

Ecological No Net Loss Assessment Report

Prepared for

Mike Rosato
5652 E Mercer Way
Mercer Island, WA 98040

Prepared by



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

April 2022

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.

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.”

Permits are being applied for a dock maintenance and moorage improvements.

Location

The subject property is located at 5652 E Mercer Way (King County parcel number 192405-9078) in the City of Mercer Island, Washington (see Appendix A – Sheet A1.0). The parcel is on the waterfront of Lake Washington, a shoreline of the state, that contains several endangered fish species listed under the Endangered Species Act and Washington State designated priority fish species.

Project Description

The proposed work on the dock includes removal of 432 square feet of wood decking surface and repairing 8 existing 7 to 13-inch pilings by the sleeve and splice method. The existing boat lifts will remain, however one previously moved boat lift is being permitted as part of this project. The existing deck will be replaced with ThruFlow grated decking. Project drawings are included in Attachment A, sheets A2.0 to A7.0 with details in sheets A11.0 to A 14.0.

During construction, a floating boom will surround the work barge and dock. (See Appendix A – Sheets A8.0)

A shoreline vegetation plan is proposed, that will add 1 native western red cedar tree. The tree will provide shade and allow allochthonous material to enter the lake along the shoreline and improve shoreline conditions. Existing vegetation will be retained. See Appendix A – Sheet A9.0 to A10.0.

Approach

Northwest Environmental Consulting LLC (NVEC) biologist Brad Thiele conducted a site visit on May 5, 2022 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 SalmonScape 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 eastern boundary with single-family homes to the north and south along the shoreline.

The only existing structures on the property are the house and the existing shoreside deck and dock. The yard is landscaped with beds and lawn. The lawn extends towards the waterfront with a planting strip along the top of the deck with a mix of woody ornamental and native shrubs and small trees. A California gale hedge is present along the south property line that overhangs the water.

The shoreline is bulkhead with a rock and concrete piece bulkhead. The deck overhangs the bulkhead and covers most of the bulkhead. A small cove is present adjacent to the north side of the deck. The substrates are gravel and cobble with mixed material from the bulkhead. No submerged aquatic vegetation was observed at the time of the site visit.

The neighboring properties include armored shoreline, similar vegetation and residential docks. See attached photos in Appendix B.

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 lake'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 salmon spawning location.

Priority Habitats and Species (PHS) mapping shows a wetland complex about 1,000 feet north of the project location and an open space area about 900 feet to the west. No (PHS) occurrences are located near the project location except for Lake Washington.

The Mercer Island GIS does not show any environmental layers on or on the adjacent properties.

Project Impacts and Conservation Measurements

Direct Impacts:

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

Impacts to sediments should be negligible from pile repair and the project actions are not

expected to exceed State Water Quality Standards.

Shoreline: Planting additional native vegetation will increase the habitat functions of the shoreline by creating shade along the shoreline that will be an enhancement of the existing preserved vegetation at the site. The proposed Western Red Cedar will provide 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 proposed planting plan is included and includes retaining existing vegetation (see Appendix A - Sheet A9.0 and A10.0).

Lakebed: The proposed repairs will not affect lakebed coverage.

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.

Potential spills: Short-term risks include the potential for petroleum spills that can occur with any equipment operation. The risk of impact to the aquatic environment is reduced because a crew competent using spill containment measures will be on site and employ these measures should a spill occur.

Indirect Impacts:

Shading: The proposed configuration will not change the overwater coverage at the site. The existing solid wood decking will be replaced with grated ThruFlow decking.

Grated decking allows more light to penetrate the water below a dock that can increase productivity in the littoral zone below the dock and reduce the full shade favored by salmonid predators. Salmonid predators are known to use hard shadowing under solid-decked docks to ambush juvenile salmonids. Reducing these hard shadows limits predation opportunity caused by hard shading under the dock and may increase salmonid outmigration times over opaque decking.

ThruFlow grated decking has a measured performance at 43 percent light penetration (ThruFlow, 2020). Thus, effective cover of the area is 57% of the area of a solid decked structure. Table 1 provides a summary of effective coverage:

Table 1 – Effective coverage

	Existing Solid decking	Proposed grated	Conversion	Effective coverage	Reduction in coverage
Overwater coverage (SF)	432	432	0.57	246	186

The use of grated decking reduces the proposed effective overwater coverage by 186 square feet at the site and will reduce the effective overwater coverage within 30 feet of the shore by 75 square feet.

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, to contain any floating debris that may escape during construction. The barge will have a perimeter containment sock to absorb oil and grease that might inadvertently 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.

Conclusion

Juvenile Chinook salmon, and other salmonids, rear and migrate along the Lake Washington shoreline.

There will be temporary impacts from noise, potential spills, and disturbed sediments during construction that has the potential to degrade the environment.

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.

Improvements to the environment include removal of all overwater decking and replacing with grated ThruFlow decking that will reduce the effective overwater coverage by 186 square feet at the site and 75 square feet within the nearshore environment. The grating reduces the hard shadows favored by salmonid predators and increases productivity under the pier. Hard shadowing of overwater structures may also decrease salmonid outmigration times, grated decking helps reduce the chances of the structure being a partial migration barrier to outmigrating juvenile salmonids.

