation of PIDP funds by September 30, 2029, and the anticipated grant program five-year period of performance. For paving, site investigation and preliminary design activities are underway. Design and permitting will start in late 2026 after grant agreement execution.

The NWSA is familiar with the MARAD pre-award approval process required to commence design prior to signing of the grant agreement and has included that into the schedule. Bidding for construction is scheduled to occur after NEPA is completed.

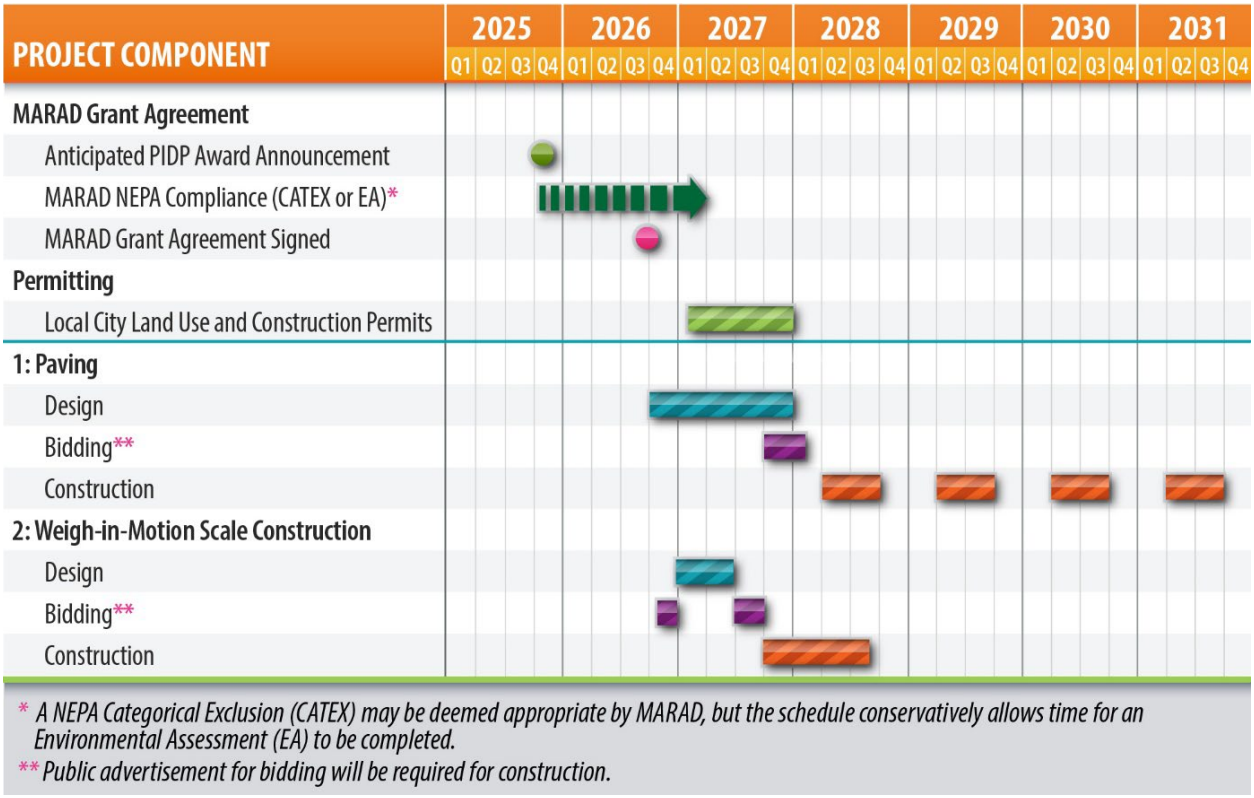

Figure 13: Schedule

Cost Data

Costs for the project components, as detailed in Attachment 7, were developed in the third quarter of 2025 based on initial visual pavement observations and reports for Project Component 1 (paving) and preliminary estimated scope for Project Component 2 (weigh-in-motion). Costs associated with materials and labor escalation, general inflation, engineering design, environmental review and permitting, survey, engineering construction support services, and Washington State sales tax were included as a percent of total cost or relevant component total cost. Some of these actual percentages are dependent on future macroeconomic events and are

unknown. As a result, percentages for these items have been developed based on historical experience.

