

Ecological No Net Loss Assessment Report

Prepared for

**Garcia Residence
4327 Forest Ave SE
Mercer Island, WA 98040**

Prepared by



Northwest Environmental Consulting, LLC
600 North 36th Street, Suite 423
Seattle, WA 98103
206-234-2520

January 2025

Purpose

The purpose of this report is to fulfill the requirements of City of Mercer Island 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.

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

The property is being permitted for installation of new watercraft lifts and removal of a mooring pile.

Location

The subject property is located at 4327 Forest Ave SE, Mercer Island, Washington (see Appendix A – Sheet A1.0). The parcel is on the waterfront of Lake Washington that contains several endangered fish species listed under the Endangered Species Act and Washington State designated priority fish species.

Project Description

The proposed work includes installing a free standing boat lift and a dock mounted personal watercraft lift. No new overwater coverage is proposed or changes to the existing dock. An existing 12-inch mooring pile will be removed by dead pulling or using a vibratory hammer. See sheets A2.0 to A5.0.

During construction, a floating boom and weighted silt curtain will surround the work barge and pier. See sheet A6.0.

Project drawings are included in Attachment A.

Approach

Northwest Environmental Consulting LLC (NVEC) biologist Brad Thiele conducted a site visit on January 9, 2025, 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 (<http://apps.wdfw.wa.gov/phsontheweb/>)
- WDFW SalmonScope online database of fish distribution and ESA listing units (<https://apps.wdfw.wa.gov/salmonscape/>)
- Mercer Island GIS online database (<https://chgis1.mercergov.org/Html5Viewer/Index.html?viewer=PubMaps&viewer=PubMaps>)

Site Description

The subject property is a shoreline tract in a residential neighborhood. It has shoreline on its western boundary with single-family homes to the north and south.

The dock is multifamily and accessed by both properties.

The parcel is maintained as lawn. The shoreline is armored with a basalt bulkhead with kinnikinnick growing over the boulders and planting beds landward of the bulkhead. The substrates along the shore are sand and gravel with interspersed cobble. Patchy Eurasian milfoil was present starting about 15 feet from shore and the bathymetry drops off quickly at the site.

The neighboring shorelines are landscaped with bulkheads and docks with various landscaping. See attached photos in Appendix B- Photos.

Species Use

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 clarkii*), 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*). The SalmonScape database maps the site as accessible to the Endangered Species Units (ESU) of Threatened Chinook and steelhead. Juveniles migrate and may rear in the waters near the project when traveling from spawning sites on other lake tributaries to the lakes system's outlet at the Hiram M. Chittenden Locks. The project site is accessible to any fish migrating or rearing in the lake. The shoreline is not mapped as a Sockeye spawning location, but a spawning area is located just to the south of the project.

Priority Habitats and Species mapping does not map any features within 1,000 feet of the site.

The City of Mercer Island GIS Portal does not indicate any watercourses at the site. A Type Np piped watercourse is mapped as occurring two parcels to the north, about 170 feet away. No upland work will be completed on the site.

Project Impacts and Conservation Measurements

Direct Impacts:

Sediments: Sediment disturbance will occur below the OHWM and along the shoreline of Lake Washington. Additionally, the tug and barge propwash may disturb sediments temporarily when making trips to/from the site. Some sediment disturbance may also be caused during removal of the existing pile and placement of the new lift. Care will be used not to drag the boat lift on the bottom while being placed.

Sediments have been shown to be minimally disturbed during pile driving activities and from placement of boat lifts. Juvenile salmonids could be temporarily displaced or stressed by increased turbidity. A floating boom will be placed around the pier to contain floating debris to the project site and a floating silt boom will be installed around inwater work areas to prevent turbidity from leaving the work area should it occur. The project will meet state water quality standards.

Shoreline: No work will occur along the shoreline.

Lakebed: The project will remove 1 12-inch pile from the lake restoring 0.8 square feet of lakebed.

Noise: Construction equipment and pile driving 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 because work will be completed during the in-water work window when juveniles are not likely to be present.

Potential spills: Short-term risks include the potential for spills that can occur with any equipment operation. The potential harm to the aquatic environment is minimized because a trained crew will be onsite that will implement spill containment measures should a spill occur. If a spill should occur, the Department of Ecology will be notified per permit conditions.

Indirect Impacts:

No changes to overwater coverage will occur due to this project.

Recreational Boating: The project supports continued recreational boating, which has been identified as a limiting factor for salmonid populations in Lake Washington. The pier will not introduce additional boating to Lake Washington, as the owners could still access the lake from a public boat launch or private moorage facility.

Other Conservation measures:

Work window: The work will be completed during the prescribed in-water work window for this area of Lake Washington (July 16 to April 30). Operating within this time frame helps protect Chinook salmon, steelhead, bull trout and other salmonid fish species by doing work when juvenile fish are not expected to be present.

Best Management Practices: Applicable BMPs will be used such as a floating boom around the in-water work area that will contain any floating debris that may escape during demolition and construction. The barge will have a perimeter containment sock to absorb oil and grease that may wash from the barge during construction.

Hazardous material containment materials such as spill absorbent pads, and trained personnel will be required onsite during any phase of construction where machinery is in operation near surface waters.

In-lieu Fee: The shoreline on the subject property will be planted with native, overhanging vegetation. The project also requires approval from the National Marine Fisheries Service (NMFS). NMFS has developed a calculator to determine appropriate mitigation costs for proposed in-water structures in Lake Washington. 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 required by NMFS and the property owners will pay into the 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 Restoration And Permitting (RAP) Calculator for Lake

Washington and will be paid to King County Water & Land Resources Division. This funding has been used to remove 350 derelict piles from the mouth of the Cedar River in Lake Washington.

Conclusion

Juvenile Chinook salmon, and other salmonids, rear and migrate along the Lake Washington shoreline. Lake Washington is a Shoreline of the State.

There will be temporary impacts from noise and disturbed sediments during construction.

The project will minimize construction effects on the environment by following the prescribed fish window and using applicable BMPs to prevent construction spills, turbidity, and floating debris from escaping the area. The construction crew will retrieve all dropped items from the bottom and dispose of them properly. The effects of construction will be short term.

Boatlifts reduce shading by allowing light under the boat when stored on the lift. In addition, boat lifts reduce boat maintenance that can add cleaning chemicals to the lake and can preserve zinc anodes. A cleaner hull on a boat also reduces drag that increase fuel use. The lifts will be placed in the deepest water possible at site to reduce the chances of propwash occurring during castoff and docking.

The owner has also opted to pay into the In Lieu Fee program that will be used for conservation projects that benefit salmon in King County.

