



US Army Corps  
of Engineers  
Seattle District



# Joint Public Notice

## Application for a Department of the Army Permit and a Washington Department of Ecology Water Quality Certification and/or Coastal Zone Management Consistency Concurrence

**US Army Corps of Engineers**  
Regulatory Branch  
Post Office Box 3755  
Seattle, WA 98124-3755  
Telephone (206) 316-3360  
ATTN: Rory Lee,  
Project Manager

**WA Department of Ecology**  
SEA Program  
Post Office Box 47600  
Olympia, WA 98504-7600  
Telephone (360) 407-6076  
ATTN: SEA Program,  
Federal Permit Coordinator

**Public Notice Date: June 12, 2019**  
**Expiration Date: July 12, 2019**

**Reference No.: NWS-2019-336**  
**Name: Vigor Industrial, LLC**  
**(Fender Pile Replacement)**

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Interested parties are hereby notified that the U.S. Army Corps of Engineers (Corps) and the Washington Department of Ecology (Ecology) have received an application to perform work in waters of the United States as described below and shown on the enclosed drawings dated March 2019.

The Corps will review the work in accordance with Section 10 of the Rivers and Harbors Act. Ecology will review the work pursuant to Section 401 of the CWA with applicable provisions of State water pollution control laws and the Coastal Zone Management Act.

APPLICANT: Vigor Industrial, LLC  
ATTN: Mr. Eagle Hilton  
1801 16<sup>th</sup> Avenue  
Southwest Seattle,  
Washington 98134  
Telephone: (206) 409-0047

AGENT: Floyd Snider  
ATTN: Erin Murray  
601 Union Street, Suite 600  
Seattle, Washington 98101  
Telephone: (206) 292-2078

LOCATION: In Elliot Bay at Seattle, Washington.

WORK: Vigor Industrial, LLC (Vigor) has proposed to perform maintenance to their existing facility by replacing fender piles. Maintenance would occur on Piers 3, 4, 5, and 6. Vigor would replace up to two-hundred-forty-eight fender piles with a maximum of one-hundred piles per year, over a ten-year period.

PURPOSE: To provide safe commercial vessel moorage.

ADDITIONAL INFORMATION: Vigor Shipyard is within the Harbor Island Superfund Site. Between 2004 and 2007, a remedial action was completed that consisted of dredging of contaminated sediment in open-water areas and placement of temporary sand caps beneath the piers where no dredging occurred. Piers 3 and 6 received a 1-foot thick sand cap, while Piers 4 and 5 received 3-foot-thick sand caps.

NWS-2019-336; Vigor Industrial LLC (Fender Pile Replacement)

Pile replacement would include the removal of one-hundred-ninety-six 15-inch diameter creosote piles and twenty-one steel piles ranging in diameter (16, 18, and 30 inches). Additional maintenance would include replacing up to twenty steel piles over the ten-year period identified at a future date. The proposed work would also include the replacement of the rubber energy absorbers and steel walers at each fender pile.

Work would be performed using a vibratory hammer mounted to a crane barge. All debris would be transported by barge to an approved upland disposal facility.

ENDANGERED SPECIES: The Endangered Species Act (ESA) requires federal agencies to consult with the National Marine Fisheries Service (NMFS) and/or U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7 of the ESA on all actions that may affect a species listed (or proposed for listing) under the ESA as threatened or endangered or any designated critical habitat. After receipt of comments from this public notice, the U.S. Army Corps of Engineers will evaluate the potential impacts to proposed and/or listed species and their designated critical habitat.

ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, requires all Federal agencies to consult with the NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). The proposed action would impact EFH in the project area.

If the U.S. Army Corps of Engineers (Corps) determines that the proposed action may adversely affect EFH for federally managed fisheries in Washington waters, the Corps will initiate EFH consultation with the NMFS. The Corps' final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the NMFS.

CULTURAL RESOURCES: The Corps has reviewed the latest published version of the National Register of Historic Places, Washington Information System for Architectural and Archaeological Records Data and other sources of information. Historic properties are recorded near the proposed project. However, they do not occur in the permit area. The permit area has been so extensively disturbed by modern development that little likelihood exists for the proposed project to impinge upon an undisturbed historic property. The Corps invites responses to this public notice from Native American Tribes or Tribal governments; Federal, State, and local agencies; historical and archeological societies; and other parties likely to have knowledge of or concerns regarding historic properties and sites of religious and cultural significance at or near the project area. After receipt of comments from this public notice, the Corps will evaluate potential impacts and consult with the State Historic Preservation Officer and Native American Tribes in accordance with Section 106 of the National Historic Preservation Act, as appropriate.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing.

EVALUATION – CORPS: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

NWS-2019-336; Vigor Industrial LLC (Fender Pile Replacement)

The Corps is soliciting comments from the public; Native American Nations or Tribal governments; Federal, State, and local agencies and officials; and other interested parties in order to consider and evaluate the impacts of this activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for the work. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the activity.

EVALUATION – ECOLOGY: Ecology is soliciting comments from the public; Federal, Native American Nations or Tribal governments, State, and local agencies and officials; and other interested parties in order to consider and evaluate the impacts of this activity. Ecology will be considering all comments to determine whether to certify or deny certification for the proposed project.

ADDITIONAL EVALUATION: The City of Seattle is reviewing the Shorelines Substantial Development permit for this project.

COMMENT AND REVIEW PERIOD: Conventional mail or e-mail comments on this public notice will be accepted and made part of the record and will be considered in determining whether authorizing the work would not be contrary to the public interest. In order to be accepted, e-mail comments must originate from the author's e-mail account and must include on the subject line of the e-mail message the permit applicant's name and reference number as shown below. Either conventional mail or e-mail comments must include the permit applicant's name and reference number, as shown below, and the commenter's name, address, and phone number. All comments whether conventional mail or e-mail must reach this office, no later than the expiration date of this public notice to ensure consideration.

Copies of this public notice which have been mailed or otherwise physically distributed feature project drawings in black and white. The electronic version features those drawings in color, which we think more accurately communicates the scope of project impacts. To access the electronic version of this public notice, go to the Seattle District's web page at <http://www.nws.usace.army.mil/> and under the heading Open Public Comment Periods select Regulatory Public Notices. Recently-issued public notices are listed in chronological order of the date of issuance. Select and view the listing for this project.

