

**Ecological No Net Loss Assessment Report
for
5067 84th Ave SE Mercer Island, WA**

Prepared for

**Richard Fallquist
5067 84th Avenue SE
Mercer Island, WA 98040**

Prepared by



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

April 2020

Purpose

The purpose of this report is to fulfill the requirements of City of Mercer Island Municipal Code (MICC) 19.07.110 Shoreline Master Program by assessing overall project impacts and proposed mitigation to determine if the project meets the “No Net Loss” General Regulation of the Shoreline Master Program.

MICC Chapter 19.16 defines No Net Loss as “An ecological concept whereby conservation losses in one geographic or otherwise defined area are equaled by conservation gains in function in another area.”

Location

The subject property is located at 5067 84th Ave SE in the City of Mercer Island, Washington (Figure 1). The parcel is on the waterfront of Lake Washington, which contains several endangered fish species listed under the Endangered Species Act and Washington State designated priority fish species. Permits are being applied for a pier extension (see Appendix A – Sheet 2 of 6).

Project Description

The proposed work is for an extension of an existing pier. The 246-square-foot pier extension will have grated decking and there will be a “T” included at the end of the pier. There will be 6 new 12-inch wood piles installed to support the extension. The overall area of the pier will change from 635 square feet to 881 square feet.

A shoreline planting plan will be completed using the following native species of trees and shrubs: 1 Western red cedar and 1 mock orange. In addition, 2 Sitka willows and 3 highbush cranberry shrubs will be planted to mitigate previous repairs under permit # 1908-095 (see Appendix A – Sheet 6 of 6).

Project drawings are included in Appendix A.

Approach

Northwest Environmental Consulting LLC (NVEC) biologist Courtney Straight conducted a site visit on March 20, 2020 to evaluate conditions on site and adjacent to the site. NVEC also consulted the following sources for information on potential critical fish and wildlife habitat along this shoreline:

- Washington Department of Fish and Wildlife (WDFW): Priority Habitats and Species online database
- WDFW SalmonScape online database of fish distribution and federal Endangered Species Act (ESA) listing units

Site Description

The subject property is in a residential neighborhood on the western shoreline of Mercer Island. The parcel is on private property but contains a strip of land along the southern boundary that provides community access to the shoreline. The parcel is surrounded to the north, south and east by single-family houses. Pictures of the site are included in Appendix B.

The parcel contains a single-family residence with a private pier, and the community pier along the southern portion of the shoreline; the southern portion is separated from the northern portion by a hedge of *Arborvitae* trees and fenced such that it can provide community access to the lake and the subject pier. The pier is about 117 feet long and 6 feet wide, with the landward 38 feet narrowed to 4 feet wide, and sits on 22 wood piles that vary from 8 to 12 inches in diameter (see Sheet 3 of 6). The pier is in water up to 8 feet deep.

The shoreline on the property (both private portion and community beach portion) is a sand and gravel beach, with shrubs and mowed lawn above the OHWM. An unnamed creek discharges into Lake Washington through a pipe approximately 5 feet north of the pier. Vegetation close to the shoreline includes a hedge of red-osier dogwood, non-native rose, and grasses; decorative rushes, strawberry groundcover, and reed canarygrass. Farther upslope is a mix of native and nonnative plants including snowberry, dogwood, vine maple, Oregon grape, and sword fern.

The adjacent parcels to the north and south also have gravel or gravel/cobble beaches. The parcel to the south has a low rock bulkhead above the beach. The parcel to the north has a cement bulkhead well above the beach and OHWM. These adjacent parcels do not have any vegetation overhanging the water.

Substrates below the OHWM consist of sand, gravel and cobble on the beach, with mostly sand on the lake bottom. Aquatic plants are present in places, with milfoil present, starting at 50 feet from shore.