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.**

Document Preparers

Brad Thiele

Biologist

31 years of experience

Northwest Environmental Consulting, LLC. (NVEC)

The conclusions and findings in this report are based on field observations and measurements and represent our best professional judgment and to some extent rely on other professional service firms and available site information. Within the limitations of project scope, budget, and seasonal variations, we believe the information provided herein is accurate and true to the best of our knowledge. Northwest Environmental Consulting does not warrant any assumptions or conclusions not expressly made in this report or based on information or analyses other than what is included herein.

REFERENCES

ThruFlow. 2020. Legacy Series. Online. Accessed September 2020 at <https://thruflow.com/products/legacy/>.

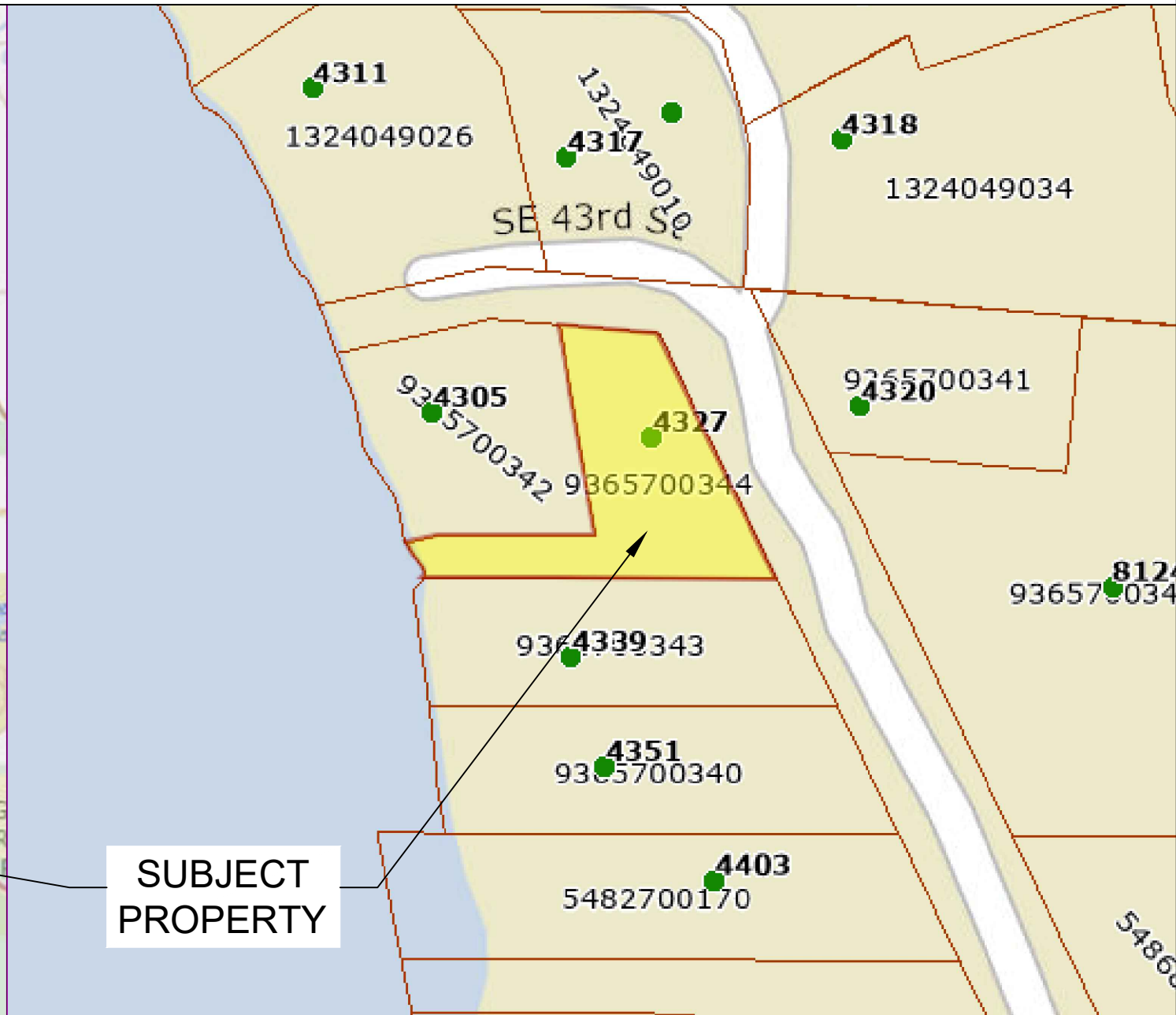
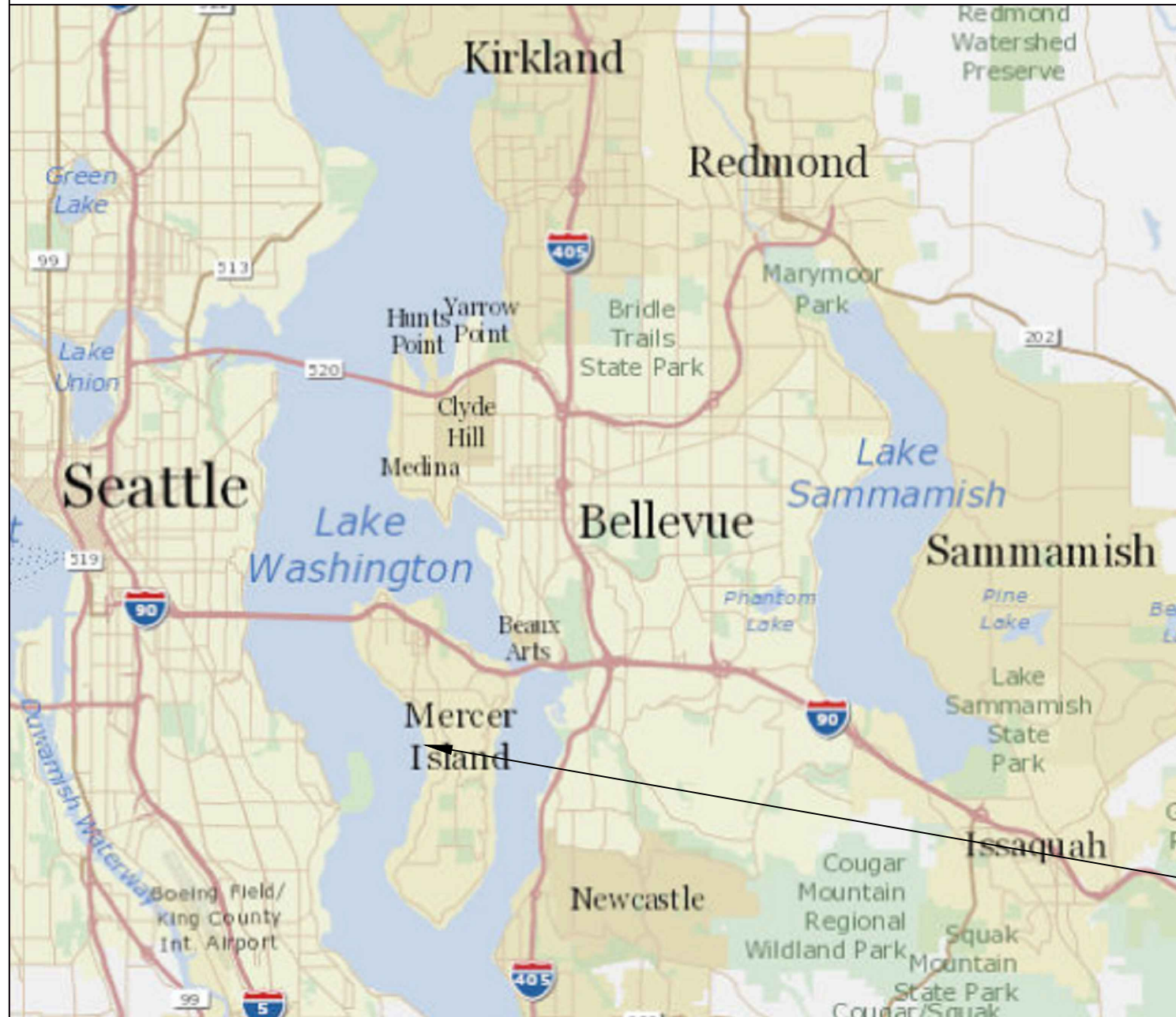
US Army Corps of Engineers (USACE). 2004. Final Biological Evaluation, Regional General Permit: Construction of New or Expansion of Existing Residential Overwater Structures and Driving of Moorage Piling. Lake Washington, Lake Sammamish, the Sammamish River and Lake Union, Including the Lake Washington Ship Canal, in the State of Washington.