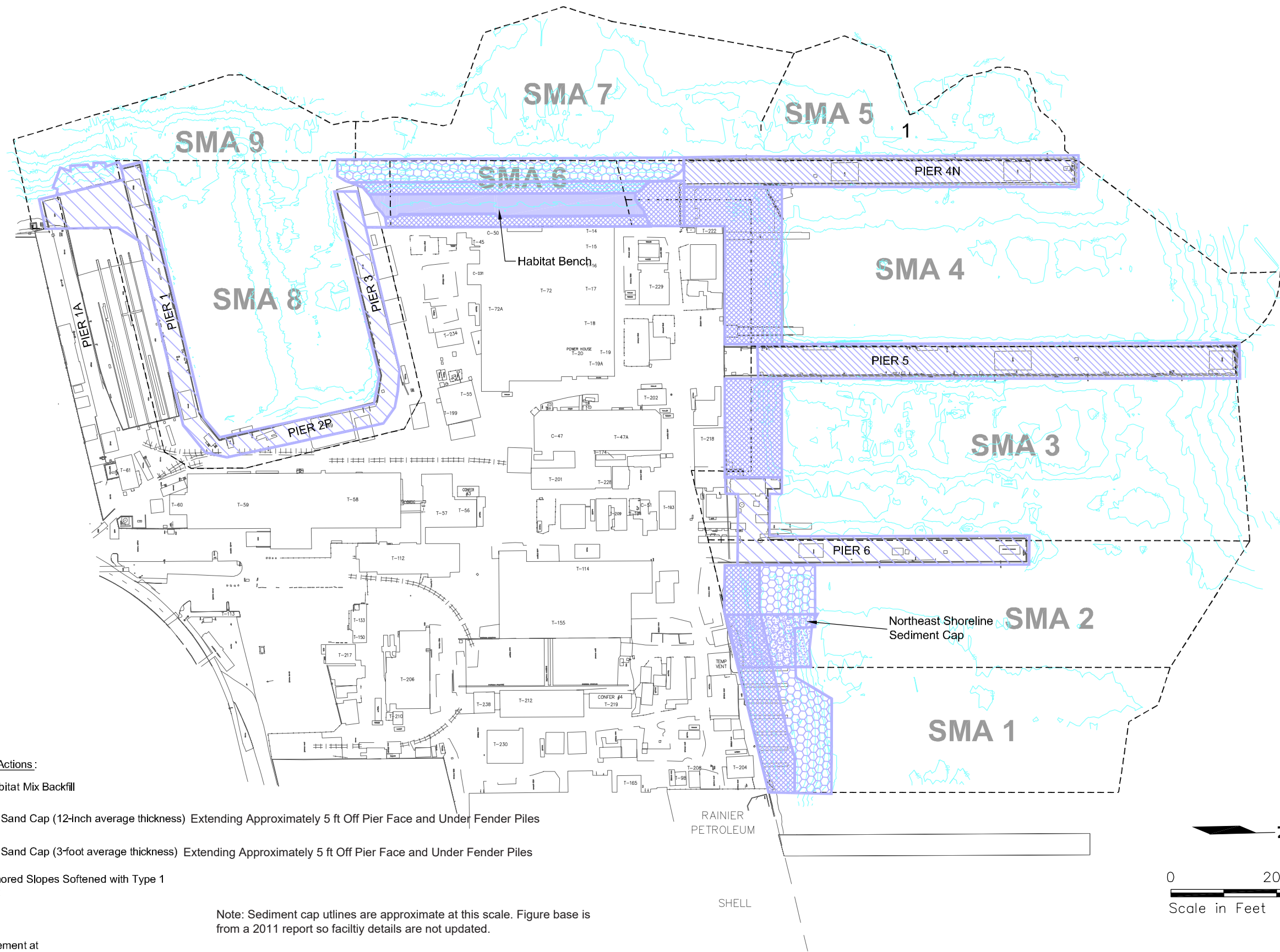
CORPS COMMENTS: All e-mail comments should be sent to [rory.w.lee@usace.army.mil](mailto:rory.w.lee@usace.army.mil). Conventional mail comments should be sent to: U.S. Army Corps of Engineers, Regulatory Branch, Attention: Rory Lee, P.O. Box 3755, Seattle, Washington 98124-3755. All comments received will become part of the administrative record and are subject to public release under the Freedom of Information Act including any personally identifiable information such as names, phone numbers, and addresses.

ECOLOGY COMMENTS: Any person desiring to present views on the project pertaining to a request for water quality certification under Section 401 of the CWA and/or Coastal Zone Management consistency concurrence, may do so by submitting written comments to the following address: Department of Ecology, Attention: SEA program – Federal Permit Coordinator, P.O. Box 47600, Olympia, Washington 98504-7600, or e-mail to [ecyrefedpermits@ecy.wa.gov](mailto:ecyrefedpermits@ecy.wa.gov).







To ensure proper consideration of all comments, responders must include the following name and reference number in the text of their comments: Vigor Industrial, LLC; NWS-2019-336.

Encl: Figures (12)

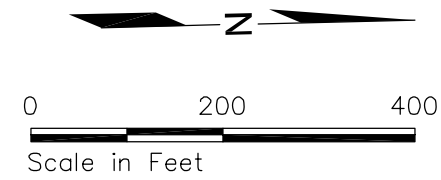


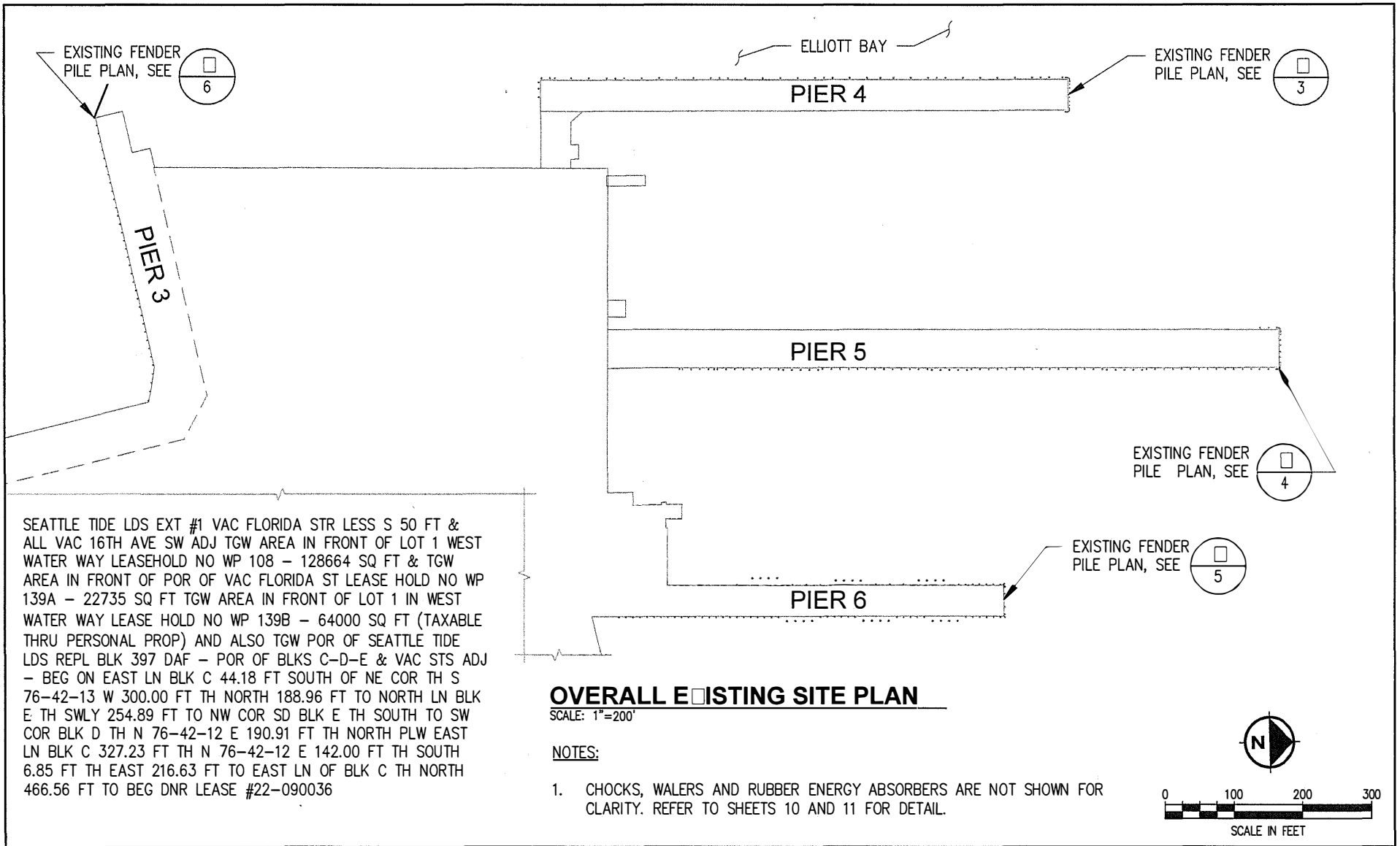


**Completed Remedial Actions:**

-  Type 2 Habitat Mix Backfill
-  Under-Pier Sand Cap (12-inch average thickness) Extending Approximately 5 ft Off Pier Face and Under Fender Piles
-  Under-Pier Sand Cap (3-foot average thickness) Extending Approximately 5 ft Off Pier Face and Under Fender Piles
-  Riprap Armored Slopes Softened with Type 1 Habitat Mix
-  Riprap
-  Sand Placement at Northeast Shoreline Sediment Cap

Note: Sediment cap outlines are approximate at this scale. Figure base is from a 2011 report so facility details are not updated.