Habitat for Listed or Priority Species

WDFW's PHS mapping and SalmonScape mapping tools show the following salmonid species using Lake Washington for migration and/or rearing: residential coastal cutthroat (*Oncorhynchus clarki*), winter steelhead (*O. mykiss*), Dolly Varden/bull trout (*Salvelinus malma*), sockeye salmon (*O. nerka*), fall Chinook (*O. tshawytscha*), coho salmon (*O. kisutch*), and kokanee (*O. nerka*). Of these species, Chinook, steelhead and bull trout are listed under the ESA as Threatened. The others are Washington State priority species.

The Salmonscape database maps the site as accessible to the Endangered Species Units (ESU) of Threatened Chinook and steelhead. The project site is accessible to any fish migrating or rearing in the lake, but specific critical habitat for these species is not present at the subject parcel.

There are no priority species directly associated with the project site. The nearest mapped priority habitat, according to WDFW PHS data, is a biodiversity area is mapped about a third of a mile to the southeast along SE 53rd Place.

The National Wetlands Inventory (NWI) database and King County iMap databases do not any wetlands on the site.

The subject property's shoreline is not within 100 feet of areas the Washington Department of Fish and Wildlife has mapped as potential sockeye spawning habitat (which would trigger a separate work window).

Project Impacts and Conservation Measurements

Direct Impacts:

Sediments: Impacts to sediments will occur when the work barge is moved into place to perform the work, and when pilings are driven. The work and resulting turbidity will be short in duration and localized.

Shoreline: The project will not adversely affect the shoreline. Planting native vegetation will increase the habitat functions of the shoreline by creating shade along the shoreline and allochthonous food sources, which will be an improvement from the existing baseline habitat conditions at the project site.

Lakebed: The addition of 6 new 12-inch piles will increase coverage of the lake bottom by approximately 5 square feet.

Noise: Construction equipment will create construction 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.

Potential spills: Short-term risks include the potential for petroleum spills that can occur with any equipment operation. The level of potential impact to the aquatic environment is expected to be minor because of the small amount of petroleum products available for spillage during typical construction activities, and because of spill containment measures that will be employed should a spill occur.

Indirect Impacts:

Shading: The pier extension will be covered in grated decking that allows some light to pass through. This will allow light to reach the lake bottom.

Salmonid predators are known to use shadowing by docks to ambush juvenile salmonids. The ability of the predators to ambush juvenile salmonids will be limited by using grated decking on the pier extension.

In addition, all new overwater coverage will be over 117 feet from shore and in water over 8 feet deep. This configuration minimizes impacts to juvenile salmonid migration and keeps boats in deeper water which will reduce potential propwash from boat activity.

Work window: The project will be completed during the prescribed inwater work windows for this area of Lake Washington (July 16-December 31). Operating within this time frame helps protect Chinook salmon, steelhead, bull trout and other salmonid fish species.

Best management practices: Applicable BMPs will be used such as a floating boom around the inwater work area will contain any floating debris that may escape during demolition and construction. The barge will contain a perimeter containment sock to absorb oil and grease that may wash from the barge during construction. Erosion BMPs will be used on shore during planting to prevent loose soils from washing into the lake during rain events.

Conclusion

Juvenile Chinook salmon and other salmonids rear and migrate along the Lake Washington shoreline, and thus may be present in waters around the subject pier. The proposed work will increase the pier's coverage by 246 square feet, but the use of grated decking will decrease the effective overwater coverage to 140 square feet of new overwater coverage. This will allow light to reach the lake bottom, and limit hard shadows that would provide habitat for salmonid predators. The new overwater coverage will be approximately 117 feet from shoreline in water 8 to 10 feet deep. Juvenile salmon tend to stay in shallower water, so this configuration will minimize impacts to the aquatic environment. A shoreline planting plan will be implemented, adding native trees and shrubs. The project will follow the prescribed fish windows and use applicable BMPs to prevent construction spills and turbidity from occurring.

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** at the site.

