

Item No.: 5C-Supp
Date of Meeting: July 17, 2018



**THE NORTHWEST
SEAPORT ALLIANCE**
Gateway to Solutions

Briefing NWSA Asset Management Program

Asset Management Definition

What is Asset Management?

Asset management maintains the intended function or level of service of a system as cost effectively as possible.

This is achieved by maintaining the individual components of the system (assets) at the lowest life cycle cost without negatively impacting the performance of the overall system.



Essential Components

- **Inventory**
- **Expected level of service (current & future)**
- **Assess facility condition**
- **Identify spending options**
 - Operations and maintenance cost levels
 - Condition assessment spending
 - Deferred maintenance, repair, recapitalization
- **Lowest life cycle cost without negatively impacting the performance of the overall system**
- **Optimum time for repair/recapitalization investment**



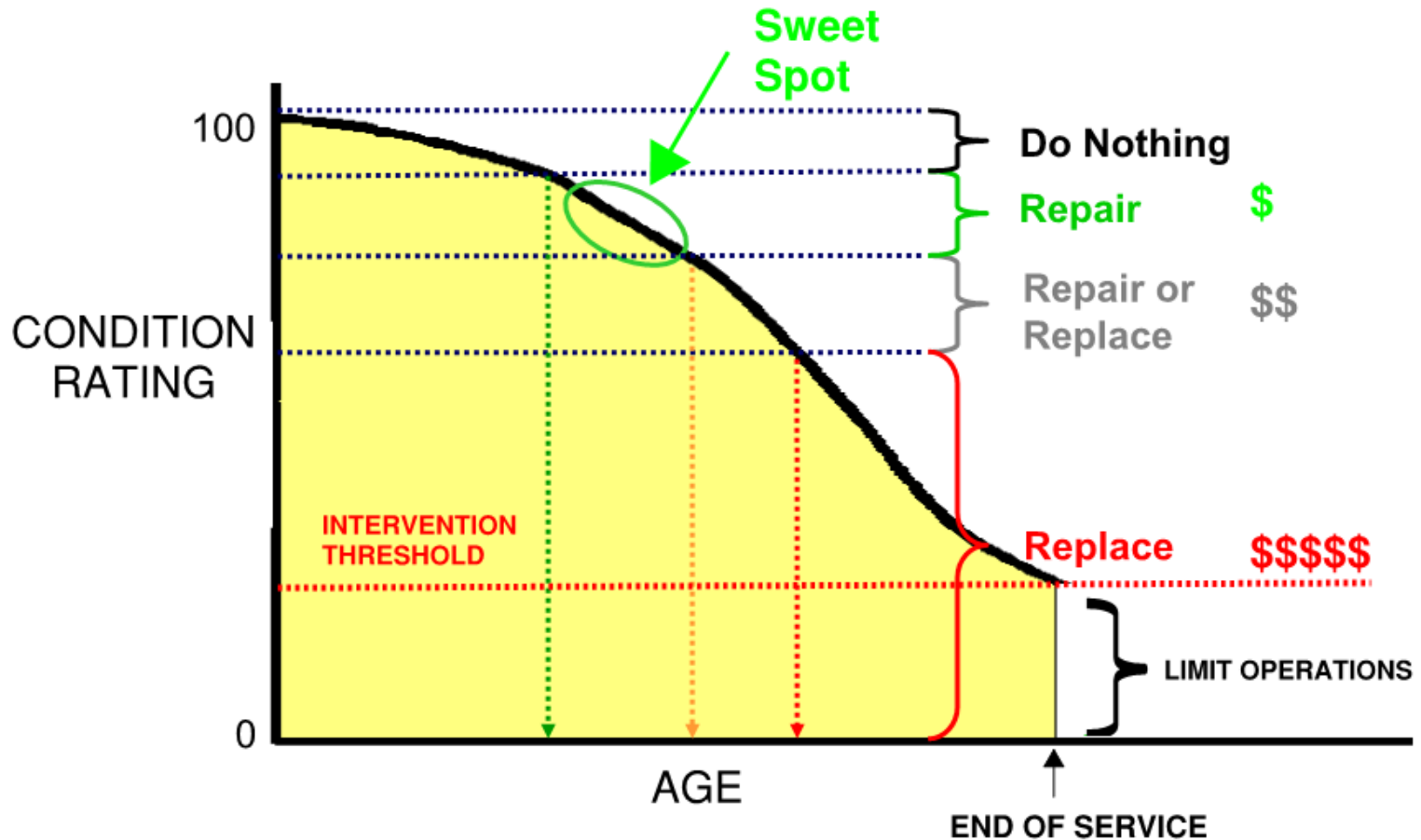
NWSA Strategic Alignment

- **NWSA Commercial Goal 3a**
 - Improve efficiency
 - Maintain service level
 - Improve cost competitiveness