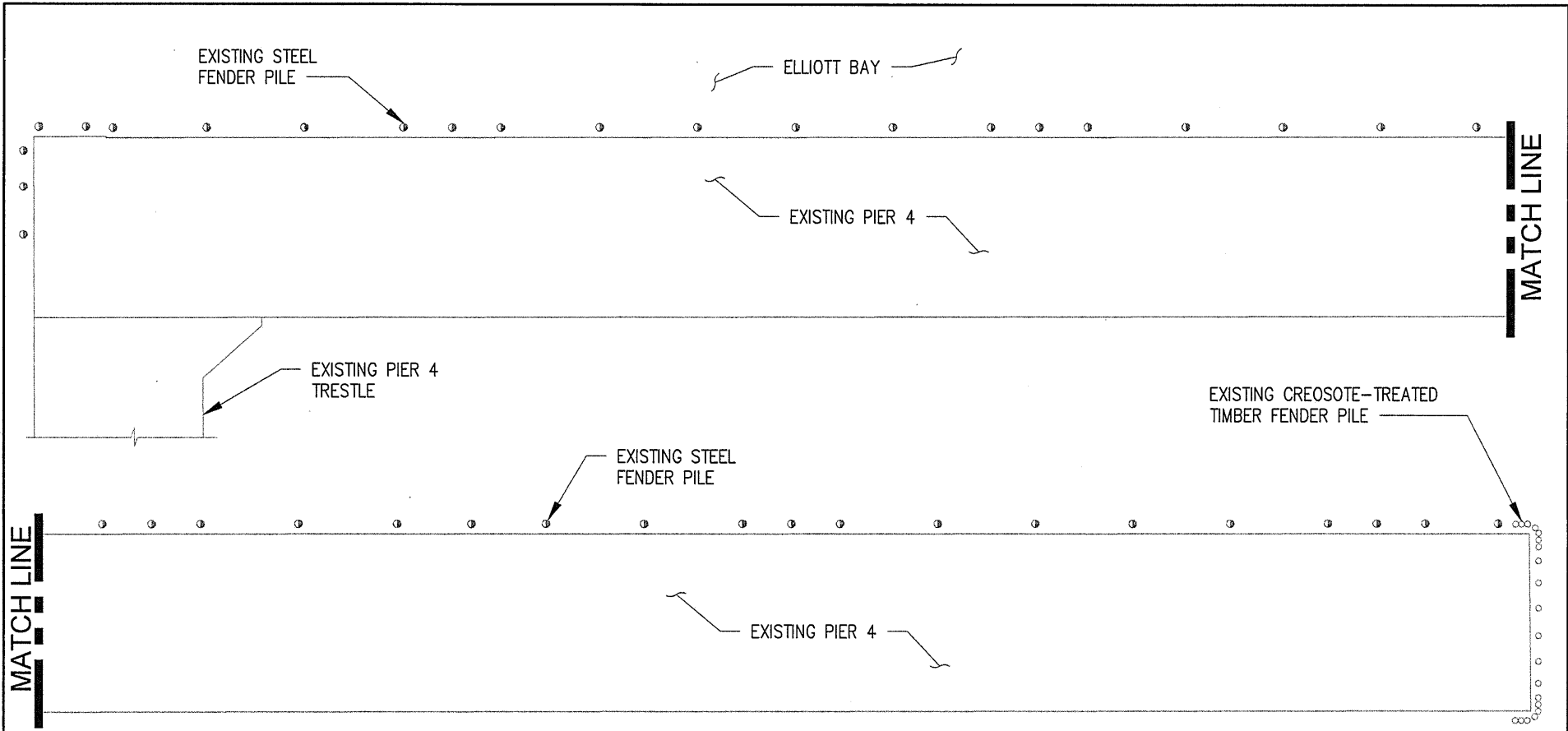
**IN:** ELLIOTT BAY, PUGET SOUND  
**AT:** 1801 16TH AVENUE SW  
**CITY:** SEATTLE  
**COUNTY:** KING  
**STATE:** WASHINGTON    **PARCEL #:** 7666702850  
**APPLICATION BY:** VIGOR SHIPYARDS  
**DATE:** MARCH 2019    **DATUM:** MLLW = 0.00'

**PURPOSE:** REPLACE FENDER PILES THAT ARE IN DISREPAIR IN ORDER TO MAINTAIN FACILITIES AND OPERATIONS AT VIGOR SHIPYARDS

**SECTION:** 7 AND 12  
**TOWNSHIP:** 24N    **LAT:** 47.587566 N  
**RANGE:** 4E AND 3E    **LONG:** -122.357358 W

**NWS-2019 - 336**

<b>VIGOR SHIPYARDS FENDER PILE REPLACEMENT PROGRAM</b>	
<b>TITLE:</b> OVERALL EXISTING SITE PLAN	<b>DATE:</b> MARCH 2019
	<b>REVISION DATE:</b>
	<b>SHEET:</b> 3 OF 12



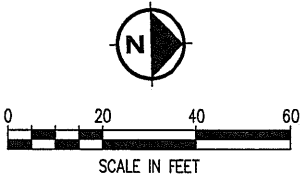
**1** PIER 4 EXISTING FENDER PILE PLAN  
 2 SCALE: 1"=40'