REFERENCES

- US Army Corps of Engineers (USACE). 2004. Final Biological Evaluation, Regional General Permit: Construction of New or Expansion of Existing Residential Overwater Structures and Driving of Moorage Piling. Lake Washington, Lake Sammamish, the Sammamish River and Lake Union, Including the Lake Washington Ship Canal, in the State of Washington.
- Washington Department of Fish and Wildlife (WDFW). 2020. Priority Habitats and Species. Online database. Accessed March 2020 at <http://apps.wdfw.wa.gov/phsontheweb/>
- WDFW. 2020. SalmonScape. Online database. Accessed March 2020 at <http://apps.wdfw.wa.gov/salmonscape/>

Appendix A: Figures and Project Drawings

PROJECT INFORMATION

APPLICANT:
RICHARD FALLQUIST

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

SITE ADDRESS:
5067 84TH AVE SE
MERCER ISLAND, WA 98040

PARCEL NUMBER:
4076000080

BODY OF WATER:
LAKE WASHINGTON

LEGAL DESCRIPTION:
LAKE SHORES
PLAT BLOCK:
PLAT LOT: 8

PROJECT DESCRIPTION:
EXTEND THE EXISTING PIER 31'-11" FEET AND
ADD A "T" TO THE END. PLANT NATIVE
VEGETATION PER THE PLANTING PLAN.

VICINITY MAP



REFERENCE:

DATUM: C.O.E. Locks Datum

ADJACENT PROPERTY OWNERS:

1. Gordon & Patricia Cohen
2. Donald Gorski

APPLICANT: Richard Fallquist

LOCATION: Mercer Island, WA 98040

LAT/LONG: 47.5570°/-122.2315°

PROPOSED PROJECT:

