Parker Property Dock Construction

# Critical Areas Report

## King County Parcels

**Prepared for**

**Bradley Parker**
**10209 SW Tillicum Ln**
**Vashon Island, WA 98070**

**Prepared by**

Northwest Environmental Consulting, LLC

Northwest Environmental Consulting, LLC
3639 Palatine Avenue North
Seattle, WA 98103
206-234-2520

**February 2023**
**Updated March 2026**

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# INTRODUCTION

## Report Purpose

This report summarizes critical areas (shoreline and special aquatic sites) on the site and documents avoidance, minimization, impacts, and mitigation measures to protect and compensate for unavoidable impacts to these resources by construction of a new pier and boat lift.

## Project Location

The project area is located in unincorporated King County on Vashon Island, Washington at 10209 SW Tillicum Lane. It is located in Section 18, Township 22N, Range 3E (see Appendix A - Figure 1).

## Site Description and Existing Conditions

The property is located along the shoreline of Quartermaster Harbor on Vashon Island. The site contains a single-family house and garage. Landscaping includes a mix of native plantings and ornamental beds and landscaping. The shoreline has been landscaped with a native landscape. A path with rock stairs leads down to the water from the back patio. A rock bulkhead is present with steps down to the water.

The shoreline has a sand and gravel beach transitioning to sand and silts further from shore. No eelgrass or other macro algae was observed during an eelgrass survey of the new pier that include 30 feet past the outer edge of the proposed pier.

## Project Purpose and Description

The project purpose is to construct a new 480-square-foot pier and 192 square foot piling supported boat-lift to allow safe access and moorage. The proposal will achieve this by constructing a new pier with a grated walkway, ramp, and float. A boatlift will be installed along the proposed float. The pier will be supported by pilings, and the float will be anchored to pilings using pile hoop braces.

# METHODOLOGY

Northwest Environmental Consulting (NWEC) determined the presence of environmentally critical areas at the site by conducting a site visit, interviewing the property owner, and using online resources.

## Existing Document Review

NWEC reviewed online documents for information about the project vicinity, including:

- National Wetland Inventory (NWI) database.
- Washington Department of Fish and Wildlife (WDFW) SalmonScape.
- WDFW Priority Habitats and Species (PHS).
- King County iMap

## Site Investigation

Northwest Environmental Consulting (NWEC) biologists visited the site on August 1, 2022, to confirm if ecological critical areas were present on the site. The purpose of the site visit was to describe current site conditions and to determine what impacts may occur from construction of a new dock and boat lift. An eelgrass survey was conducted on September 29th, 2022.

# Document Review

## Wetlands

The National Wetlands Inventory does not map any freshwater wetlands in or near the project area, but it maps the estuarine and marine wetland along the shoreline that is Quartermaster Harbor (see Figure 2).

## Species Presence

### *Fish*

The WDFW SalmonScape database indicates that the area is used by bull trout, Chinook salmon, and Puget Sound steelhead as part of a migration corridor and foraging (see Figure 2). Pacific salmonids can be found year-round in Puget Sound.

The project area is within designated Puget Sound Bull Trout Critical Habitat, Unit 2 and is defined as an area that includes the shorelines of Puget Sound to a depth of 33 feet MLLW (USFWS).

The project is within designated critical habitat for Puget Sound Chinook salmon.

Rockfish live in Puget Sound. Rockfish are deep-water fish and rarely use waters shallower than 80 feet (74 Fed. Reg. 18516). The bathymetry of the area isn't favorable for rockfish use. They also require habitat complexity, especially refugia in the form of overhanging rock that is absent in the action area. Rockfish larvae may be found in the water, but BMPs will be used to reduce the risk of injury. Mature rockfish are not likely to use the project area.

The WDFW PHS database shows a Pacific Herring breeding area along the shoreline at the site.

### *Marine Mammals*

The action area is within designated critical habitat for Southern Resident Killer Whales.

### *Birds*

Marbled murrelets occur in Puget Sound. The northern end of Quartermaster Harbor is shallow and not likely preferred by marbled murrelets. The nearest nesting areas are in the Olympic National Forest approximately 30 miles west of the project area, and in the Cascades, approximately 30 miles east of the project area (71 Fed. Reg. 53837).

## Terrestrial Species

The WDFW PHS database indicates blue heron rookeries are present about 1 mile south of the project site

## Critical Saltwater Habitat

Critical saltwater habitat is defined by King County as all kelp beds, eelgrass beds, spawning and holding areas for forage fish, such as herring, smelt and sand lance; and subsistence, commercial and recreational shellfish beds; and mudflats, intertidal habitats with vascular plants and areas with which priority species have a primary association.

The shoreline environment is mapped as breeding area for Pacific Herring by PHS mapping and the WDNR maps the site as surf smelt spawning habitat. The shoreline is considered Critical Saltwater Habitat.

# AVOIDANCE AND MINIMIZATION

Impacts to critical areas are required to follow mitigation sequencing. Mitigation sequencing requires the following steps be taken:

- Avoiding the impact altogether by not taking a certain action or parts of actions;
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts;
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
- Compensating for the impact by replacing or providing substitute resources or environments; and/or
- Monitoring the impact and the compensation projects and taking appropriate corrective measures.

The project is a water dependent use that will allow for the owners to safely moor their boat on a boat lift that will be accessed from the new dock. The dock will be placed on aquatic lands owned by the owner. The owner will utilize the following best management practices to construct the dock.

**Proposed work window:**

The in-water work window for salmon and bull trout in will follow the HPA and Corps recommendations. Further timing restrictions may apply due to the presence of forage fish at the site.

**Other conservation and minimization measures:**

- A sediment containment boom (floating and anchored) around the project area and barges will contain silt and sediment that may escape during demolition and construction.
- The barge will be fitted with a perimeter containment sock to keep silt and debris from reentering the water.
- No impact pile driving will take place.
- Hazardous material containment BMP's, such as spill absorbent pads, and hazmat-trained personnel will be required onsite during any phase of construction where machinery is in operation near surface waters.
- The work barge will not be allowed to ground out, and care will be taken to avoid macroalgae beds when anchoring.
- If used on the beach, construction equipment will be restricted to use during low tide cycles when the area is completely in the dry.
- Artificial night lighting on and from overwater structures will be minimized by focusing the light on the pier surface (not the water) and using shades that minimize illumination of the surrounding environment and reduces glare on the water surface. The visible light emitted by an individual fixture shall not exceed 450 lumens, and the total visible light emitted by all fixtures on a pier shall not exceed 2,700 lumens.
- No new boathouses are proposed.