Risk Mitigation

The minimal risks to Project financing and construction include those outlined in Table 4.

Table 4: Project Risks and Mitigation Strategies

Risk	Description	Impact / Probability	Mitigation
Funding	PIDP grant request rejected	High / Moderate	Timeline for Project will be extended indefinitely, and inflation will increase project costs.
Contaminated soil or groundwater	Unknown HAZMAT may be found during paving demolition and scale installation at truck gate.	Moderate / High	Early review of extensive and recent existing site data and possible recharacterization of materials during design and prior to construction. Port of Seattle will be responsible for costs of disposal of historical contaminated soil.
Regulatory delays	Delayed construction start could increase costs due to inflation.	Moderate/ Low	In-water work has been avoided; Port has extensive experience with NEPA and incorporated this effort into the project schedule.
Cost inflation	Bid costs come back higher than estimated.	High / Moderate	Costs based on supplier information and recent/current construction experience. Final budget will include 10-15% contingency.

ii. NEPA Process and Permitting Risk

The proposed improvements will occur on an existing and heavily developed port terminal facility. The Project will be completed using standard construction practices. Site work may encounter contaminated soil and groundwater from historical use of the project site (Hazardous Materials or HAZMAT), as is common with port terminal facilities. If required, additional targeted soil/groundwater recharacterization will be completed and best practices implemented as commonly used by NWSA for any project that involves below ground construction.

Strong relationships with the City of Seattle and other local and state agencies allow for early coordination on permitting needs and frequent cost estimate updates will both reduce the risks of schedule delays and increased construction costs.

A Categorical Exclusion may be the most appropriate level of NEPA documentation for the Project. These activities do not expand the facility operations, do not change the use of the facility, and do not propose any in-water work. Therefore, the Project could be covered under MARAD's Categorical Exclusion 4, which covers reconstruction, modification, modernization,

replacement, repair, and maintenance of equipment, facilities, or structures that do not substantially change the character of the equipment, facility, or structure (MAO 600-1). Time to complete a NEPA Environmental Assessment (EA), with a likely Finding of No Significant Impact (FONSI), has been conservatively incorporated into the project schedule in case an EA is deemed necessary.

Section 7 ESA consultation with the National Oceanic and Atmospheric Administration Fisheries Service and U.S. Fish and Wildlife Service may be required. A *No Effects Determination* would likely suffice as no ESA-listed plants or animals are located at the site. As stated previously, in-water work is not proposed and impacts to aquatic species will not occur.

The NWSA is familiar with MARAD NEPA guidelines and requirements and has successfully complied with them in the past. The NWSA/Port's most recent NEPA process with MARAD was a NEPA EA that was successfully completed with a FONSI within eight months.

National Historic Preservation Act Status

Compliance with Section 106 of the National Historic Preservation Act will also be required. This would include outreach with tribes (i.e., the Suquamish Tribe and other Treaty Tribes as applicable) and the Washington State Department of Archaeology and Historic Preservation (DAHP). The NWSA and Port have regular meetings with the Suquamish Tribe and Muckleshoot Indian Tribe staff that can support this effort.

The Project will trigger National Historic Preservation Act Section 106 review and Endangered Species Act Section 7 review but is expected to have no adverse effect. The Project involves minimal ground disturbance and no substantial change to existing operations. The Port will coordinate with MARAD and other agencies as deemed necessary.

Environmental Permits and Reviews, and Studies

The Project is occurring on a developed and operating terminal. If additional cultural resources, soil testing, and hazardous materials testing are deemed necessary for environmental and safety reasons, these can be completed quickly and are not anticipated to impact schedule. For example, a Hazardous Material Management Plan (HMMP), often required for port terminal projects, provides guidance for worker safety, material handling, and disposal if contaminated material is encountered during site construction. The presence of soil and groundwater contamination within port terminals is not uncommon and the level of contamination at this site is well studied and understood. Health and safety protocols for construction, consistent with working on contaminated sites, and coordination with any applicable cleanup site agencies, will be implemented.