Pier Extension

IN: Lake Washington

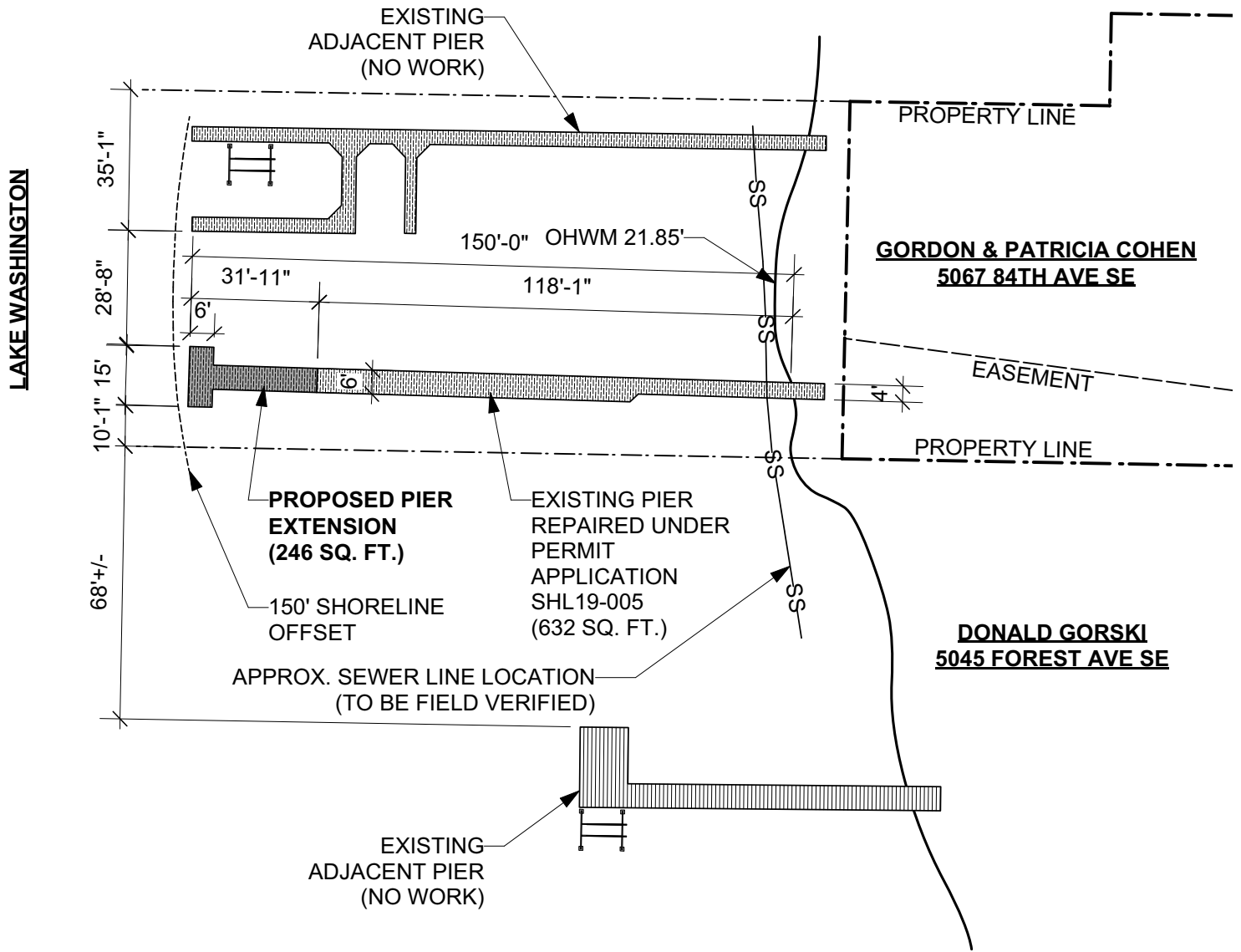
NEAR/AT: Mercer Island

COUNTY: King **STATE:** WA

SHEET 1 of 6

DATE: April 9, 2020

PLEASE NOTE THAT THE SHORELINE CONFIGURATION AND PROPERTY LINE LOCATIONS ARE APPROXIMATE ONLY. THE PROPERTY LINES ARE BASED ON SURVEY DATED 4/9/2020 BY TRUE NORTH LAND SURVEYING, INC.



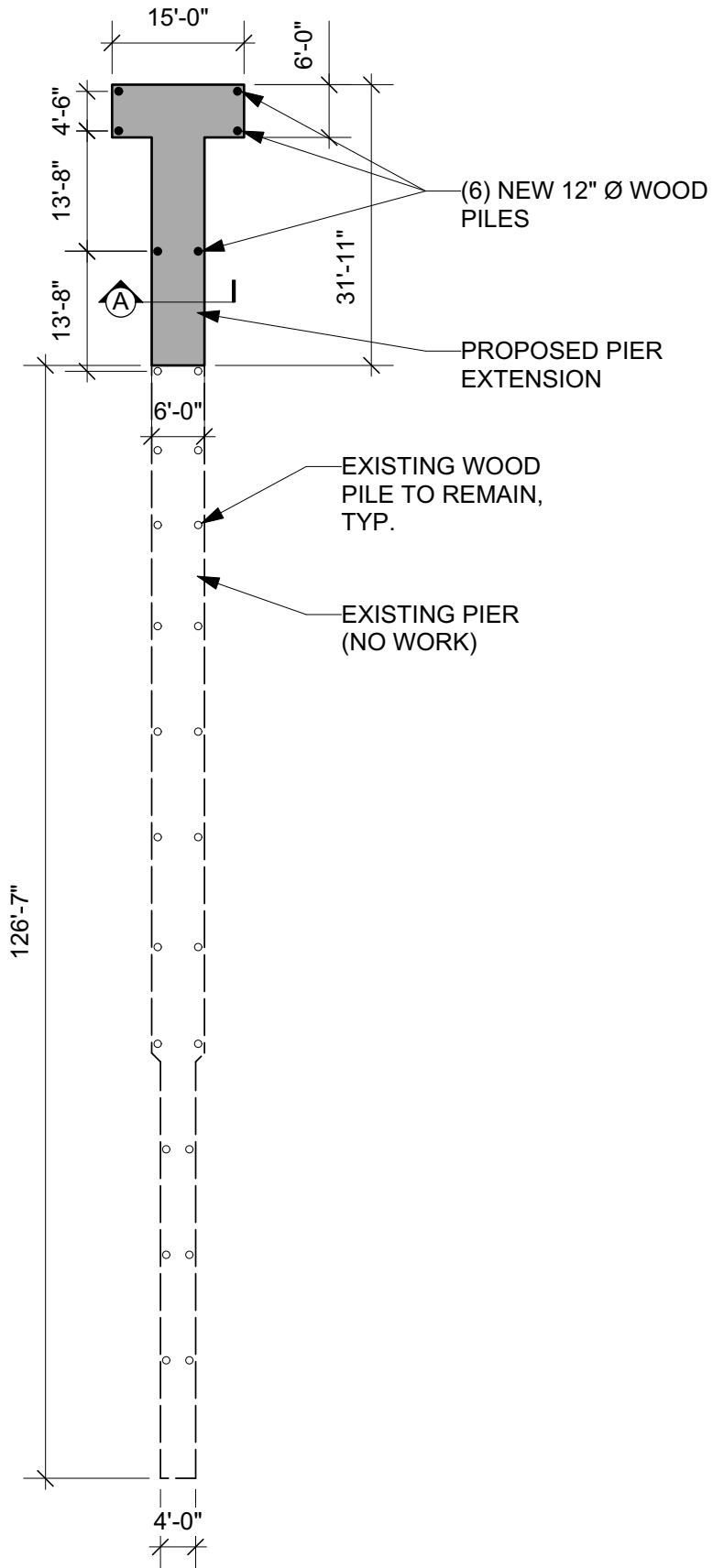
SITE PLAN
SCALE 1" = 40'-0"