- No new or replaced pier skirting is proposed.
- No use of treated wood for any in-water structures or components is proposed;
- Piles will be epoxying coated steel and the smallest size and quantity practicable;
- No galvanized coated steel will be placed below the waterline.
- The work window will follow HPA timing guidelines for Pacific Herring and Surf Smelt as required.

# ALTERNATIVES ANALYSIS

The Alternatives Analysis reviews other moorage possibilities including placement of a mooring ball, a shared dock, using commercial moorage and building the new dock. The purpose of the project is to provide safe moorage at the site.

A new mooring ball would be in deeper water on WDNR State aquatic land. The mooring ball is not accessible from the shore except by boat and then the owner would need to go to a public moorage to load passengers. Leaving the boat in the water year round is also not possible and the boat has to be taken to a public launch and trailered out of the water every year. Leaving the boat in the marine waters also requires excessive maintenance on the boat. This alternative does not provide safe moorage at the site.

The neighbors all currently have docks. Using a neighbor's dock would still require the installation of a boat lift and an agreement to use the facility and allow for access to the neighbors property. A shared dock is best utilized along the edge of a property line where easements to the project are not required. This alternative is not considered due to access issues onto neighboring properties.

The owner inquired at the yacht club in Harbormaster Bay. No moorage is available and the wait list is years long to get into the private moorages. No plans to expand the marina will occur in the foreseeable future.

The preferred alternative is to build a small dock on the owners lot with a lift to elevate the boat out of the marine environment when not in use.

# IMPACTS

***Direct Impacts:***

**Sediments:** Sediment disturbance will occur below the OHWM and along the shoreline of Lake Washington during pile driving, removal, and repair. Additionally, the tug and barge propwash may disturb sediments temporarily when making trips to/from the site.

Sediments are expected to be minimally disturbed during pile driving. In addition, a floating boom surrounding the work area to contain floating debris. The project is expected to meet state water quality standards for turbidity.

**Shoreline:** The shoreline is already extensively vegetated with native plants. These plants will continue providing overhanging cover for fish, structural diversity for birds and wildlife, detritus for aquatic invertebrates and long-term recruitment of woody material and other allochthonous food sources. The completed planting plan is included (see Appendix C – Planting Plan).

**Lakebed:** The project will add 9 12-inch steel piles. This will displace 7.1 square feet of seabed.

**Noise:** Construction equipment will create noise audible to neighbors and in-water. Noise disturbance will be short-term and should have negligible effects on fish and wildlife in the area. Work will be completed during the in-water work window when juvenile fish are not expected to be present. A vibratory hammer will be used to install the new pilings.

**Potential spills:** Short-term risks include the potential for petroleum spills that can occur with any equipment operation. The level of impact to the aquatic environment is expected to be minor because of spill containment measures that will be employed should a spill occur.

***Indirect Impacts:***

**Shading:** The project results in an increase in overwater coverage. The proposed walkway, ramp and dock will be 480 square feet. The walkway and ramp will use fibergrating with 62% open space. The float will be half open grating and half float to support the grating.

Grated decking allows additional light to penetrate the waters below a dock, which can increase productivity in the water. Overwater structures may also increase outmigration times of juvenile salmonids. Juvenile salmonids have been shown to hesitate before passing under structures. Grated decking may reduce this behavioral effect. Fibergrating grated decking has measured performance at 62 percent open space. Thus, the effective overwater coverage is reduced by using grated decking. The use of grated decking on the new pier and float will reduce the effective overwater coverage at the site from 480 square feet to 271 square feet, minimizing the impact of the new overwater structure.

**Recreational Boating:** The pier reconfiguration will not introduce additional boating to Puget Sound, as the owners could still access the lake from a public boat launch or private moorage facility.

**In-lieu Fee:** The shoreline on the subject is densely planted with native, overhanging vegetation and additional mitigation planting is not possible. The project also requires approval from the National Marine Fisheries Service (NMFS). NMFS has developed a calculator to determine appropriate mitigation costs for docks and bulkheads in the Salish Sea. This calculator has established a fund that owners can pay into if they are not willing or cannot find mitigation to offset impacts from the project. The owner is not able to complete the required mitigation at the subject property and the property owners will pay into an in-lieu fee program to mitigate project impacts. An in-lieu fee program is defined as follows:

> "A program involving the restoration, establishment, enhancement, and/or preservation of aquatic resources through funds paid to a governmental or non-profit natural resources management entity to satisfy compensatory mitigation requirements... Similar to a mitigation bank, an in-lieu fee program sells compensatory mitigation credits to permittees

whose obligation to provide compensatory mitigation is then transferred to the in-lieu program sponsor." (Fed. Reg. 40 CFR Part 230)

The fee has been determined using the Salish Sea Nearshore Programmatic (SSNP) Calculator for Puget Sound and will be paid to the Puget Sound Partnership or other approved conservation bank. The fee will be used to restore degraded habitat and remove derelict structures within Puget Sound.

## Mitigation Approach

Long-term impacts include increases in overwater coverage from the new dock configuration. Improvements to the aquatic environment to offset the overwater coverage are limited at the site.

The owner has opted to pay the required in-lieu fee to the Puget Sound Partnership to complete the mitigation requirements as required by the National Marine Fisheries Service using the SSNP process.

The owner will also pay to remove 11 creosote piling from Judd Creek in tidally influenced waters.

## Shoreline Functions and Values Improvements

The site has been planted with native shrubs and trees including 7 Douglas firs. These plantings will be preserved and maintained improving the riparian zone of Quartermaster Harbor. It is unknown how the funds paid to Puget Sound Partnership will be used, but the Partnership has targeted removal of creosote pilings and structures in Puget Sound. Removal of these structures will remove a source of toxins from the aquatic environment and unused overwater structures.