- **Asset Management Goals**
 - Predict, preserve, and extend asset service life
 - Optimize reinvestment schedule
 - Lower total cost of ownership



Condition Rating vs Age



Asset Management Areas

- **Wharves**
- **Pavement**
- **Rail**
- **Buildings**
 - HVAC
 - Vertical conveyance
 - Roofing
 - Foundation
- **Utility Systems**
 - Electrical
 - Fire
 - Domestic
 - Sewer
 - Storm



PCT Crane Power

- **Intermittent loss of crane power under normal use in 2015 - 2016**
- **Year-long troubleshooting exercise**
- **Identified as a high business and safety risk**
- **Cross-functional team recommended structured maintenance approach**



Terminal 46 Dock Rehabilitation

Sample Damages



Sample Pile Cap Damages

Sample Deck Panel Damages



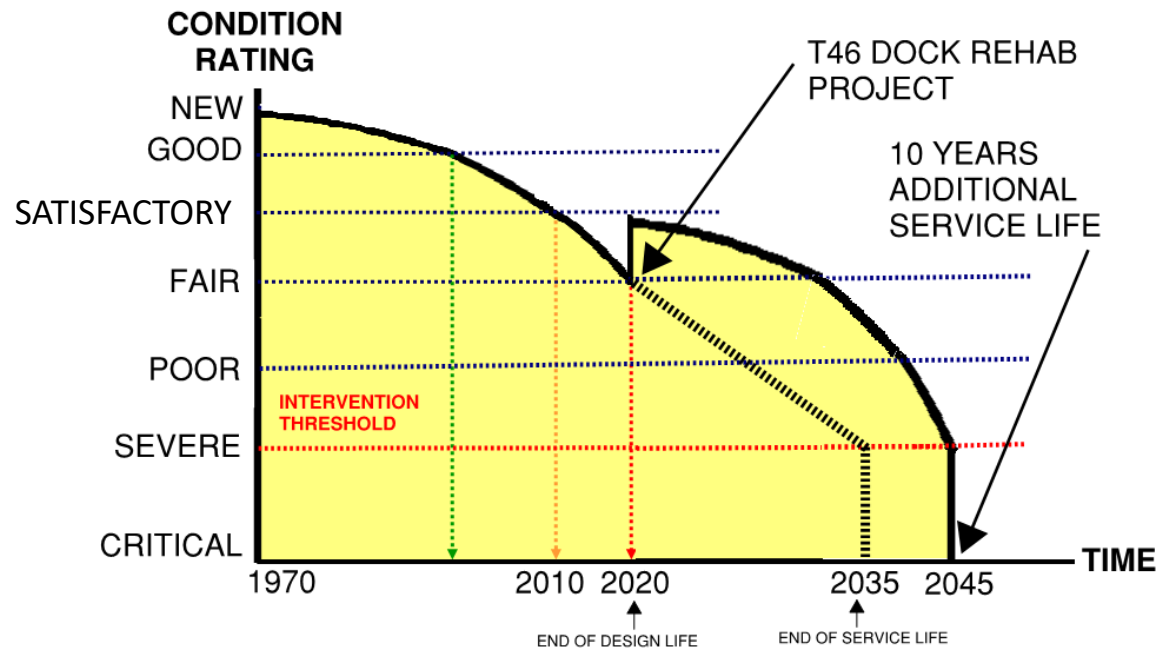
Dock Inspection Program

- **Initial Comprehensive Assessments**
- **Annual Row-Through**
- **Routine Condition Assessments every 2-5 years**