**LEGEND**

- ◉ STEEL FENDER PILE
- CREOSOTE-TREATED TIMBER FENDER PILE

**NOTES:**

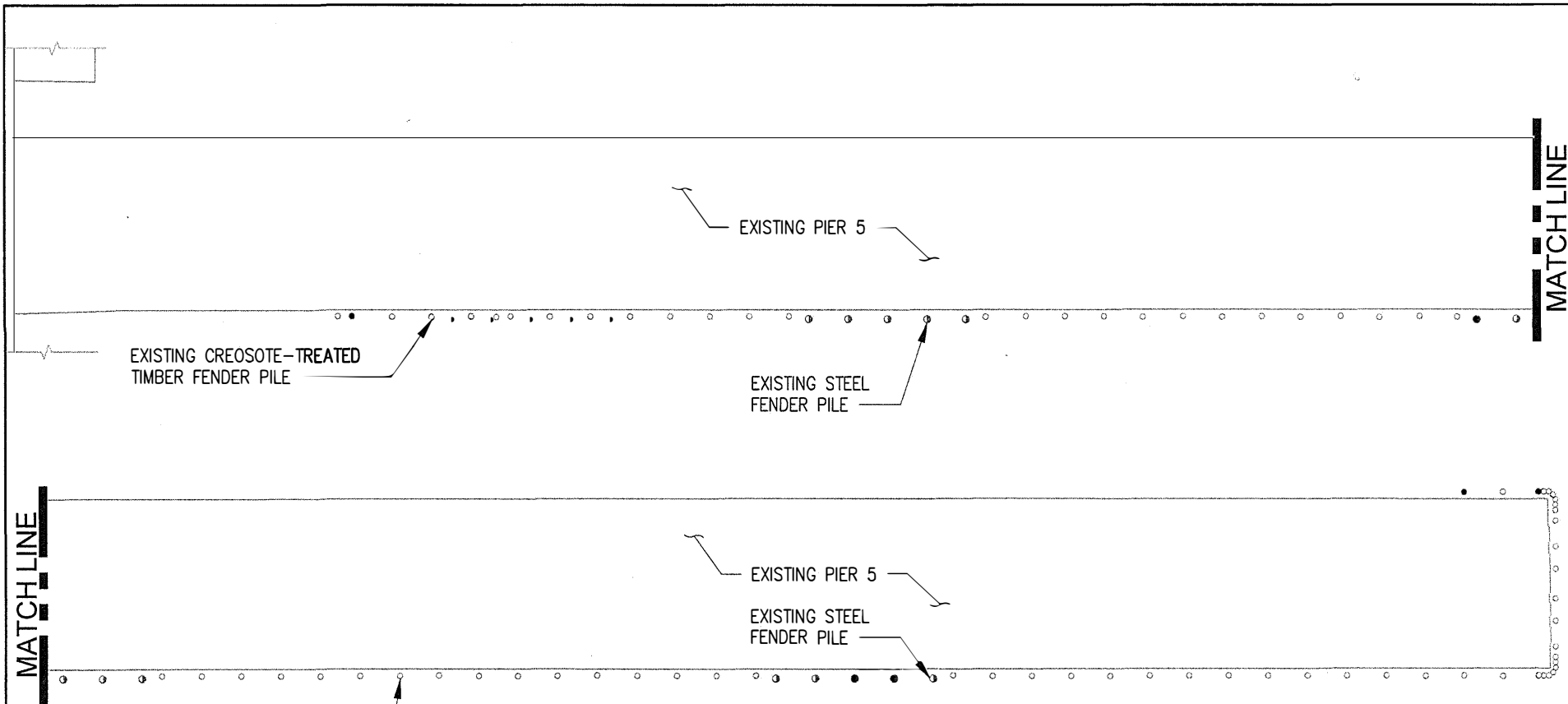
1. CHOCKS, WALERS AND RUBBER ENERGY ABSORBERS ARE NOT SHOWN FOR CLARITY. REFER TO SHEETS 10 AND 11 FOR DETAIL.
2. FENDER PILE DIAMETER INCREASED FOR CLARITY; NOT TO SCALE.



**IN:** ELLIOTT BAY, PUGET SOUND  
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**STATE:** WASHINGTON    **PARCEL #:** 7666702850  
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**SECTION:** 7 AND 12  
**TOWNSHIP:** 24N    **LAT:** 47.587566 N  
**RANGE:** 4E AND 3E    **LONG:** -122.357358 W  
**NWS-2019 - 336**

<b>VIGOR SHIPYARDS FENDER PILE REPLACEMENT PROGRAM</b>	
<b>TITLE:</b> PIER 4 EXISTING FENDER PILE PLAN	<b>DATE:</b> MARCH 2019
	<b>REVISION DATE:</b>
	<b>SHEET:</b> 4 OF 12



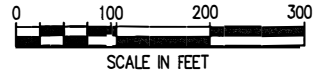
**1** PIER 5 EXISTING FENDER PILE PLAN  
**2** SCALE: 1"=50'

**LEGEND**

- STEEL FENDER PILE
- CREOSOTE-TREATED TIMBER FENDER PILE

**NOTES:**

1. CHOCKS, WALERS AND RUBBER ENERGY ABSORBERS ARE NOT SHOWN FOR CLARITY. REFER TO SHEETS 10 AND 11 FOR DETAIL.
2. FENDER PILE DIAMETER INCREASED FOR CLARITY; NOT TO TO SCALE

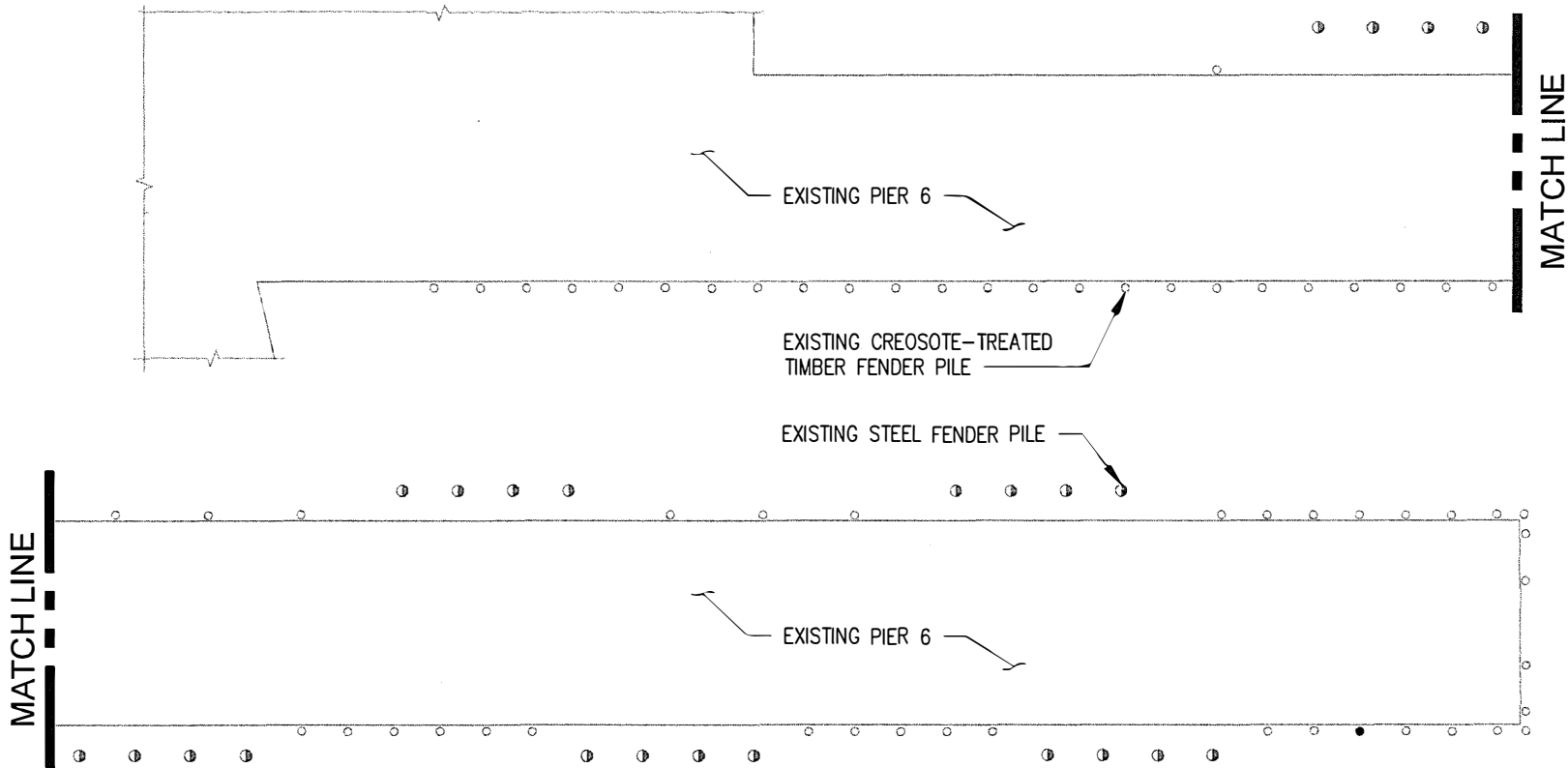


**IN:** ELLIOTT BAY, PUGET SOUND  
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**COUNTY:** KING  
**STATE:** WASHINGTON    **PARCEL #:** 7666702850  
**APPLICATION BY:** VIGOR SHIPYARDS  
**DATE:** MARCH 2019    **DATUM:** MLLW = 0.00'