Removal of 11 creosote pilings from a tributary of Quartermaster Harbor will remove a source of sediment and water quality contamination improving water and sediment quality functions in the tributary stream and Quartermaster Harbor.

## Proposed Mitigation

Proposed Mitigation includes removal of 11 creosote pilings at a nearby site at 10211 SW Quartermaster Drive in Judd Creek. Removal of creosote-treated piles contributes to regional efforts to remove creosote from the lakes and marine areas. Removal of creosote will remove a chronic source of contaminants from the water column and the sediment. Creosote contaminants are usually no longer detectable over background after about 3 years once removed. The removal and disposal of the piles will follow EPA standards. See attached aerial of creosote piles to be removed in Appendix A: Figures.

**Conservation Credits:** The project requires approval from the National Marine Fisheries Service (NMFS). NMFS has developed a calculator to determine appropriate conservation costs for proposed in-water structures in Puget Sound. NMFS has established a conservation credit system that can be purchased from providers. The owner is not able to complete the required

conservation credits at the subject property, and the property owner has opted to pay into the Puget Sound Partnership or the Blue Heron Mitigation Bank to mitigate project impacts.

The fee was determined using the Puget Sound Nearshore Conservation Calculator.

## Mitigation Goals

Removal of creosote piling from the mouth of a tributary stream in Quartermaster Harbor.

The Puget Sound Nearshore Calculator was used to determine any additional mitigation required. The calculator determined that removal of creosote and switching to grated decking did not result in additional mitigation credits required.

## Performance Standards

The performance standards include removal creosote.  This performance standards will be complete upon completion of the project.

# PROPOSED MONITORING, SCHEDULE, AND REPORTING

### Schedule and Maintenance

Mitigation (creosote removal and overwater coverage reduction) will be accomplished during construction.

## Maintenance and Monitoring Program

None required.

# Conclusion

The proposed work takes place within nearshore aquatic habitat zone.

There will be temporary impacts from noise and disturbed sediments during installation of the pilings to construct the new docks.

The project will minimize construction effects on the environment by following the prescribed in water work window and use applicable BMPs to prevent construction spills and debris from entering the water and or escaping the area.

The long term effects of the dock will be minimized by using grated decking, minimizing the width of the dock to less than 4 feet, placing moorage so that it does not impact submerged aquatic vegetation and using the minimum number of piles and pile diameter to construct the moorage facility.

The owner has already completed a native landscape between the house and the bulkhead. See attached planting plan in Appendix C

The owner will pay to remove 11 creosote piles from the mouth of a tributary stream in Quatermaster Harbor. Pulling the creosote piling will remove a chronic source of toxic compounds from the water column and sediment. The removal and disposal of the piles will follow EPA standards.

The owner has also opted to pay into an In Lieu Fee program using the SSNP calculator that will be used for conservation projects that benefit the nearshore environment within Puget Sound

This project has been designed to meet current residential dock standards and will use Best Management Practices to reduce project impacts. The conservation measures are designed to improve ecological functions or prevent further degradation of habitat **and will result in No Net Loss of ecological functions** in the shoreline environment.

# REFERENCES


Johnson, R. E. and K. M. Cassidy. 1997. Washington Gap Project Mammal Distribution Models. United States Geological Survey. Accessed online at http://naturemappingfoundation.org/natmap/maps/wa/mammals/WA_wolverine.html.

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USDA Soil Conservation Service (SCS). 2023. Soil Survey of King County Area Washington. Online database. Accessed Februart 2023 at https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

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Washington Department of Fish and Wildlife (WDFW). 2023. Priority Habitats and Species. Online database. Accessed February 2023 at http://apps.wdfw.wa.gov/phsontheweb/.

WDFW. 2023. SalmonScape. Online database. Accessed February 2023 at http://apps.wdfw.wa.gov/salmonscape/.

# Appendix A:
# Figures

## PROJECT INFORMATION

APPLICANT:
BRAD PARKER

DRAWINGS BY:
ECCO DESIGN INC.
203 N 36TH ST SUITE 201
SEATTLE, WA 98103
206-706-3937

SITE ADDRESS:
10209 SW TILLICUM LN
VASHON, WA 98070

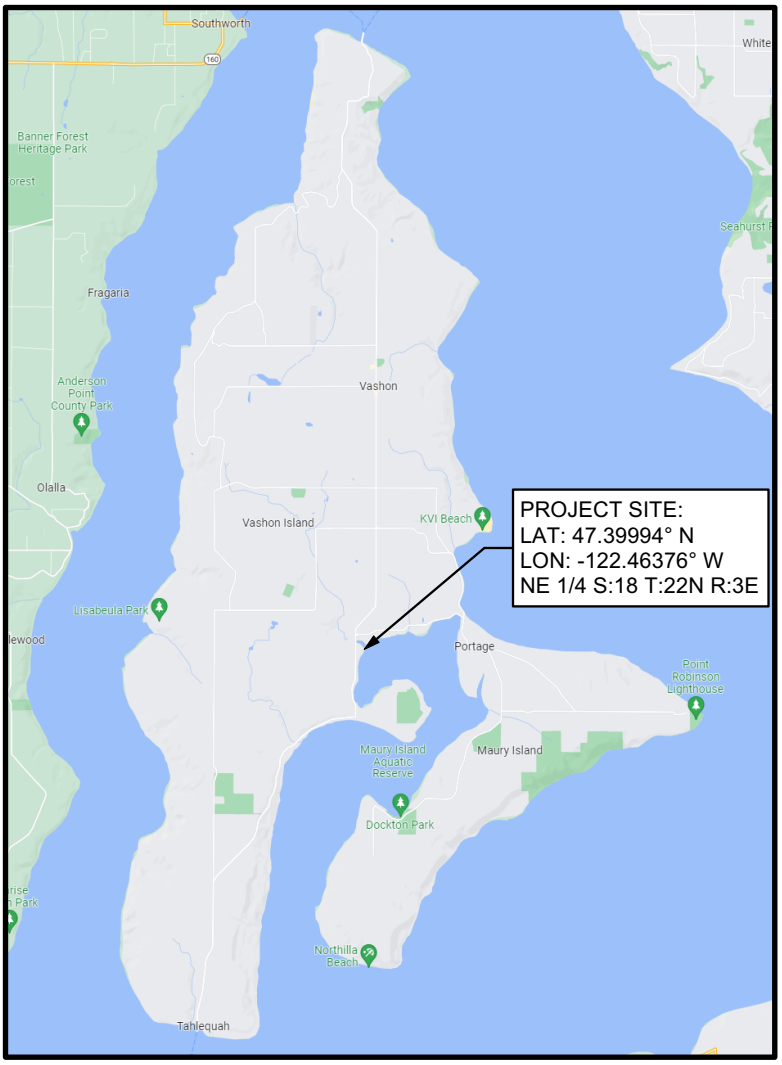
PARCEL NUMBER:
059400-0035

BODY OF WATER:
PUGET SOUND (QUARTERMASTER HARBOR)