Washington Department of Fish and Wildlife (WDFW). 2024. Priority Habitats and Species. Online database. Accessed December 2024 at <http://apps.wdfw.wa.gov/phsontheweb/>

WDFW. 2024. SalmonScape. Online database. Accessed December 2024 at <http://apps.wdfw.wa.gov/salmonscape/>

Appendix A: Figures and Project Drawings

SITE PLAN

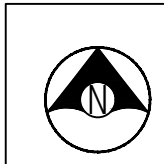


Pin: 936570-0344

Legal Description: WHITES HARRY PLAT E SEATTLE AC TR BEG AT INTSN OF S 150 FT SD TR WITH SWLY LN OF 80TH AVE SE TH NWLY TO SLY LN SE 43RD PL TH NWLY 59.62 FT TH S 09-50-20 E TO PT 175 FT N OF S LN TH N 89-54-07 W TO GOV MDR LN TH SELY ALG SD LN TO PT 150 FT N OF S LN EXTND W TO BEG LESS CONC PATIO IN SHAPE OF A TRIANGLE THAT IS 4.90 FT WIDE AT THE BASE AND AT THE WATER LN & EXTD ELY 19.50 FT TAP WHERE IT INTERSECTS PLANTIFFS SOUTH PROP LN TGW ROCK & CONC BULKHEAD & RETAINING PIER ON WCH THE HOIST IS LOCATED ACDG TO KING COUNTY S.C.C. NO 81-2-00149-1 DATED 10-01-1986 & SH LDS ADJ

Plat Block:
Plat Lot: 23

Parcel	Dock
LAT: 47.56794	LAT: 47.567783
LONG: -122.23275	LONG: -122.233243



Seaborn Pile Driving
1080 W Ewing St
Seattle, WA 98119

Office: 206-236-1700 ext. 5
www.seabornpiledriving.com

Scope of Work: We propose to install (1) new boat lift, (1) new dock mounted PWC lift, and remove (1) mooring pile.

County: King County
Location: Lake Washington

Applicant: Garcia Residence
4327 FOREST AVE SE
MERCER ISLAND, WA 98040

Datum: CORPS OF ENGINEERS 1919
NE Quarter Of Section 13, Township 24, Range 04

Adjacent Owners:
STICKNEY, JEFF & KATHY
4339 FOREST AVE SE 98040

SPALNHURST EDWIN N+DIANE J
4305 FOREST AVE SE 98040

SHEET
1.0

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GENERAL NOTES:

MATERIALS SPEC LIST:

Boat Lifts: Aluminum

- * SL10014ARW - 146" x 162"
- * Dock Mounted PWC Lift

CODE REFERENCES: Mercer Island

We are applying for the permit to be reviewed under the:

“Alternative Development Standards” per MIMC 19.13050(F)(3).

The code official shall approve moorage facilities not in compliance with the development standards in subsection (F)(1) or (F)(2) of this section subject to both U.S. Army Corps of Engineers and Washington Department of Fish and Wildlife approval to an alternate project design. The following requirements and all other applicable provisions in this chapter shall be met:

i. The dock must be no larger than authorized through state and federal approval; Ch. 19.13 Shoreline Master Program | Mercer Island City Code Page 30 of 34 The Mercer Island City Code is current through Ordinance 20C-13, passed June 16, 2020.

The dock will not be altered.

ii. The maximum width must comply with the width of moorage facilities standards specified in standards specified in subsection D of this section (Table D);

The dock will not be altered.

iii. The minimum water depth must be no shallower than authorized through state and federal approval;

The dock will not be altered.

iv. The applicant must demonstrate to the code official's satisfaction that the proposed project will not create a net loss in ecological function of the shorelands; and

See attached NNL.

v. The applicant must provide the city with documentation of approval of the moorage facilities by both the U.S. Army Corps of Engineers and the Washington Department of Fish and Wildlife.

Approval from WDFW and the Army CORPS of Engineers will be attached.