**PURPOSE:** REPLACE FENDER PILES THAT ARE IN DISREPAIR IN ORDER TO MAINTAIN FACILITIES AND OPERATIONS AT VIGOR SHIPYARDS  
**SECTION:** 7 AND 12  
**TOWNSHIP:** 24N    **LAT:** 47.587566 N  
**RANGE:** 4E AND 3E    **LONG:** -122.357358 W  
  
**NWS-2019 - 336**

<b>VIGOR SHIPYARDS FENDER PILE REPLACEMENT PROGRAM</b>	
<b>TITLE:</b> PIER 5 EXISTING FENDER PILE PLAN	<b>DATE:</b> MARCH 2019
	<b>REVISION DATE:</b>
	<b>SHEET:</b> 5 OF 12





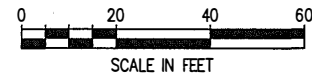
**1** **PIER 6 EXISTING FENDER PILE PLAN**  
**2** SCALE: 1"=40'

**LEGEND**

- ① STEEL FENDER PILE
- CREOSOTE-TREATED TIMBER FENDER PILE

**NOTES:**

1. CHOCKS, WALERS AND RUBBER ENERGY ABSORBERS ARE NOT SHOWN FOR CLARITY. REFER TO SHEETS 10 AND 11 FOR DETAIL.



**IN:** ELLIOTT BAY, PUGET SOUND

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**CITY:** SEATTLE

**COUNTY:** KING

**STATE:** WASHINGTON **PARCEL #:** 7666702850

**APPLICATION BY:** VIGOR SHIPYARDS

**DATE:** MARCH 2019 **DATUM:** MLLW = 0.00'

**PURPOSE:** REPLACE FENDER PILES THAT ARE IN DISREPAIR IN ORDER TO MAINTAIN FACILITIES AND OPERATIONS AT VIGOR SHIPYARDS

**SECTION:** 7 AND 12

**TOWNSHIP:** 24N

**RANGE:** 4E AND 3E

**LAT:** 47.587566 N

**LONG:** -122.357358 W

**NWS-2019 - 336**

**VIGOR SHIPYARDS  
 FENDER PILE REPLACEMENT PROGRAM**

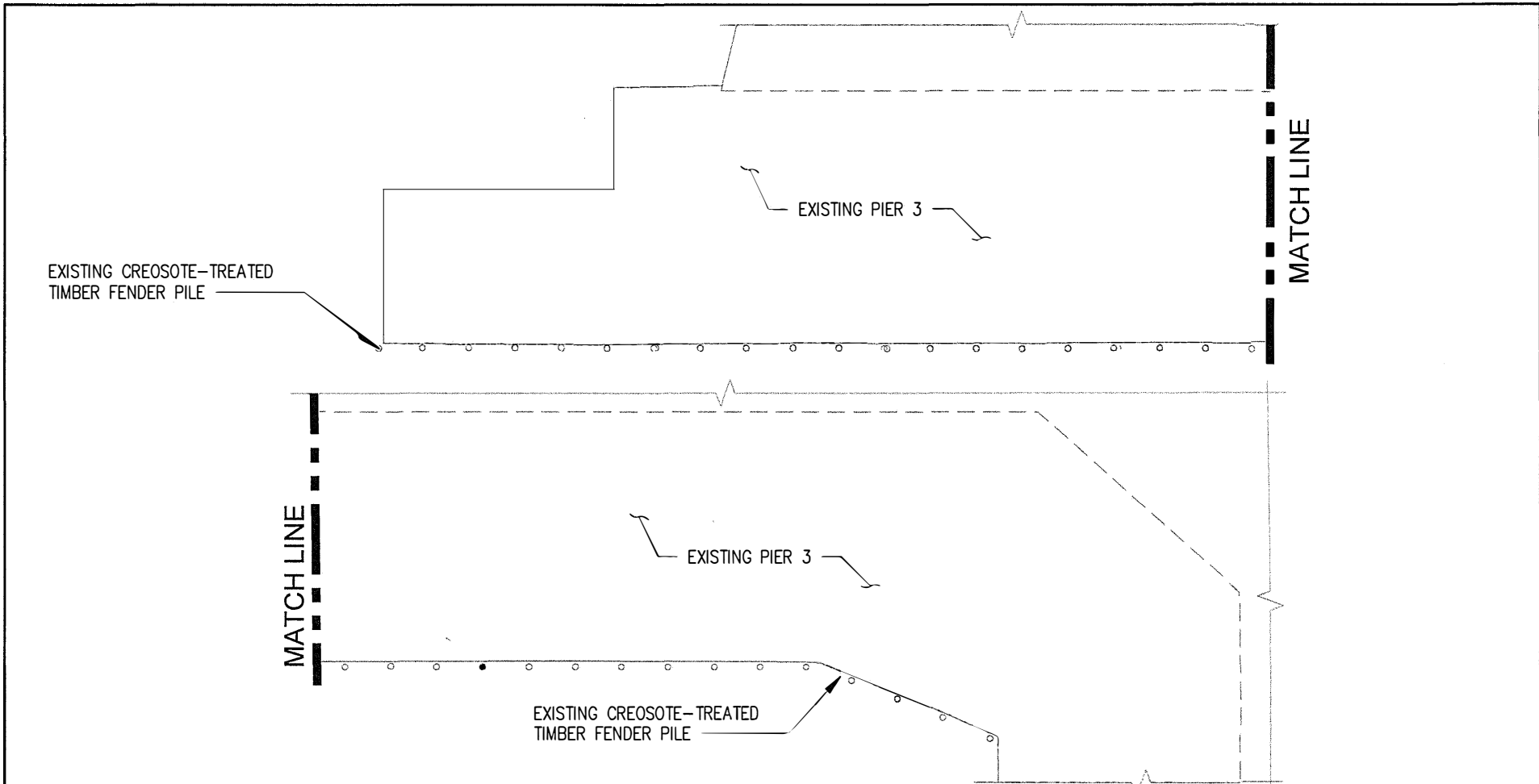
**TITLE:**

PIER 6 EXISTING  
 FENDER PILE PLAN

**DATE:** MARCH 2019

**REVISION DATE:**

**SHEET:** 6 OF 12



**LEGEND**

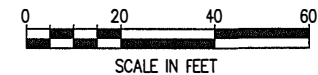
- ◉ STEEL FENDER PILE
- CREOSOTE-TREATED TIMBER FENDER PILE

**PIER 3 EXISTING FENDER PILE PLAN**

SCALE: 1"=40'

NOTES:

1. CHOCKS, WALERS AND RUBBER ENERGY ABSORBERS ARE NOT SHOWN FOR CLARITY. REFER TO SHEETS 10 AND 11 FOR DETAIL.



<b>IN:</b> ELLIOTT BAY, PUGET SOUND <b>AT:</b> 1801 16TH AVENUE SW <b>CITY:</b> SEATTLE <b>COUNTY:</b> KING <b>STATE:</b> WASHINGTON <b>PARCEL #:</b> 7666702850 <b>APPLICATION BY:</b> VIGOR SHIPYARDS <b>DATE:</b> MARCH 2019 <b>DATUM:</b> MLLW = 0.00'	<b>PURPOSE:</b> REPLACE FENDER PILES THAT ARE IN DISREPAIR IN ORDER TO MAINTAIN FACILITIES AND OPERATIONS AT VIGOR SHIPYARDS  <b>SECTION:</b> 7 AND 12 <b>TOWNSHIP:</b> 24N <b>LAT:</b> 47.587566 N <b>RANGE:</b> 4E AND 3E <b>LONG:</b> -122.357358 W  <b>NWS-2019 - 336</b>	<b>VIGOR SHIPYARDS</b> <b>FENDER PILE REPLACEMENT PROGRAM</b>		
		<b>TITLE:</b> PIER 3 EXISTING FENDER PILE PLAN		<b>DATE:</b> MARCH 2019
		<b>REVISION DATE:</b>		<b>SHEET:</b> 7 OF 12