Reference:
Applicant: Richard Fallquist
Proposed: Pier Extension

Location: Mercer Island, WA

Sheet 2 of 6 **Date:** 4/9/2020



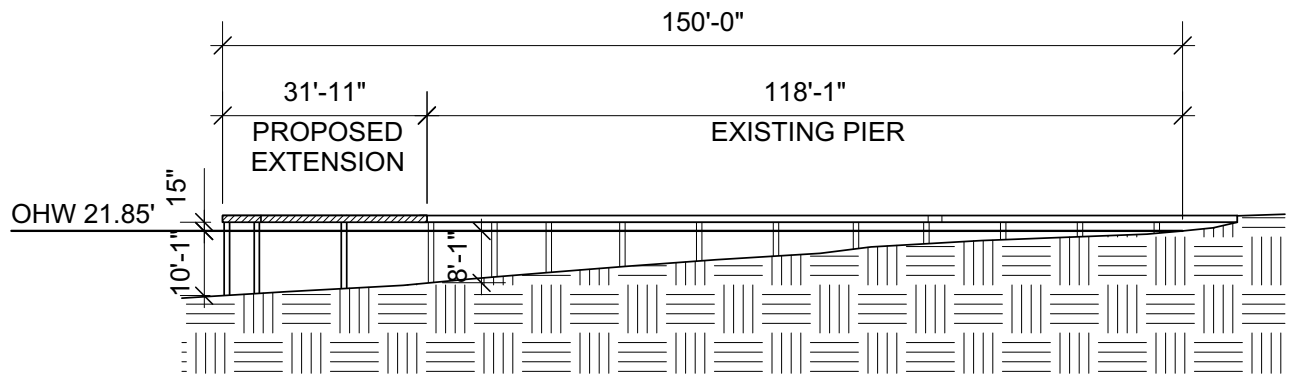
PILE LAYOUT
SCALE 1" = 20'-0"