Last permit issued for property: 2309-061 11/13/23

Dock established/constructed: 78225 8/30/78

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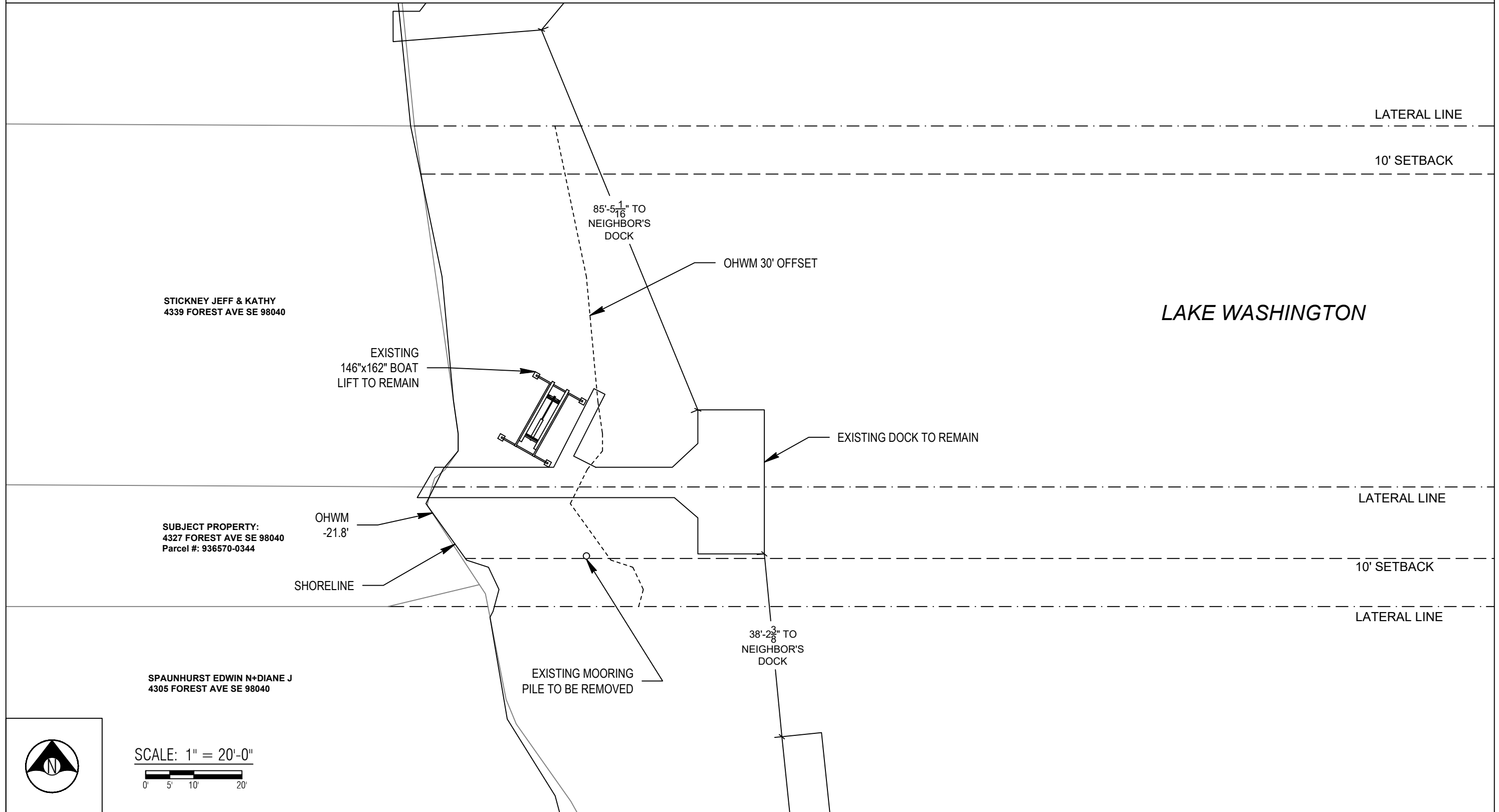
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PROPOSED CONDITIONS