LEGAL DESCRIPTION:
BEACHWOOD BEACH ADD & 2ND CL TD LDS ADJ
PLAT BLOCK: 2
PLAT LOT: 2-3

PROJECT DESCRIPTION:
INSTALL A NEW PIER (480 SQ. FT.) WITH WALKWAY, RAMP, AND FLOAT. INSTALL A NEW BOAT LIFT.

## VICINITY MAP




**REFERENCE:**

**DATUM:** MLLW

**ADJACENT PROPERTY OWNERS:**
1. Joyce Husmoe
2. Richard & Susan Wiley

**APPLICANT:** Brad Parker

**LOCATION:** 10209 SW Tillicum Ln
Vashon, WA 98070

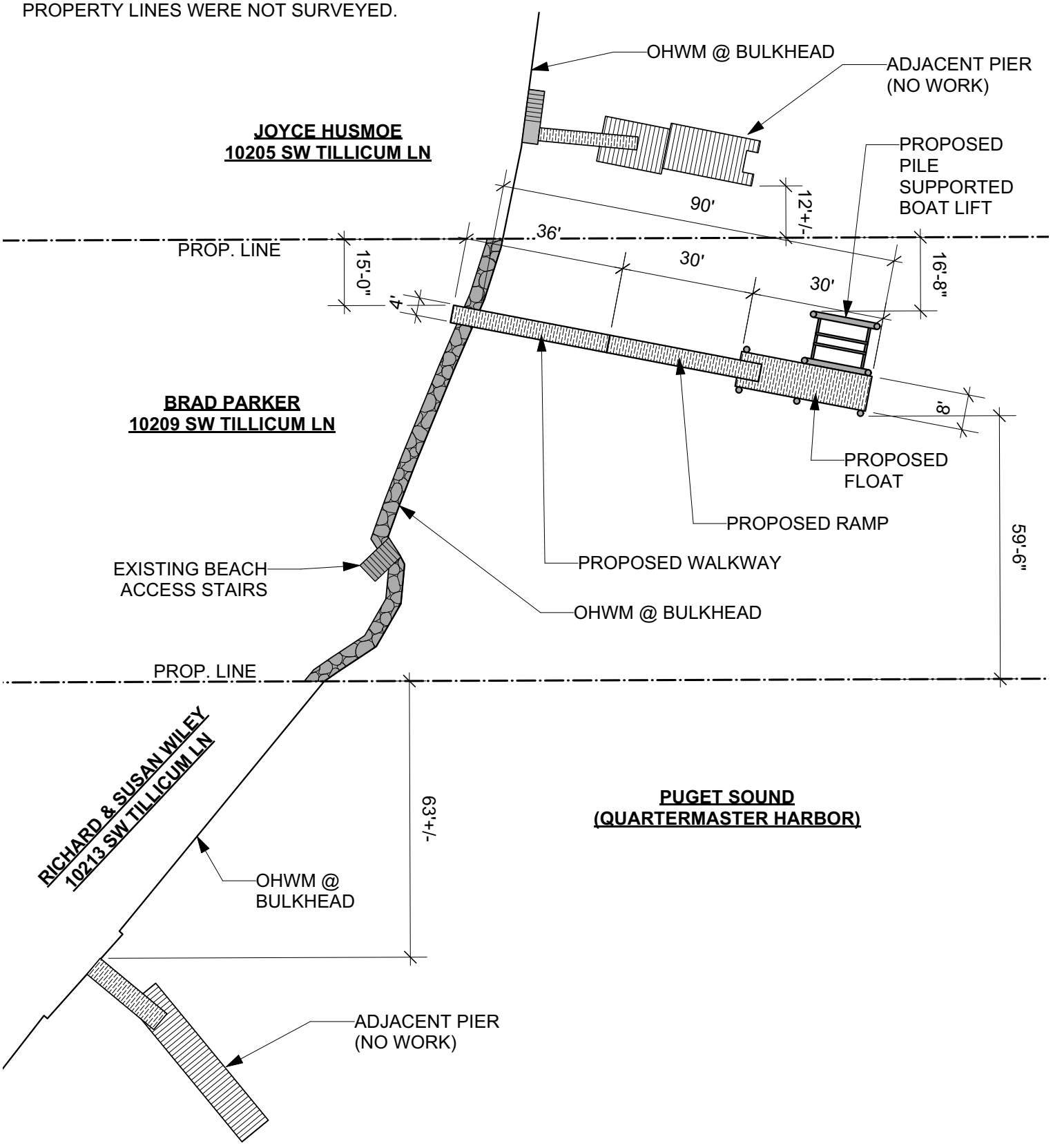
**LAT/LONG:** 47.39994°N/-122.46376°W

**PROPOSED PROJECT:**
Pier
**IN:** Puget Sound
**NEAR/AT:** Vashon
**COUNTY:** King **STATE:** WA

**SHEET** 1 of 8

**DATE:** January 20, 2023

PLEASE NOTE THAT THE SHORELINE CONFIGURATION AND PROPERTY LINE LOCATIONS ARE APPROXIMATE ONLY. PROPERTY LINES WERE NOT SURVEYED.