Reference:
Applicant: Richard Fallquist
Proposed: Pier Extension

Location: Mercer Island, WA

Sheet 3 of 6 **Date:** 4/9/2020



PIER ELEVATION

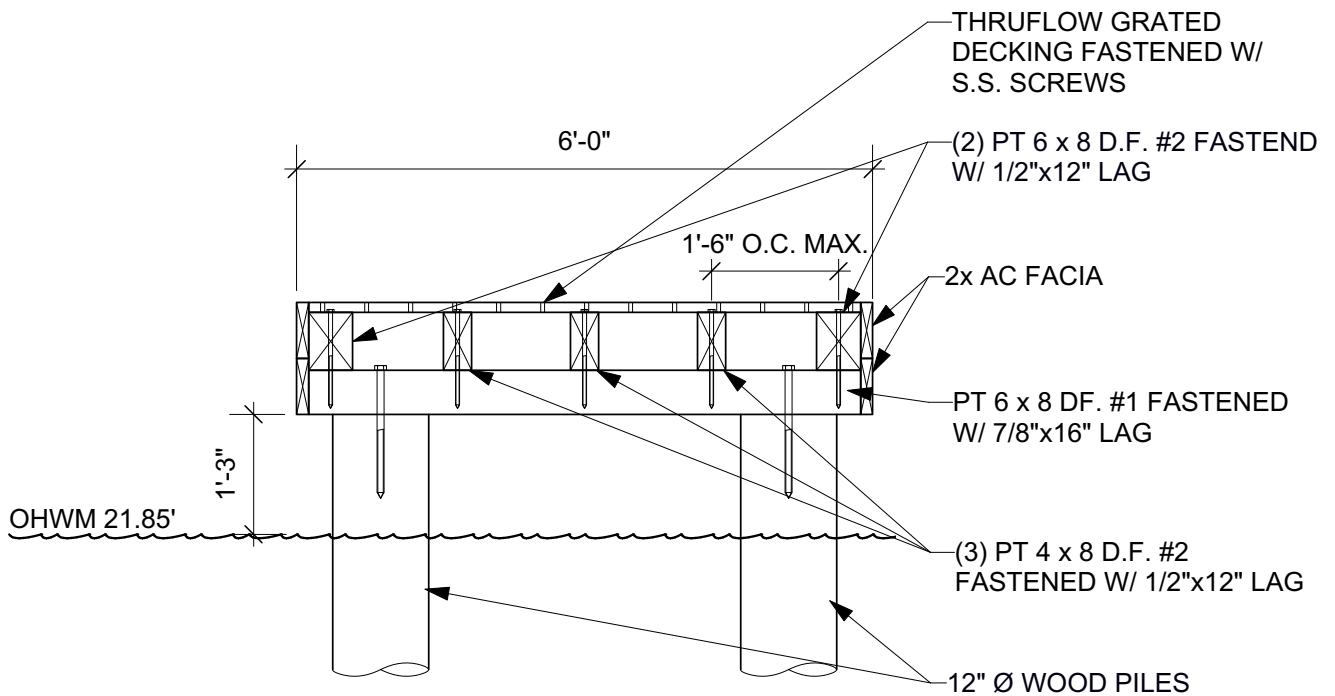
SCALE 1" = 30'-0"



Reference:
Applicant: Richard Fallquist
Proposed: Pier Extension

Location: Mercer Island, WA

Sheet 4 of 6 Date: 4/9/2020



SECTION DETAIL A

SCALE 1/2" = 1'-0"