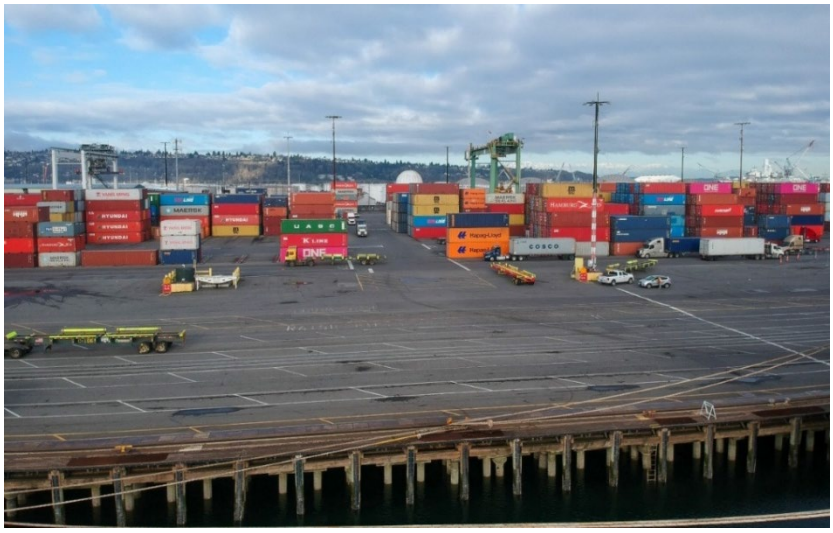

Figure 14: Pavement in Need of Repair at T-18

State and Local Approvals

Compliance with the Washington State Environmental Policy Act (SEPA) will likely result in a SEPA Exemption or Determination of Non-Significance (DNS). The Port, as SEPA lead agency, will commence this three-to-six-month effort in 2026. No in-water permits are required for the Project. The following outstanding state and local permits are common to port terminal development and will be applied for further along in design.

A standard Washington State Department of Ecology National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit, including a Stormwater Pollution Prevention Plan may be required for construction. Existing NPDES permits may need to be updated. The NWSA has an award-winning stormwater management team used to working with the Washington Department of Ecology in updating and obtaining NPDES permits and the affiliated stormwater plans.

A City of Seattle (City) Shoreline Substantial Development Permit (SSDP) Permit or Exemption may be required for minor upland work to be completed within 200 feet of the shoreline. If so, a Coastal Zone Management Act (CZMA) certification may also be required. Critical areas preservation compliance is required for projects that could impact critical areas within City limits. City Site Development and Construction Permits are also likely required. These permits will be supported by the project drawings, stormwater site plan report, stormwater pollution prevention plan, and geotechnical report describing existing conditions and infiltration facility designs.

Past experience demonstrates that the NWSA team is familiar with the above requirements and has a long-standing constructive relationship with the Seattle Department of Construction & Inspections (SDCI) team. The budget and schedule include effort and time to obtain these permits.

Letters of Support

The Terminal 18 Efficiency Project has significant support from throughout the region, as confirmed by the Letters of Support provided in Attachment 6.

B. Workforce Development and Job Quality

i. Unions and Labor Standards

The Port and the NWSA have supported quality union jobs enabling wealth creation for many years. In addition to labor operating at T-18, the Port's and NWSA's maintenance workforce supporting NWSA facilities in the Seattle harbor, including T-18, are unionized. All on-terminal labor is unionized, and it is expected that the Project will create new permanent union jobs on the terminal due to previous, the Project's, and future related improvements. These well-paying union jobs include union mechanics earning an average $113,000 per year and union longshoremen earning an average of $172,400 per year. The NWSA also intends to include a contract clause that would ensure that contractors do not prohibit unionization.