****CLEAN UP LAKE AROUND PROJECT****



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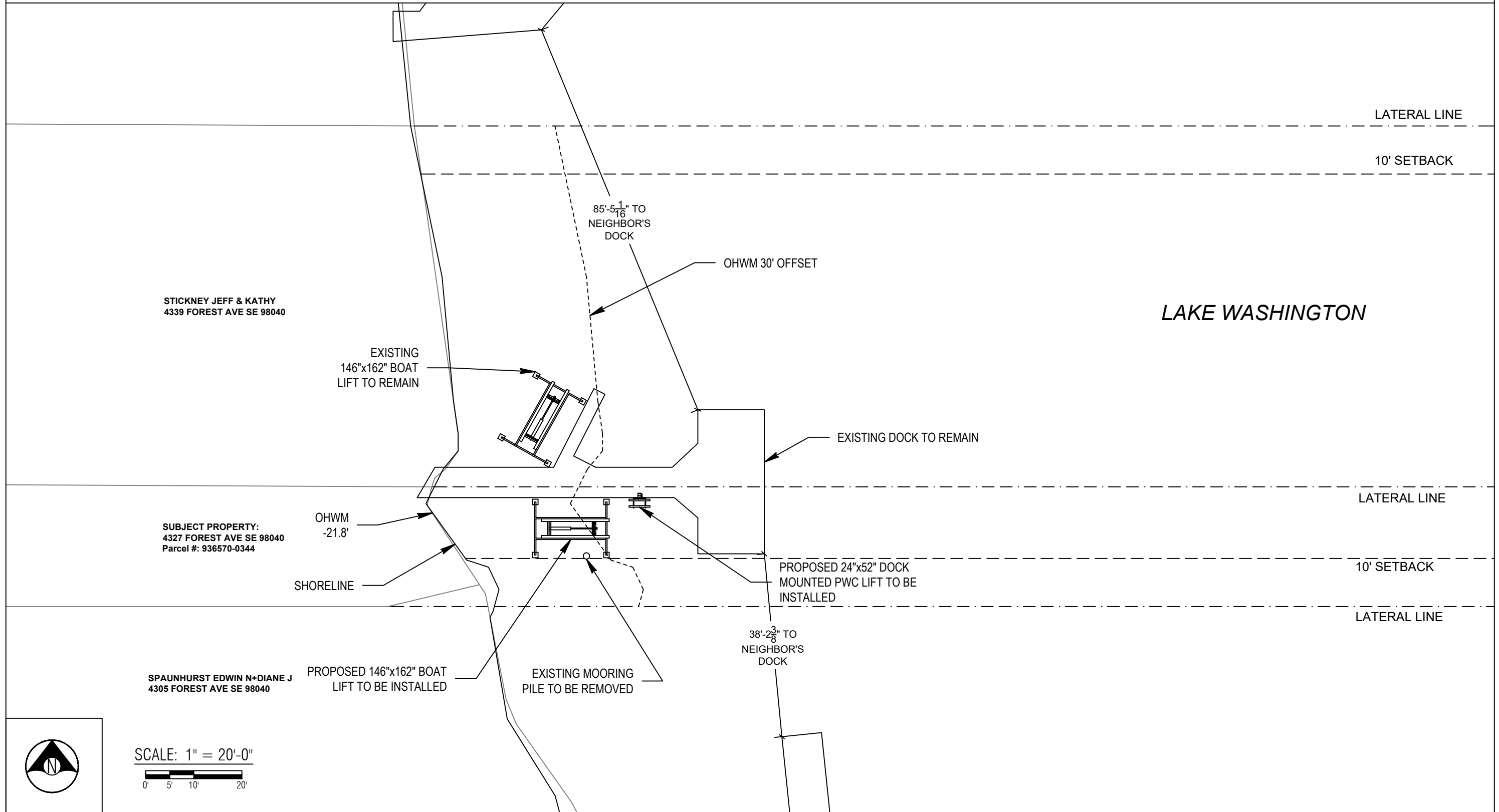
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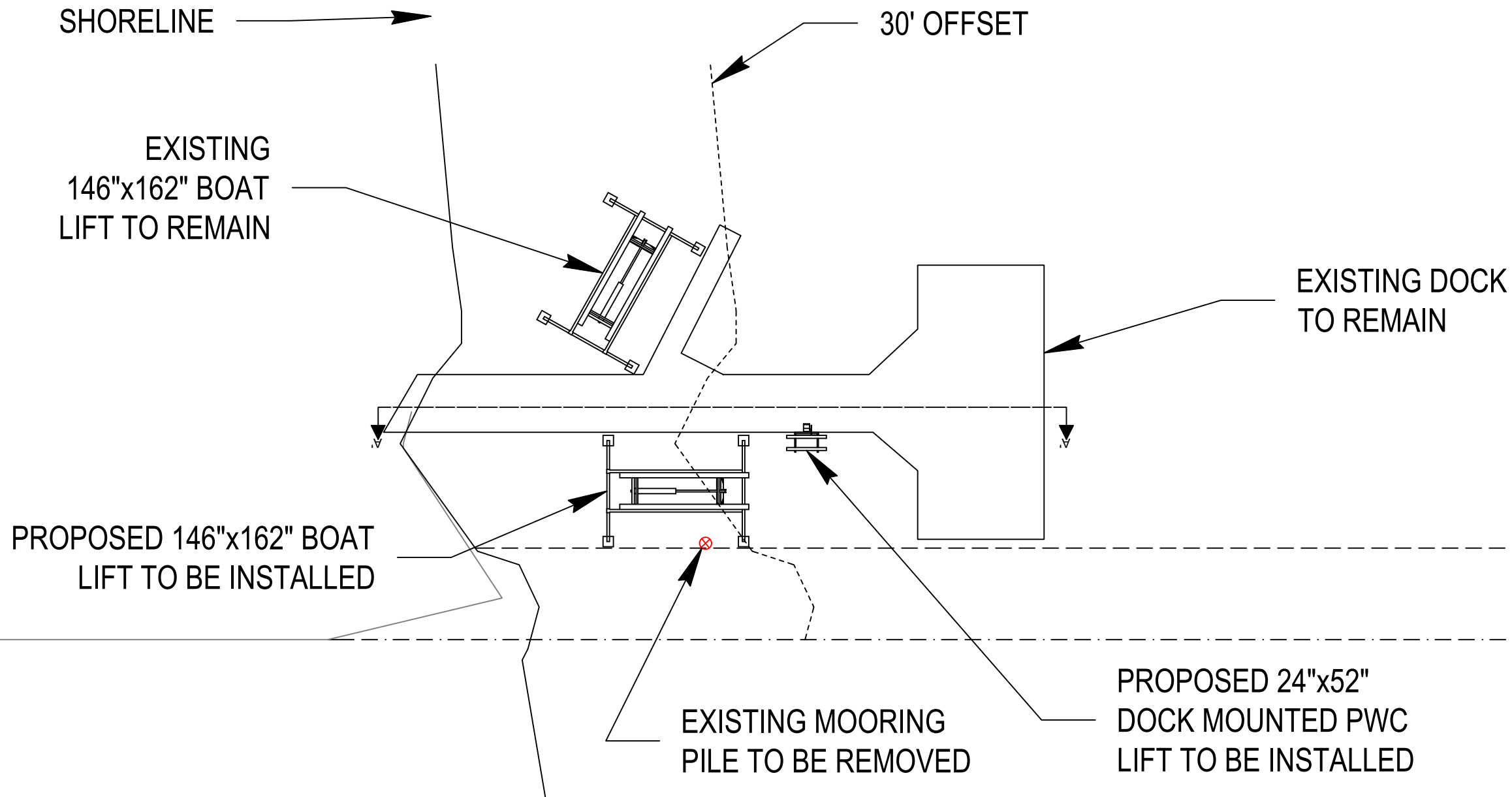
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PIER DETAILS - EXISTING/PROPOSED PLAN VIEW