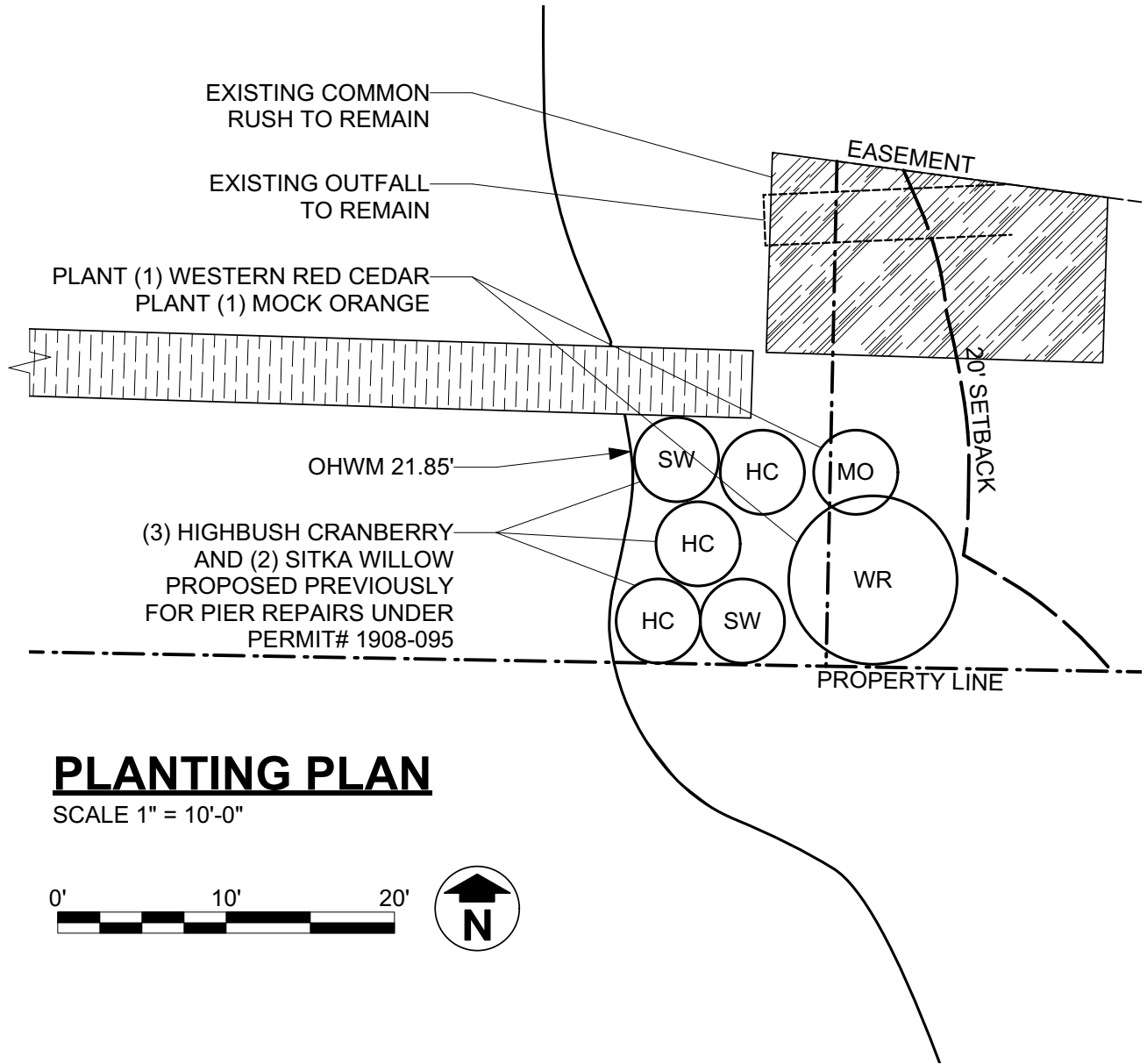
Reference:

Applicant: Richard Fallquist

Proposed: Pier Extension

Location: Mercer Island, WA

Sheet 5 of 6 **Date:** 4/9/2020



PLANTING PLAN

SCALE 1" = 10'-0"



Reference:
Applicant: Richard Fallquist
Proposed: Pier Extension

Location: Mercer Island, WA

Sheet 6 of 6 **Date:** 4/9/2020

Appendix B: Site Photographs



Photo 1. View of pier from shore looking west.



Photo 2. View of pier from end looking east.



Photo 3. View of north shoreline from pier looking east.



Photo 4. View of south shoreline from pier looking east.



Photo 5. View of north adjacent shoreline (on subject property) from pier looking northeast.



Photo 6. View of south adjacent shoreline from pier looking southeast.