# SITE PLAN

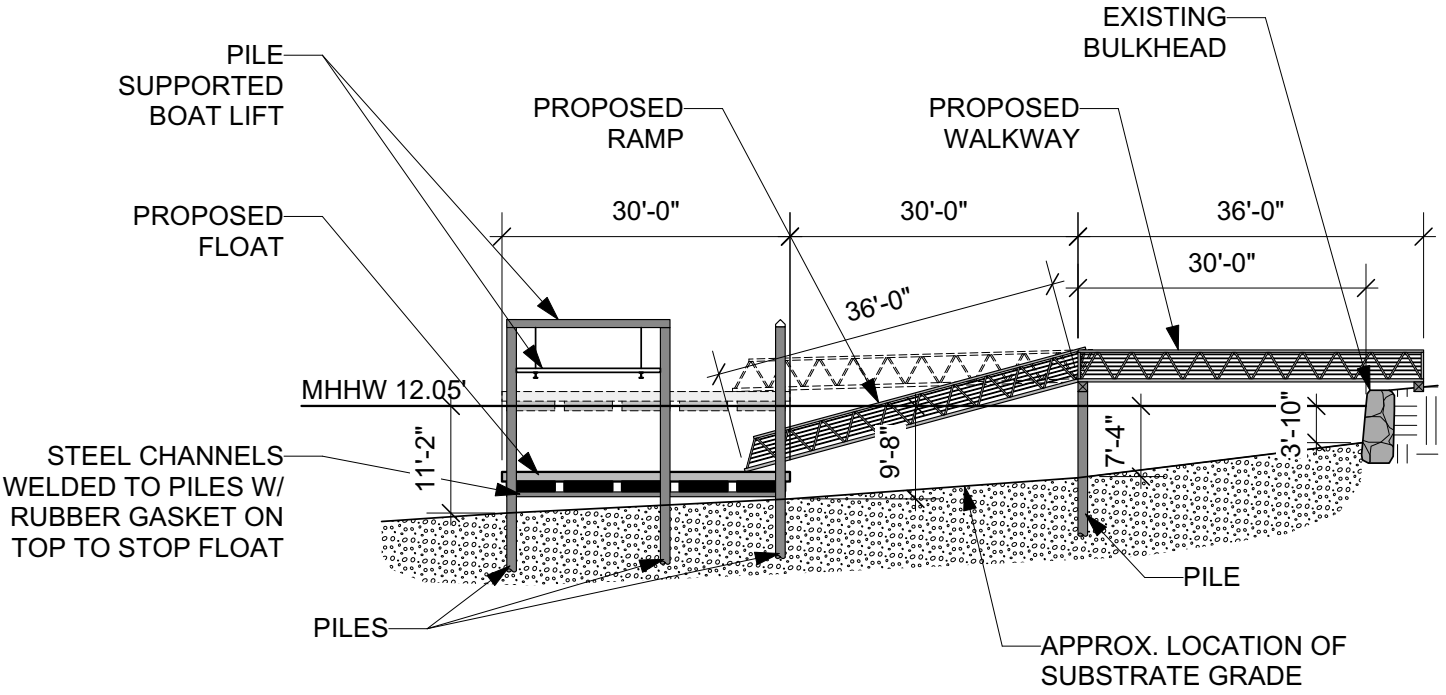
SCALE 1" = 30'-0"

N

0' 30' 60'

**Reference**:
**Applicant**: Brad Parker

**Proposed**: Puget Sound
**Location**: Vashon, WA



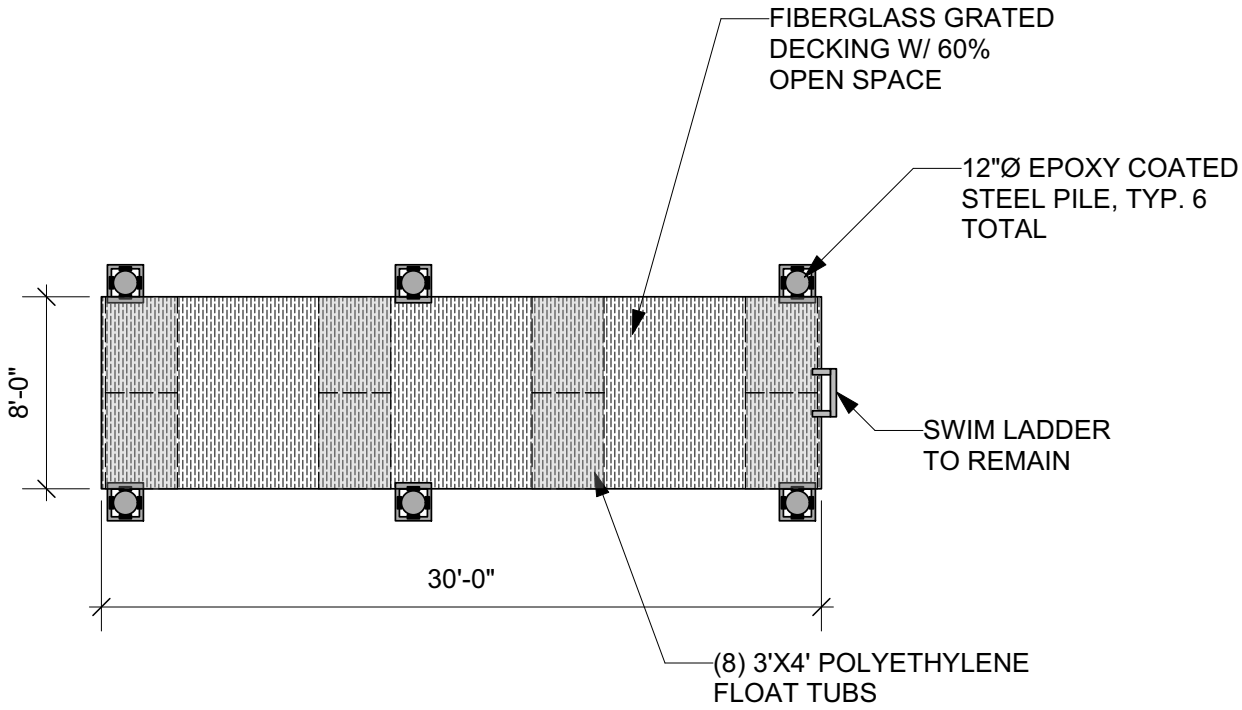

# ELEVATION

SCALE 1" = 20'-0"