Fifteen percent of labor will be provided through apprenticeships, as required by NWSA and the State of Washington for project elements estimated to cost over $1 million. For each project that has apprentice requirements, NWSA contract documents require that the contractor submit a "Statement of Apprentice and Journeyman Participation," on forms provided by the NWSA, with every request for project payment. The Contractor is then required to submit consolidated and cumulative data collected by both the Contractor and all subcontractors.

ii. Workforce Development Programs

The Port of Seattle invests significant resources in workforce development programs and hiring practices that benefit the community. These programs center on providing opportunities for skilled careers within the port-related industries of maritime, construction, aviation, and green jobs. The Port of Seattle's workforce development program supported nearly 1,700 participants in 2024 – 78% of whom resided in economically distressed neighborhoods. Examples of other workforce and economic development efforts include:

- Achieving a 24% utilization rate of priority hire workers across qualifying projects.
- In 2024, 758 airport workers received job training.
- Partnering with more than 50 organizations and pledging $9.25 million in funding since 2019 through their South King County Community Fund.
- Distributing $2.2 million since 2022 to local cities through the Economic Development Partnership Program to promote economic development, small business support, and community investment.

Through an interlocal agreement with the local public school district, the Port supports a Maritime High School, a collaborative project also supported by the Northwest Maritime Center and the Duwamish River Community Coalition. The Maritime High School focuses on project-based learning, offering students classroom and field experience to prepare them for a career in the maritime industry. The school also collaborates with industry employers to offer students in

the 11th and 12th grades internships. Enrollment at Maritime High School increased from 37 in 2021 to 134 in 2024.

C. Domestic Preference

The construction elements included in this grant application are scheduled to comply with FY25 PIDP contracting and acquisition requirements that relate to material or equipment purchases from U.S. suppliers.

The weigh-in-motion system is made in the U.S. by Intercomp and meets the Build America Buy America requirements for MARAD[7]. Materials and manufactured products used in the Project will be produced or manufactured domestically and in accordance with the Build America, Buy America requirement. This provision will be included in all procurement documents used by contractors. Materials used to improve NWSA property and equipment installed for the Terminal 18 Efficiency Project will not require any exception or waiver of the Build America, Buy America provisions described in the Notice of Funding Opportunity. The intent of the NWSA is to source products locally to enhance local benefit and job creation. The NWSA will require Build America, Buy America provisions to flow down to every task undertaken in the project description and funded with the requested MARAD PIDP grant, if awarded.

[7] https://www.intercompcompany.com/additional-resources/certifications

VI. STATUTORY DETERMINATIONS

Project Determination	Terminal 18 Efficiency Project
1. The project improves the safety, efficiency, or reliability of the movement of goods through a port or intermodal connection to the port.	The Project will support the FY25 PIDP goals of improving the safety, efficiency, and reliability of the movement of goods into, out of, around, and within the port. The Project will make Terminal 18 operations more efficient and cost effective by rehabilitating the most damaged pavement on the terminal and through the installation of weigh-in-motion scales at the truck gates that will save time by keeping traffic moving while accurately capturing weight-related data at the terminal.
2. The project is cost effective.	Overall BC Ratio: 1.15; Component #1: 1.14; Component #2: 1.27. Results of the BCA are summarized in Table 3 and the attached BCA Report and BCA Model.
3. The eligible applicant has the authority to carry out the project.	The NWSA is a port development authority under Washington State Law RCW Chapter 53.08, and therefore eligible for a PIDP grant.
4. The eligible applicant has sufficient funding available to meet the matching requirements.	NWSA will have sufficient matching funding of $23,141,000 through its CIP with additional funding ($328,500) from SSA Terminals, LLC.
5. The project will be completed without unreasonable delay.	The Project schedule shown in Figure 13: Schedule shows that the Project will be completed without unreasonable delay and as soon as possible, given permitting timelines.
6. The project cannot be easily and efficiently completed without Federal funding or financial assistance available to the project sponsor.	NWSA and SSA do not have the means to construct the Project with existing resources. Without a PIDP grant, construction will be indefinitely delayed during this period of significant inflation.