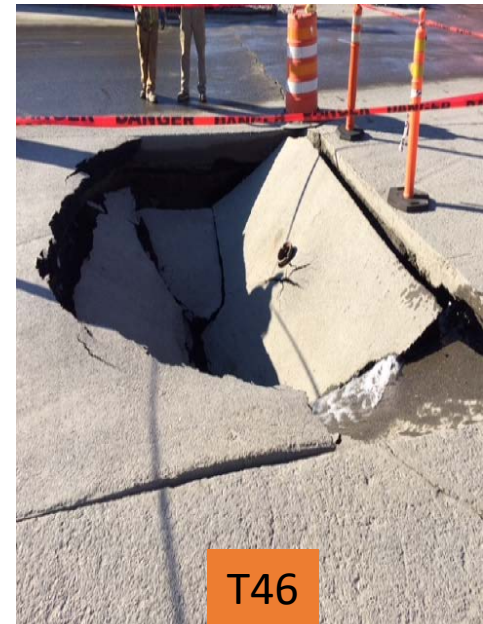
Dock Inspection Program

- **Condition Ratings**
- **Service Life Prediction**
- **Estimated Repair Cost**
- **Optimal Time to Repair**

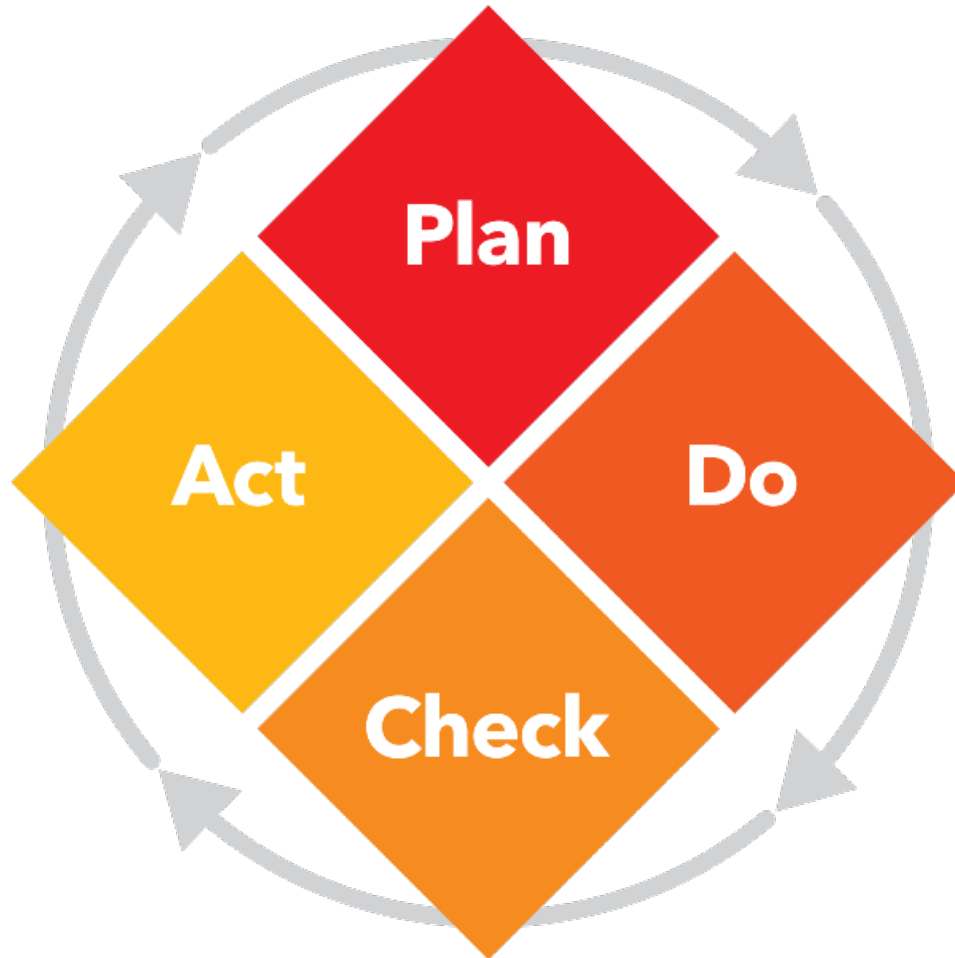


Annual Condition Updates

- Annual Meetings with Cross-Functional Teams
- Note concerns and frequent maintenance repair calls
- Develop action plans to address most pressing needs
- Summarize for budget planning input and tenant discussions