0' 20' 40'

**Reference**:
**Applicant**: Brad Parker

**Proposed**: Puget Sound
**Location**: Vashon, WA

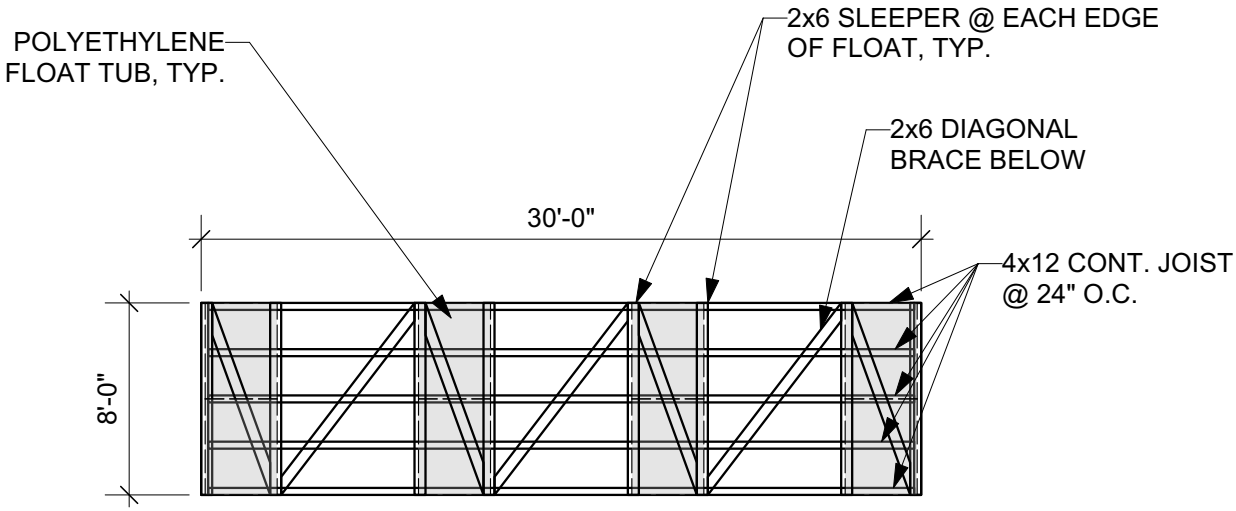



# FLOAT PLAN

SCALE 1/8" = 1'-0"


**Reference**:
**Applicant**: Brad Parker

**Proposed**: Puget Sound
**Location**: Vashon, WA

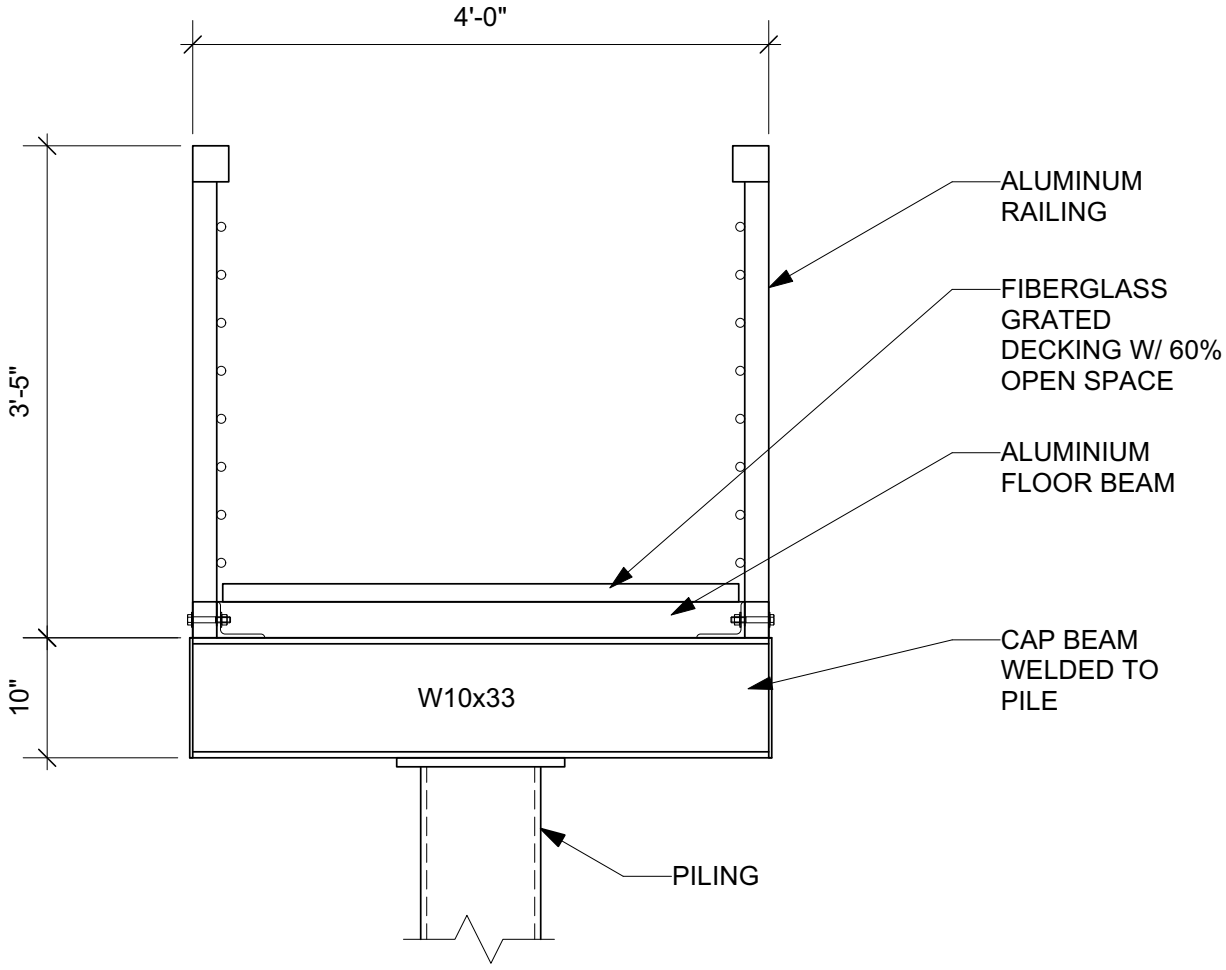



# FLOAT FRAMING PLAN

SCALE 1/8" = 1'-0"