LEGEND

⊗ (1) 12" EXISTING MOORING PILE - TO BE REMOVED



PLAN VIEW



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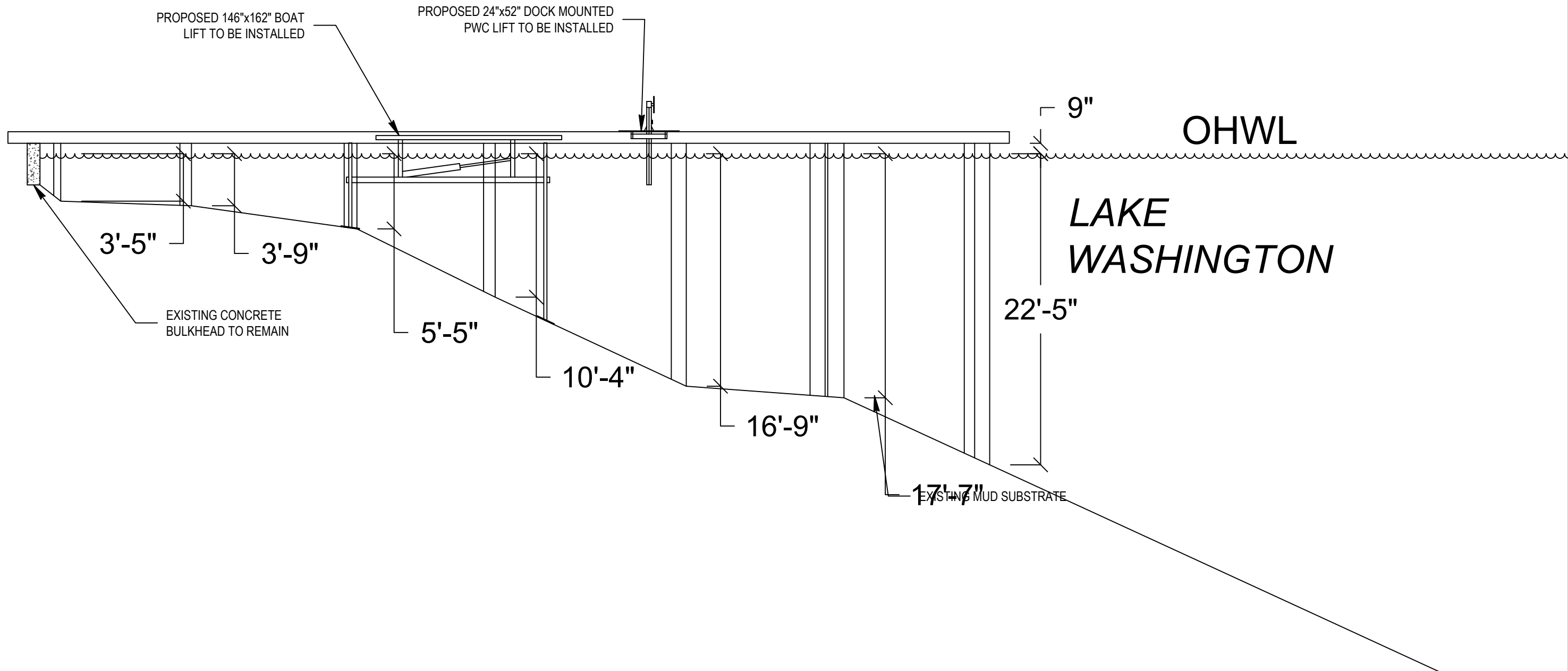
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PIER DETAILS EXISTING/PROPOSED - SECTION VIEW



SECTION VIEW: A'-A'



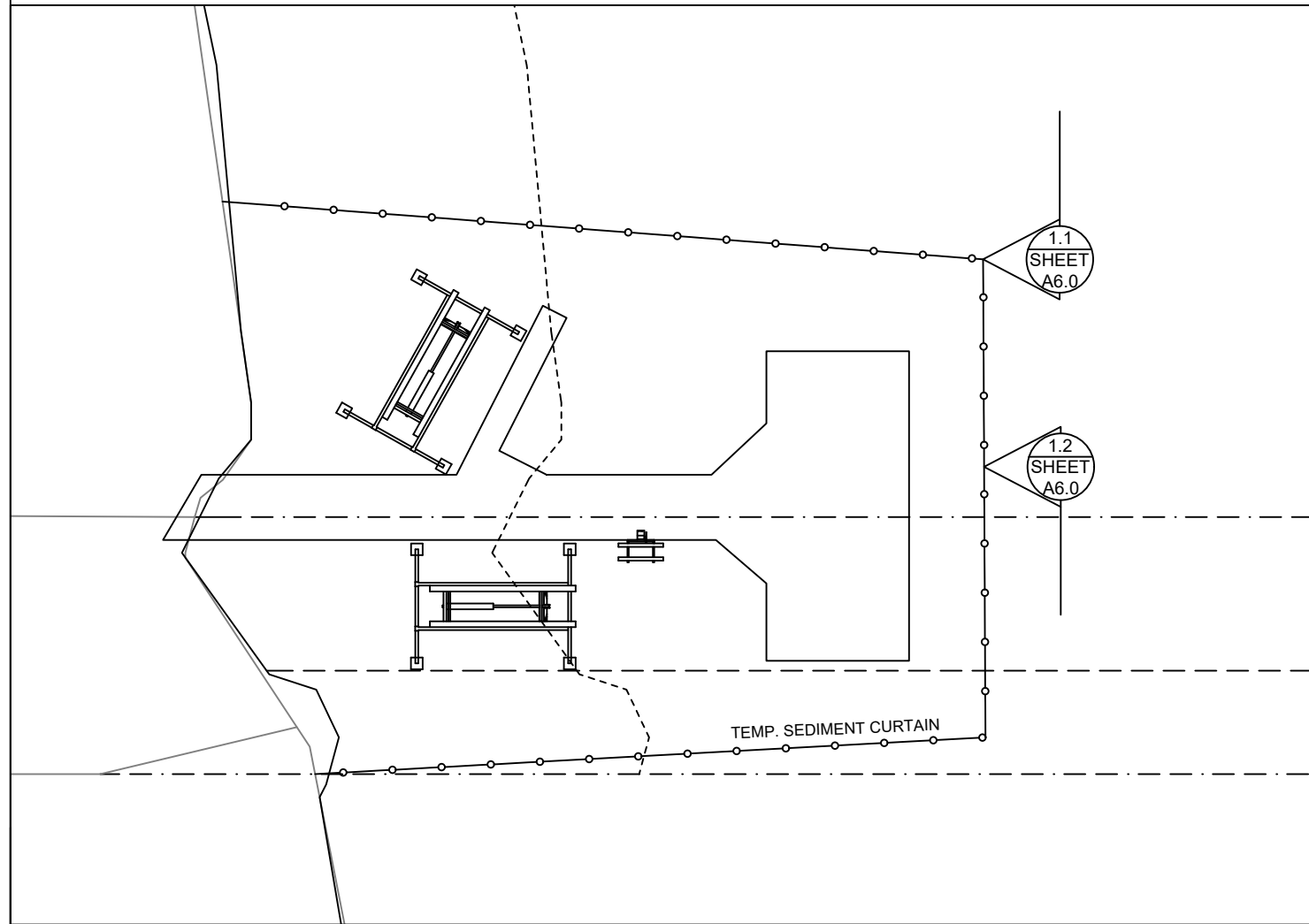
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BMP INFORMATION

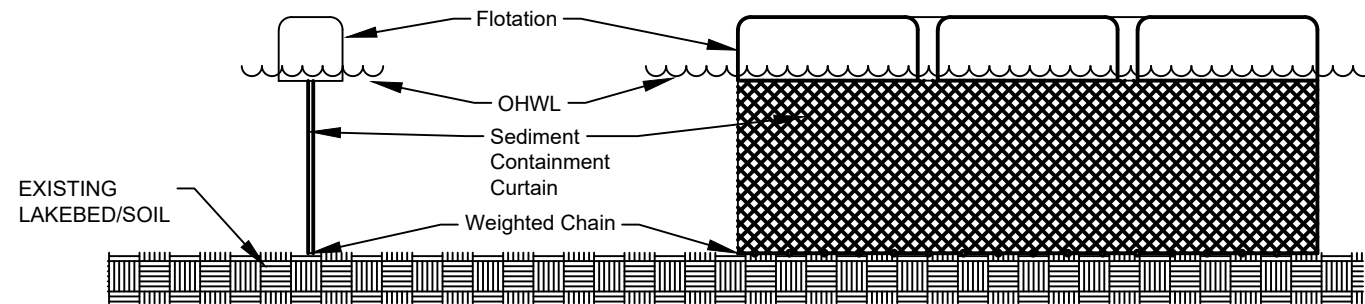


BMP NOTES:

- A. Constant vigilance shall be kept for the presence of protected fish species during all aspects of the proposed action, particularly during in-water activities such as vessel movement, deployment of anchors & spuds, pile driving, dredging, and placement of gravels and other fill.
 1. The project manager shall designate an appropriate number of competent observers to survey the project site and adjacent areas for protected species, including the presence of fish as conditions allow.
 2. Visual surveys shall be made prior to the start of work each day, and prior to resumption of work following any break of more than an hour. Periodic additional visual surveys throughout the work day are strongly recommended.
 3. All in-water work shall be done during the in-water work window for the waterbody. Where there is a difference between the USCOE and WDFW work windows, the overlap of the two shall apply.
 4. All pile driving and extraction shall be postponed or halted when obvious aggregations or schooling of fish are observed within 50 yards of that work, and shall only begin/resume after the animals have voluntarily departed the area.
 5. When piloting vessels, vessel operators shall operate at speeds and power settings to avoid grounding vessels, and minimize substrate scour and mobilization of bottom sediments.
- B. No contamination of the marine environment shall result from project-related activities.
 1. Appropriate materials to contain and clean potential spills shall be stored and readily available at the work site and/or aboard project-related vessels.
 2. The project manager and heavy equipment operators shall perform daily pre-work equipment inspections for cleanliness and leaks. All heavy equipment operations shall be postponed or halted should a leak be detected, and shall not proceed until the leak is repaired and the equipment is cleaned.
 3. To the greatest extent practicable, utilize biodegradable oils for equipment that would be operated in or near water.
 4. Fueling of land-based vehicles and equipment shall take place at least 50 feet away from the water, preferably over an impervious surface. Fueling of vessels shall be done at approved fueling facilities.
 5. Turbidity and siltation from project-related work shall be minimized and contained through the appropriate use of erosion control practices, effective silt containment devices, and the curtailment of work during adverse weather and tidal/flow conditions.
 6. All wastes shall be collected and contained for proper disposal at approved upland disposal sites appropriate for the material(s).
 7. When removing piles and other similarly treated wood, containment curtain must fully enclose the work area. Wood debris, oils, and any other materials released into lake waters must be collected, removed, and properly disposed of at approved disposal sites.
 8. All in- and over-water wood cutting would be limited to the minimum required to remove the subject wood component, and all cutting work should be enclosed within floating containment curtain.
 9. When removing piles, no actions shall be taken that would cause adhering sediments to return to lake waters.
 10. Above-water containment shall be installed around removed piles to prevent sediment laden waters from returning to lake waters.
 11. Construction staging (including stocking of materials, etc.) will occur on the supply barge.
 12. All Exposed wood to be used on the project will be treated with a an agency approved treatment.