## FENDER PILE SCHEDULE <sup>1, 2, 3</sup>

	Existing		Replacement						Totals
			Year 1 (Anticipated)			Year 2 through Year 10			
			Remove		New	Remove		New	
	Timber	Steel	Timber	Steel	Steel	Timber	Steel	Steel	
Pier 3	35/15"φ	0	0	0	0	35/15"φ	0	23/16"φ	
Pier 4	20/15"φ	41/16"φ	0	6/16"φ	6/16"φ	20/15"φ	35/16"φ	42/16"φ	
Pier 5	80/15"φ	15/18"φ	12/15"φ	0	15/18"φ	68/15"φ	0	80/18"φ	
Pier 6	61/15"φ	24/30"φ	0	0	0	61/15"φ	0	62/30"φ	
Contingency	0	0	0	0	0	0	0	20/30"φ	
<b>Totals</b>	<b>196</b>	<b>0</b>							
<b>Timber Removed</b>			<b>12</b>			<b>184</b>		<b>196</b>	
<b>Steel Removed</b>				<b>6</b>			<b>35</b>	<b>41</b>	
<b>New Steel</b>					<b>21</b>			<b>227</b>	

LEGEND:

#/#"φ - NUMBER OF PILING/OUTER DIAMETER OF PILING

NOTES:

1. UP TO 100 PILES MAY BE INSTALLED EACH YEAR BUT NO MORE THAN 248 PILES WILL BE INSTALLED OVER THE 10 YEAR PROGRAM DURATION.
2. REFER TO SHEETS 3 AND 4 FOR PROPOSED FENDER PILE LAYOUT ON PIER 4 AND 5, RESPECTIVELY.
3. PROPOSED FENDER PILE LAYOUTS FOR PIER 3 AND 6 ARE EXPECTED TO BE SIMILAR TO 4 AND 5, RESPECTIVELY. PLANS WILL BE PROVIDED PRIOR TO WORK ON THESE PIERS, FOLLOWING DESIGN.

**IN:** ELLIOTT BAY, PUGET SOUND

**AT:** 1801 16TH AVENUE SW

**CITY:** SEATTLE

**COUNTY:** KING

**STATE:** WASHINGTON      **PARCEL #:** 7666702850

**APPLICATION BY:** VIGOR SHIPYARDS

**DATE:** MARCH 2019      **DATUM:** MLLW = 0.00'

**PURPOSE:** REPLACE FENDER PILES THAT ARE IN DISREPAIR IN ORDER TO MAINTAIN FACILITIES AND OPERATIONS AT VIGOR SHIPYARDS

**SECTION:** 7 AND 12

**TOWNSHIP:** 24N

**RANGE:** 4E AND 3E

**LAT:** 47.587566 N

**LONG:** -122.357358 W

NWS-2019 - 336

### VIGOR SHIPYARDS FENDER PILE REPLACEMENT PROGRAM

**TITLE:**  
FENDER PILE SCHEDULE

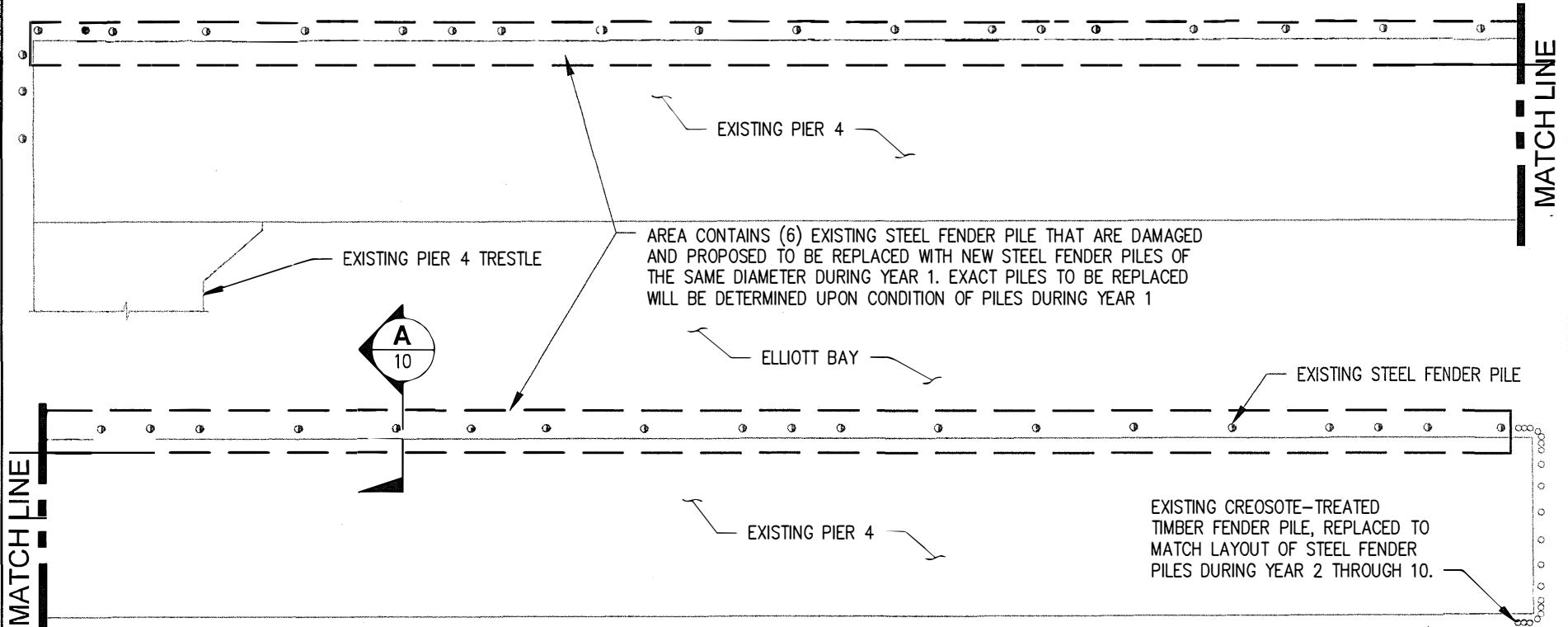
**DATE:** MARCH 2019

**REVISION DATE:**

**SHEET:** 8      **OF** 12

# NOTES

- THIS SHEET DEPICTS THE FENDER PILE LAYOUT AT PIER 4. ALL EXISTING FENDER PILES MAY BE REPLACED AS PART OF THIS PROGRAM. THE LAYOUT OF REPLACEMENT PILES WILL BE CONSISTENT WITH WHAT IS SHOWN HERE, WITH A SLIGHT OFFSET AS NEEDED FOR CONSTRUCTABILITY. THE EXISTING TIMBER FENDER PILES WILL BE REPLACED WITH STEEL PILES.
- CHOCKS, WALERS AND RUBBER ENERGY ABSORBERS ARE NOT SHOWN FOR CLARITY. REFER TO SHEETS 10 AND 11 FOR DETAIL.
- FENDER PILE DIAMETER INCREASED FOR CLARITY; NOT TO SCALE.