**Reference**:
**Applicant**: Brad Parker

**Proposed**: Puget Sound
**Location**: Vashon, WA

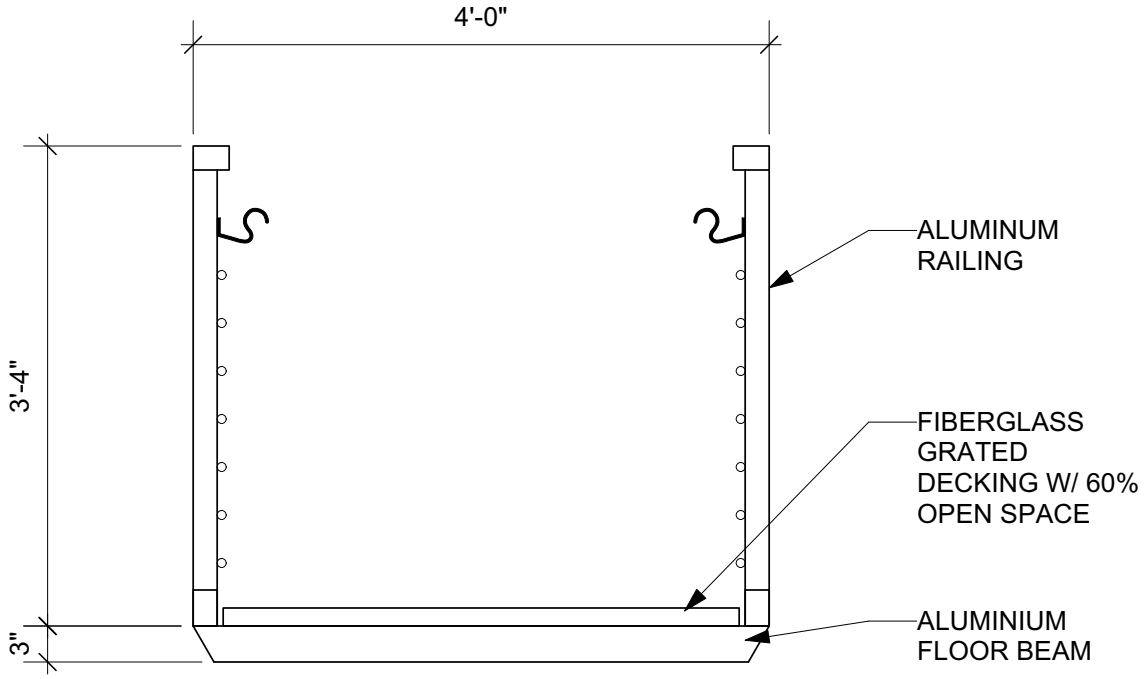



# WALKWAY SECTION

SCALE 3/4" = 1'-0"


**Reference**:
**Applicant**: Brad Parker

**Proposed**: Puget Sound
**Location**: Vashon, WA



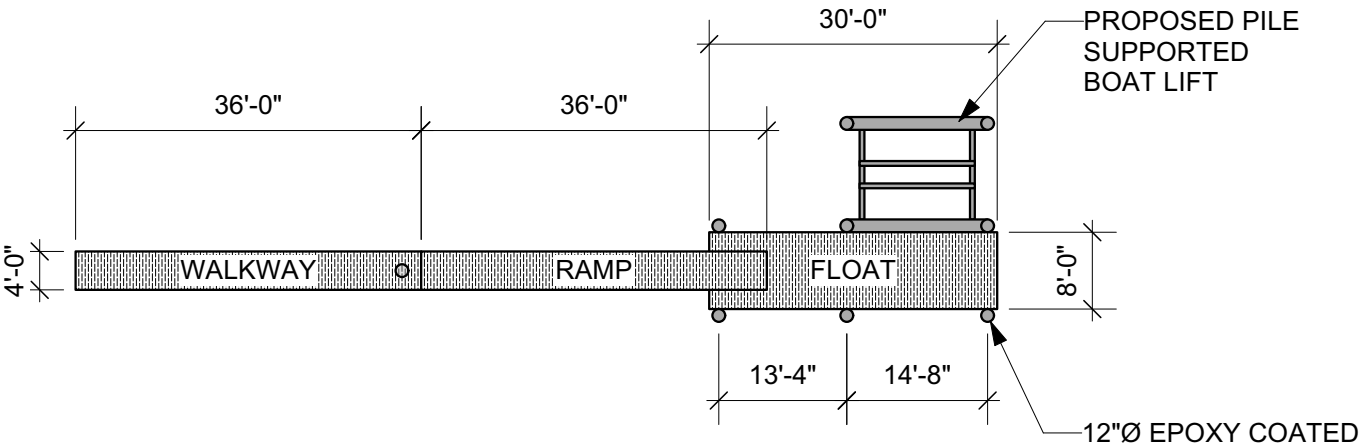

# RAMP SECTION

SCALE 3/4" = 1'-0"

0' 1' 2'

**Reference**:
**Applicant**: Brad Parker

**Proposed**: Puget Sound
**Location**: Vashon, WA




# PIER PLAN

SCALE 1" = 20'-0"

N

0' 20' 40'

**Reference**:
**Applicant**: Brad Parker

**Proposed**: Puget Sound
**Location**: Vashon, WA

**Sheet** 8 **of** 8 **Date**: 1/20/2023


AREA OF MITIGATION
(REMOVE 11 CREOSOTE PILES)
PROJECT SITE
10305
10131
10211
10119
22514
22506
22501
22502
22531
22515
22516
22526
22510
22554
22532
22550
22560
22536
10228
10224
10220
10214
10210
10227
10206
10222
10212
10201
10205
10311
10212
10209
10213
10218
22819
10230
22824
10223

PHOTO OF CREOSOTE PILES TO BE REMOVED (11 TOTAL)

# Appendix B:
# Photos

Photo 1 - Shoreline conditions looking waterward.