Pier Inspection Program



PORT OF TACOMA STRUCTURAL ASSESSMENT AND PIER INSPECTION PROGRAM

Figure 2 – Draft Inspection Plan

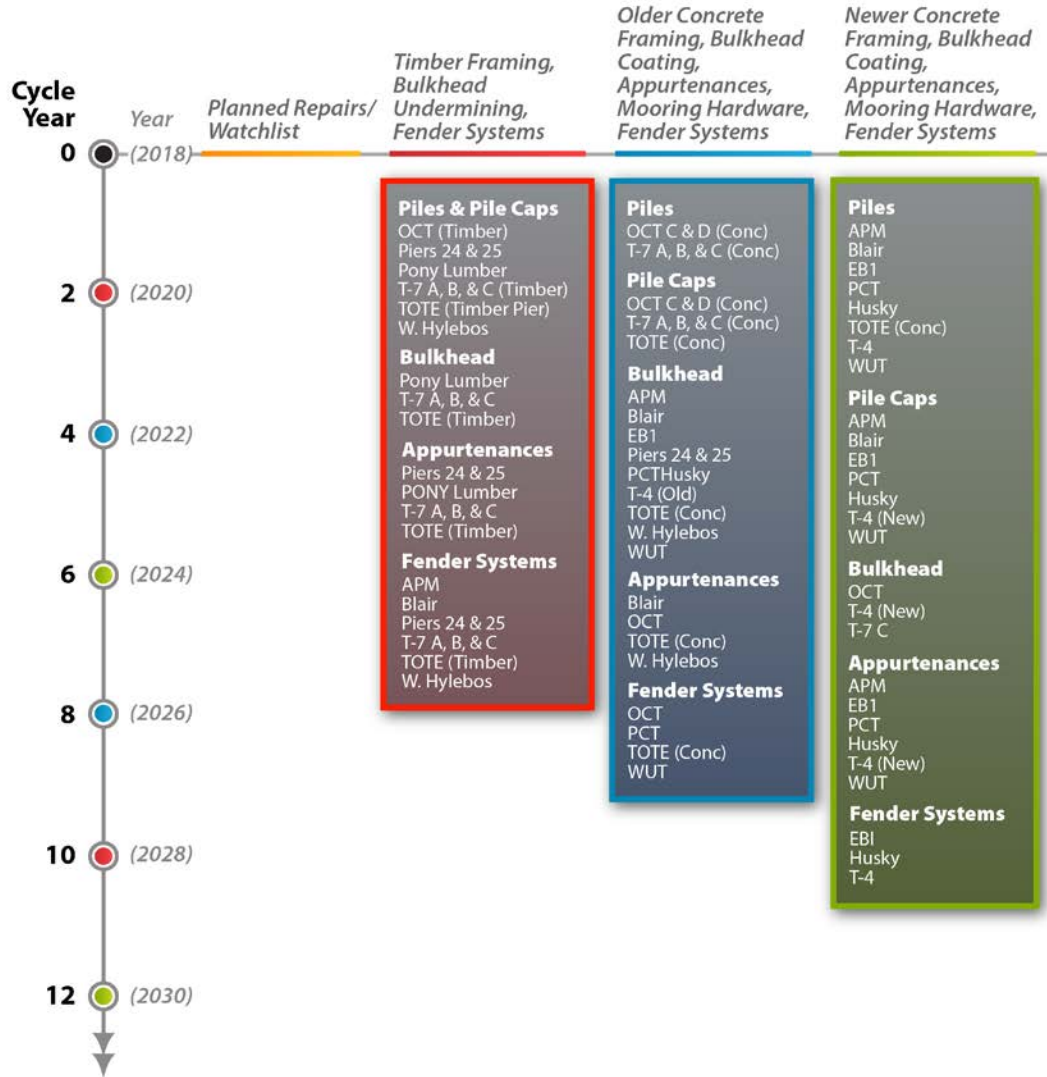
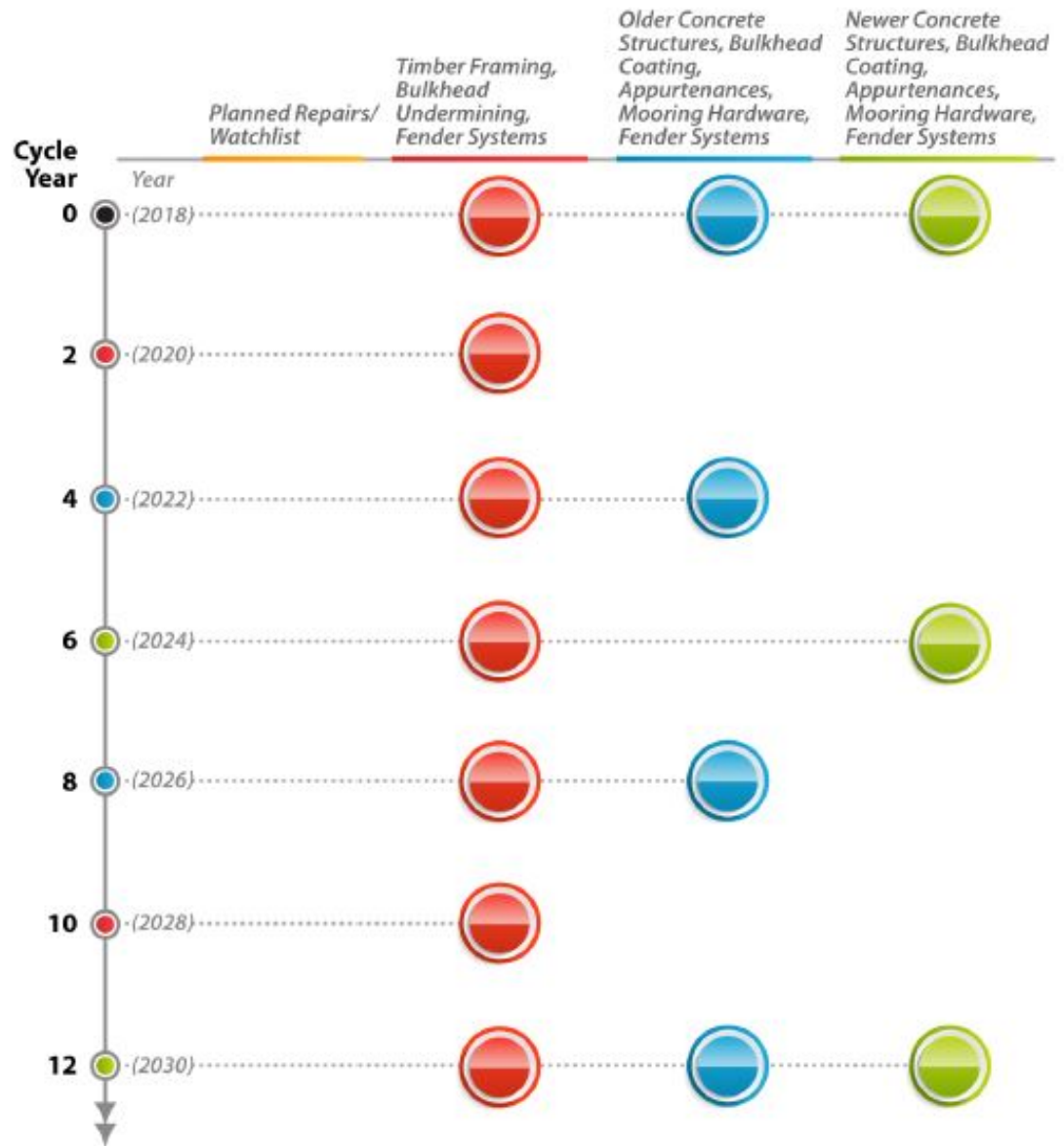


Figure 2 – General Inspection Plan



Electrical Preventive Maintenance

- **Goals: Minimize future loss of power disruption and maximize safety**
- **Inventory of electrical assets 480V and above is complete**
- **Electrical Preventative Maintenance Program well underway**



Funding and Authorization

- **North Harbor**

- Annual Condition Updates are included in the operating budget and costs are recorded to the appropriate terminal
- Routine Condition Assessments of concrete docks are built into budget as line items and authorized by the Chief Commercial Officer

- **South Harbor**

- Asset Management program budget built into budget as a line item
- Specific efforts over \$300K require Managing Member authorization
- Smaller efforts require authorization by the Chief Facilities Development Officer



Conclusion

- **Data driven approach to proactively inform the Maintenance and Capital Investment Plan**
- **Requires culture change, adequate resources, and an organizational commitment**
- **Asset Management supports budget planning – 2019 NWSA budget to include asset management line items**