MATCH LINE

MATCH LINE

## LEGEND

- ◉ STEEL FENDER PILE
- CREOSOTE-TREATED TIMBER FENDER PILE

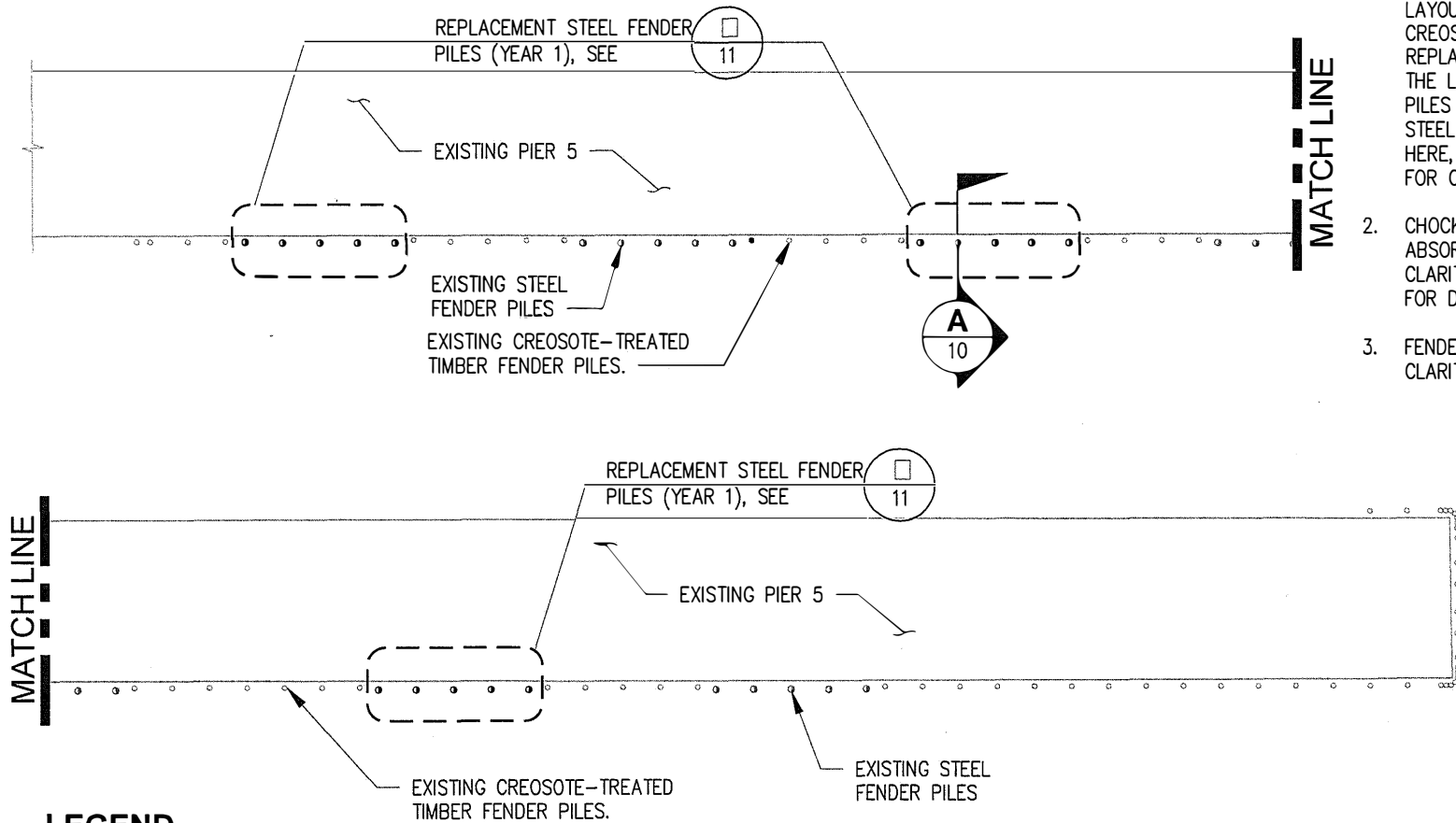
**1** PIER **2** FENDER PILE PLAN  
SCALE: 1"=40'



<b>IN:</b> ELLIOTT BAY, PUGET SOUND <b>AT:</b> 1801 16TH AVENUE SW <b>CITY:</b> SEATTLE <b>COUNTY:</b> KING <b>STATE:</b> WASHINGTON <b>PARCEL #:</b> 7666702850 <b>APPLICATION BY:</b> VIGOR SHIPYARDS <b>DATE:</b> MARCH 2019 <b>DATUM:</b> MLLW = 0.00'	<b>PURPOSE:</b> REPLACE FENDER PILES THAT ARE IN DISREPAIR IN ORDER TO MAINTAIN FACILITIES AND OPERATIONS AT VIGOR SHIPYARDS  <b>SECTION:</b> 7 AND 12 <b>TOWNSHIP:</b> 24N <b>LAT:</b> 47.587566 N <b>RANGE:</b> 4E AND 3E <b>LONG:</b> -122.357358 W  <b>NWS-2019 - 336</b>	<b>VIGOR SHIPYARDS</b> <b>FENDER PILE REPLACEMENT PROGRAM</b>		
		<b>TITLE:</b> PIER 4 FENDER PILE PLAN		<b>DATE:</b> MARCH 2019
		<b>REVISION DATE:</b>		<b>SHEET: 9 OF 12</b>

**NOTES**

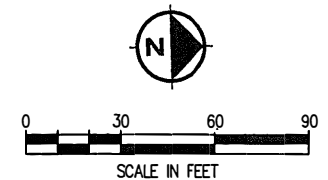
1. THIS SHEET DEPICTS THE FENDER PILE LAYOUT AT PIER 5. ALL EXISTING CREOSOTE TIMBER FENDER PILES MAY BE REPLACED AS PART OF THIS PROGRAM. THE LAYOUT OF STEEL REPLACEMENT PILES WILL BE CONSISTENT WITH THE STEEL FENDER PILE CONFIGURATION HERE, WITH A SLIGHT OFFSET AS NEEDED FOR CONSTRUCTABILITY.
2. CHOCKS, WALERS AND RUBBER ENERGY ABSORBERS ARE NOT SHOWN FOR CLARITY. REFER TO SHEETS 10 AND 11 FOR DETAIL.
3. FENDER PILE DIAMETER INCREASED FOR CLARITY; NOT TO SCALE.