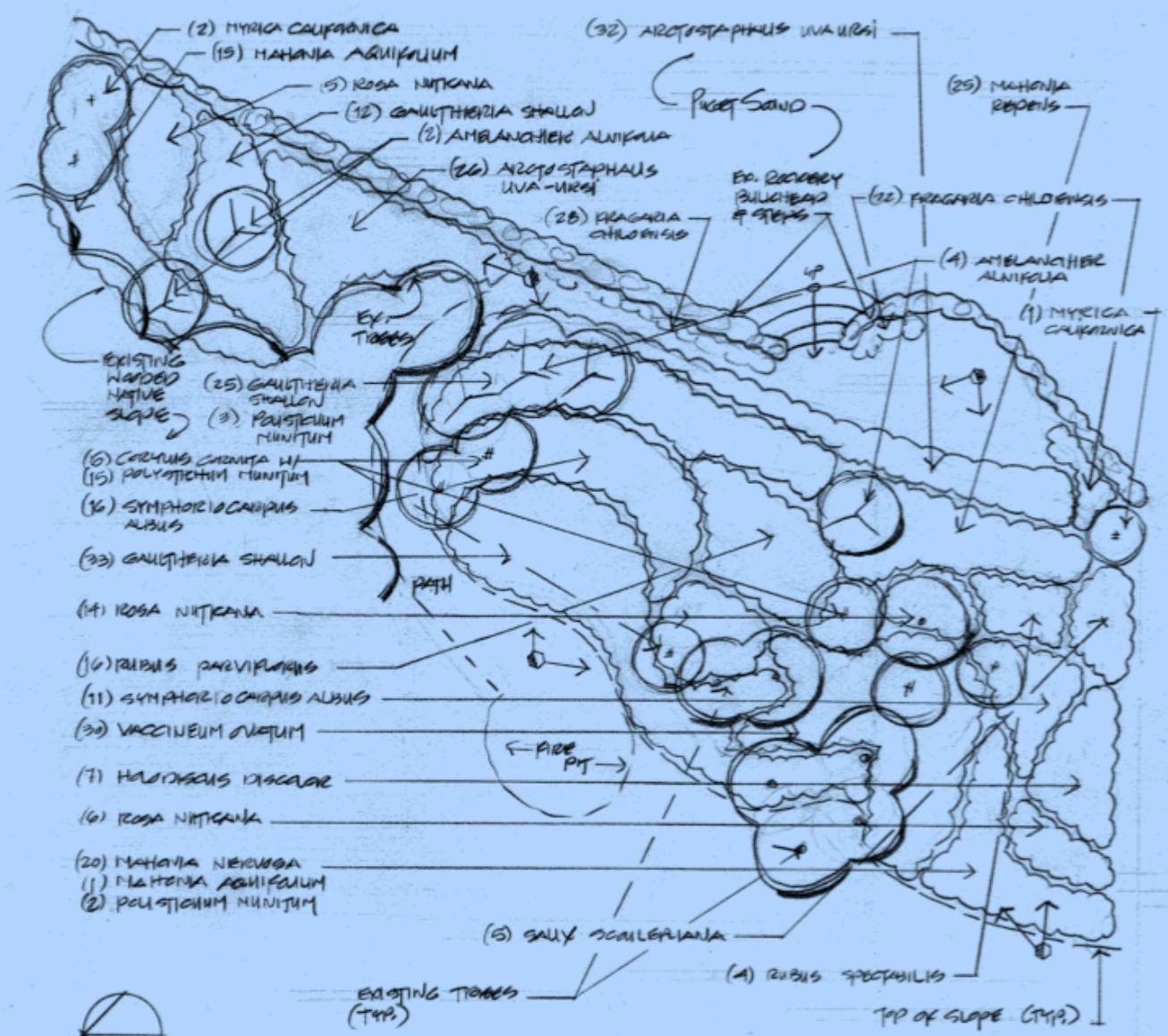
Photo 2 - Shoreline conditions looking shoreward, new pier will extend from rock bulkhead.

Photo 3 - Shoreline conditions north of proposed dock.

Photo 4 - Shoreline conditions south of proposed dock.

Photo 5 - Beach conditions at the site.

# Appendix C:
# Existing Planting Plan




SCALE: 1"=10'-0"

## PLANTING SCHEDULE (AS BUILT)

| QUANTITY | NAME | SIZE |
|---|---|---|
| 7 | HOLODISCUS DISCOLOR | 2 GAL. |
| 6 | AMELANCHIER ALNIFOLIA | 1 GAL. |
| 6 | CORYLUS CORNUTA | 5 GAL. |
| 25 | ROSA NUTKANA | 1 GAL. |
| 30 | VACCINEUM OVATUM | 1 GAL. |
| 16 | RUBUS PARVIFLORA | 1 GAL. |
| 4 | RUBUS SPECTABILIS | 1 GAL. |
| 27 | SYMPHORICARPUS ALBA | 1 GAL. |
| 20 | MAHONIA NERVOSA | 1 GAL |
| 45 | MAHONIA REPENS | 1 GAL. |
| 20 | POLYSTICHUM MUNITUM | 1 GAL. |
| 3 | MYRICA CALIFORNICA | 2 GAL. |
| 5 | SALIX SCOULERIANA | 1 GAL |
| 70 | GAULTHERIA SHALLON | 1 GAL |
| 81 | ARCTOSTAPHALUS UVA URSI | 1 GAL |
| 50 | FRAGARIA CHILOENSIS | 1 GAL. |

PHOTO POINT REFERENCE FOR (5) YEAR MONITORING PERIOD. (4) SHOWN.

BOBLO548 / BOBM1414

KING COUNTY DDES - CRITICAL AREAS PLANTING PLAN (AS BUILT)
(PUGET SOUND BUFFER ENHANCEMENT MITIGATION)

# PARKER RESIDENCE

VASHON, WA., PARCEL-059400-0035

HARSLEY BOHART INC. 11|20|09