DETAIL 1.1

DETAIL 1.2



DETAIL 1.1 & 1.2



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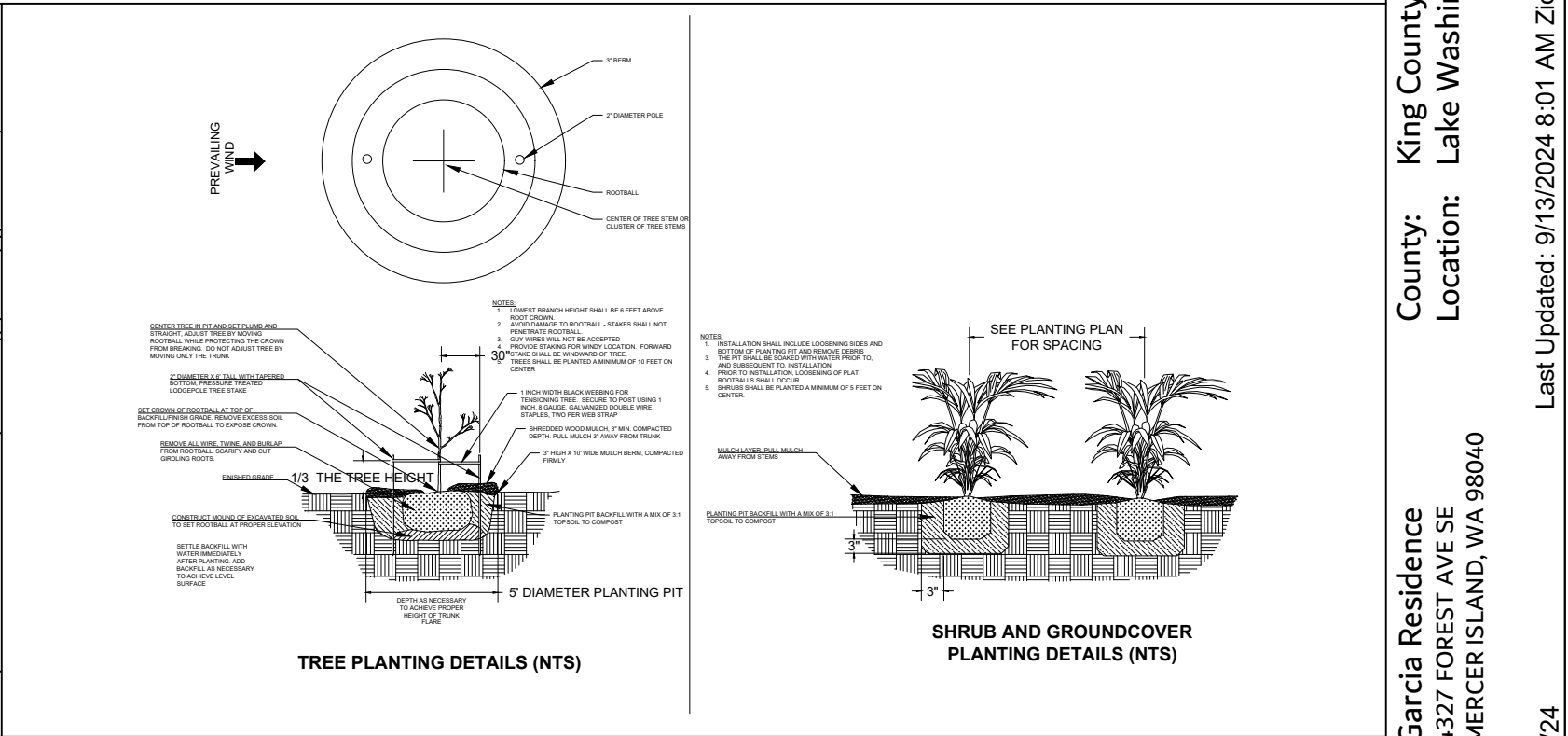
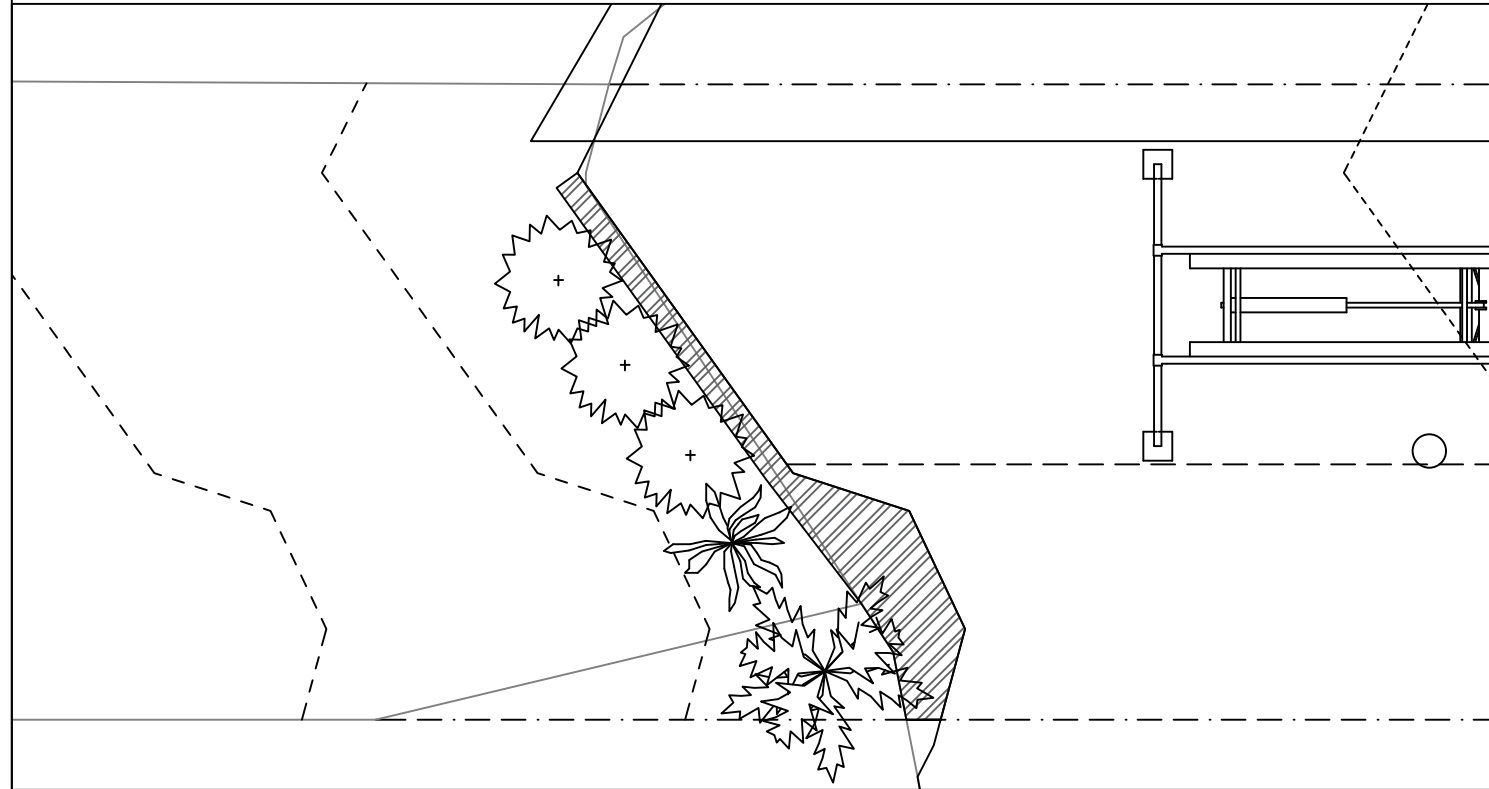
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MITIGATION PLAN



Notes:

1. The property owner shall implement and abide by the shoreline planting plan, including the installation of the identified species, in the identified locations. Shrubs shall be planted at least five feet on center, and trees shall be planted at least ten feet on center.
2. For best plant survival, planting should be completed the first October through March period concurrent with or immediately following the work authorized by this permit. A report, as-built drawing and photographs demonstrating the plants have been installed or a report on the status of project construction will be submitted to the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch, within 12 months from the date of permit issuance. This reporting requirement may be met by completing and submitting a U.S. Army Corps of Engineers approved Report for Mitigation Work Completion form.
3. The property owner shall preserve in good health 100% of shoreline planting plan vegetation for as long as the structures that have been permitted under the RAP program remain in place. Plants that die must be replaced with the appropriate plant type (i.e. tree for tree, shrub for shrub) from the RAP Plant List.
4. The property owner shall monitor the survival of shoreline planting plan vegetation for five years (Monitoring Years 1-5) after the U.S. Army Corps of Engineers accepts the as-built report. The property owner shall also submit annual monitoring reports to the U.S. Army Corps of Engineers each year during this period. Each annual monitoring report will include written and photographic documentation that the performance standards are being met, including documentation of plant mortality and replacement. Photos will be taken from established points and used repeatedly for each monitoring year. In addition to photos at designated points, photo documentation will include a panoramic view of the entire planting area. Submitted photos will be formatted on standard 8 1/2 x 11" paper, dated with the date the photo was taken, and clearly labeled with the direction from which the photo was taken. The photo location points will be identified on an appropriate drawing. Annual shoreline planting monitoring reports will be submitted to the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch, by November 31 of each monitoring year. This reporting requirement may be met by completing and submitting a U.S. Army Corps of Engineers approved Mitigation Planting Monitoring Report form.

No mitigation proposed due to scope of work only including lift installation and a removing pile.



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Appendix B: Site Photographs



Photo 1 - Existing dock looking waterward.



Photo 2 - Existing dock looking landward.



Photo 3 - Existing shoreline looking north.



Photo 4 - Existing dock looking south.



Photo 5 - Existing conditions north of the site.



Photo 6 - Existing conditions south of the site.