**LEGEND**

- STEEL FENDER PILE
- CREOSOTE-TREATED TIMBER FENDER PILE

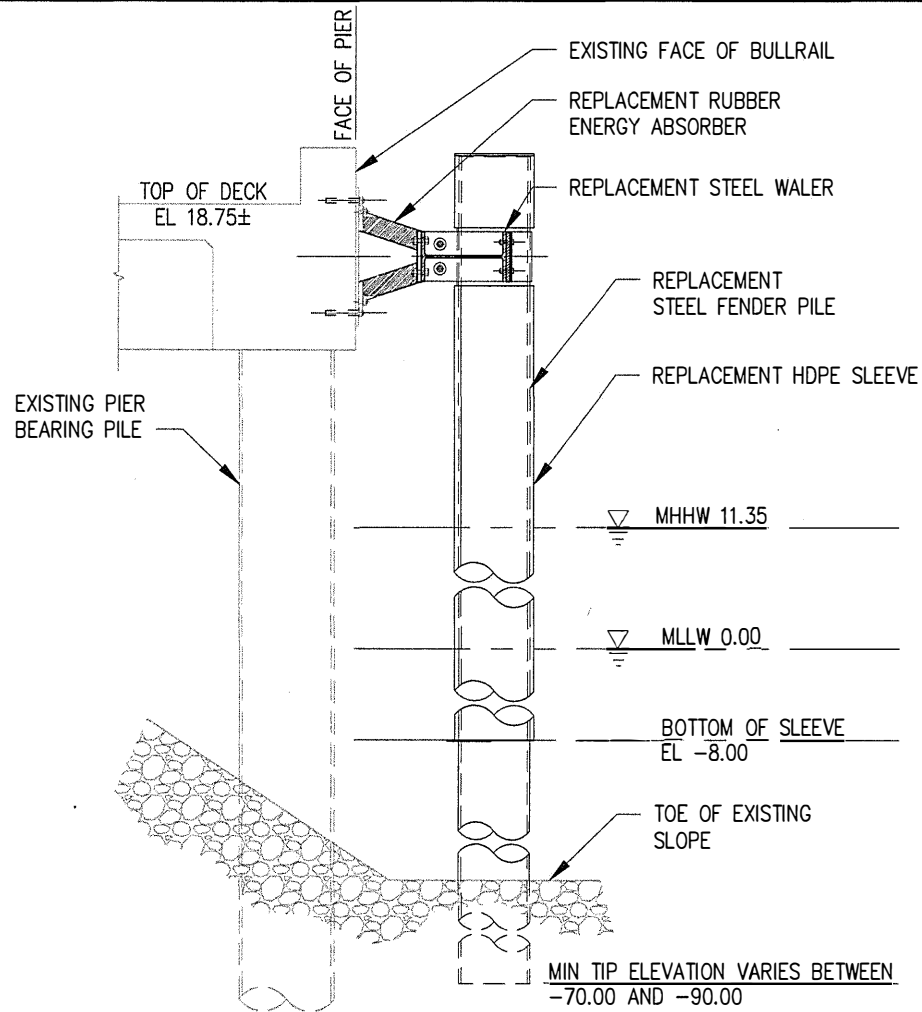
**1 PIER 5 FENDER PILE PLAN**  
2 SCALE: 1"=60'



**IN:** ELLIOTT BAY, PUGET SOUND  
**AT:** 1801 16TH AVENUE SW  
**CITY:** SEATTLE  
**COUNTY:** KING  
**STATE:** WASHINGTON **PARCEL #:** 7666702850  
**APPLICATION BY:** VIGOR SHIPYARDS  
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**SECTION:** 7 AND 12  
**TOWNSHIP:** 24N **LAT:** 47.587566 N  
**RANGE:** 4E AND 3E **LONG:** -122.357358 W  
**NWS-2019 - 336**

<b>VIGOR SHIPYARDS FENDER PILE REPLACEMENT PROGRAM</b>	
<b>TITLE:</b> PIER 5 FENDER PILE PLAN	<b>DATE:</b> MARCH 2019
	<b>REVISION DATE:</b>
	<b>SHEET:</b> 10 OF 12



A  
8, 9

### TYPICAL FENDER SECTION

SCALE: 1/4" = 1'-0"



**IN:** ELLIOTT BAY, PUGET SOUND

**AT:** 1801 16TH AVENUE SW

**CITY:** SEATTLE

**COUNTY:** KING

**STATE:** WASHINGTON **PARCEL #:** 7666702850

**APPLICATION BY:** VIGOR SHIPYARDS

**DATE:** MARCH 2019 **DATUM:** MLLW = 0.00'

**PURPOSE:** REPLACE FENDER PILES THAT ARE IN DISREPAIR IN ORDER TO MAINTAIN FACILITIES AND OPERATIONS AT VIGOR SHIPYARDS

**SECTION:** 7 AND 12

**TOWNSHIP:** 24N

**RANGE:** 4E AND 3E

**LAT:** 47.587566 N

**LONG:** -122.357358 W

NWS-2019 - 336

### VIGOR SHIPYARDS FENDER PILE REPLACEMENT PROGRAM

**TITLE:**  
TYPICAL FENDER SECTION

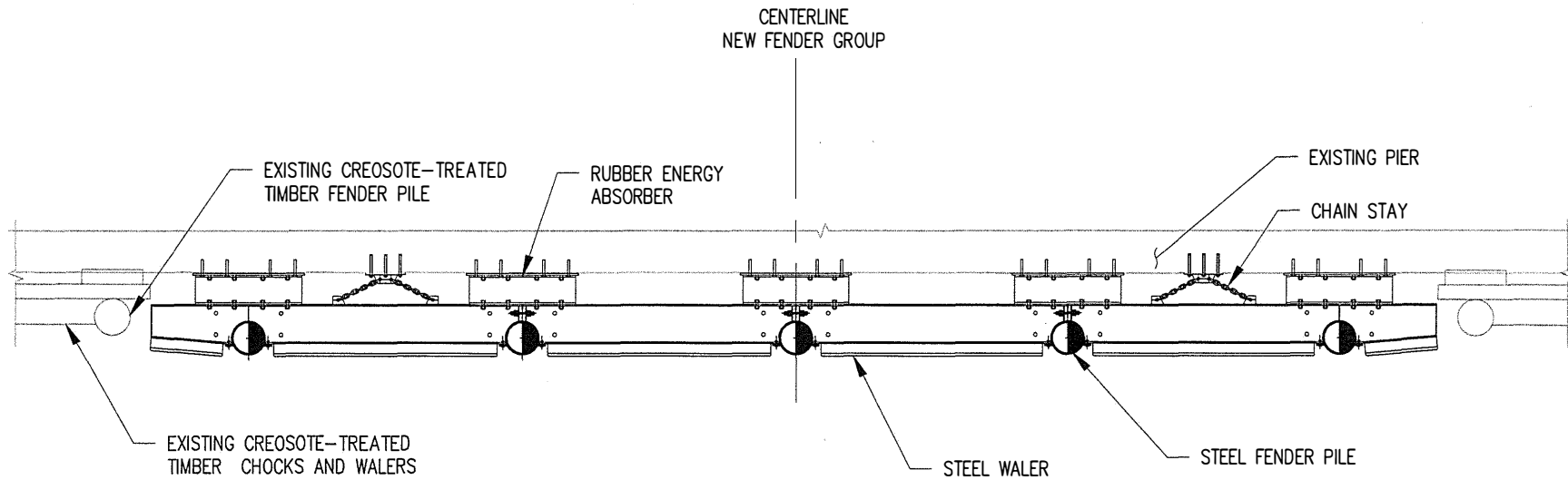
**DATE:** MARCH 2019

**REVISION DATE:**

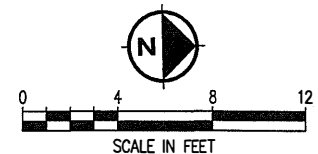
**SHEET:** 11 OF 12

**NOTES**

1. THERE IS SOME VARIATION TO OVERWATER APPURTENANCES AND DETAIL FROM OTHER PIERS; HOWEVER, THIS PROVIDES A TYPICAL LAYOUT FOR ALL THE PIERS.



**1**  
**9** **TYPICAL FENDER PLAN**  
SCALE: 1/8" = 1'-0"



**IN:** ELLIOTT BAY, PUGET SOUND

**AT:** 1801 16TH AVENUE SW

**CITY:** SEATTLE

**COUNTY:** KING

**STATE:** WASHINGTON **PARCEL #:** 7666702850

**APPLICATION BY:** VIGOR SHIPYARDS

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**VIGOR SHIPYARDS  
FENDER PILE REPLACEMENT PROGRAM**

**TITLE:**  
TYPICAL FENDER PLAN

**DATE:** MARCH 2019

**REVISION DATE:**

**SHEET:** 12 OF 12