A shoreline planting plan will be implemented and will add a native western red cedar that will improve natural shading, allochthonous food sources and will eventually be a source of woody materials and will improve shoreline conditions at the site in the long-term to offset temporary construction impacts. The existing native vegetation on the site will be maintained.

The previously relocated boat lift has been moved into the deepest water practicable that reduces the chances of propwash during docking and castoff.

This project has been designed to meet current residential dock standards and will use Best Management Practices to reduce project impacts during construction. The conservation measures are designed to improve ecological functions or prevent further degradation of habitat. The project will improve shoreline conditions, reduce effective overwater coverage in the nearshore and in deeper water at the site. The proposed project has been designed to improve baseline ecological conditions at the site **and will result in No Net Loss of ecological functions.**

Document Preparers

Brad Thiele

Biologist

28 years of experience

Northwest Environmental
Consulting, LLC (NVEC)

NVEC followed standard acceptable field methods and protocols at the time work was performed. These standards may include delineation of wetland and stream boundaries, characterization, rating, functional analyses, impact assessments and mitigation of impacts. 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

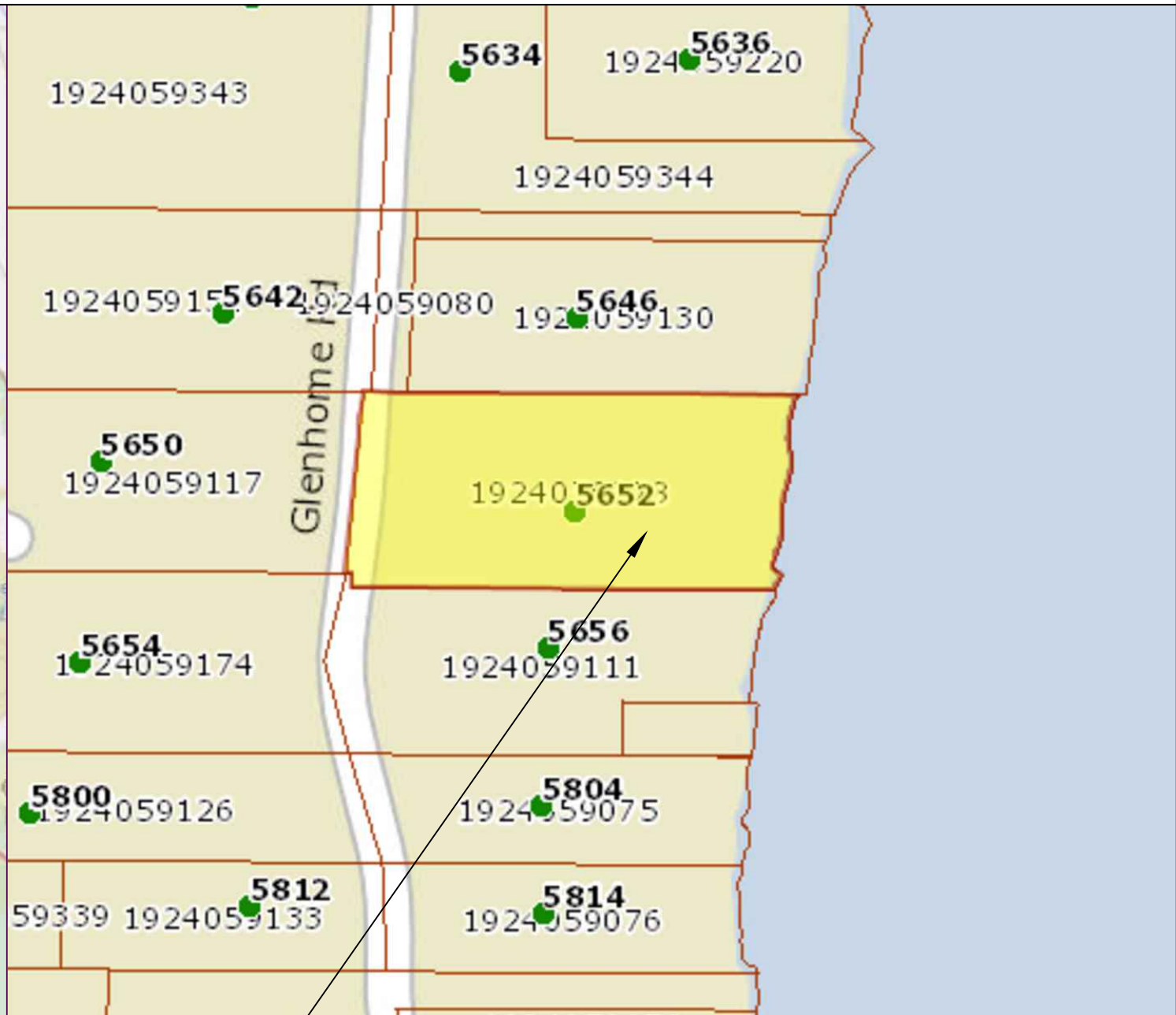
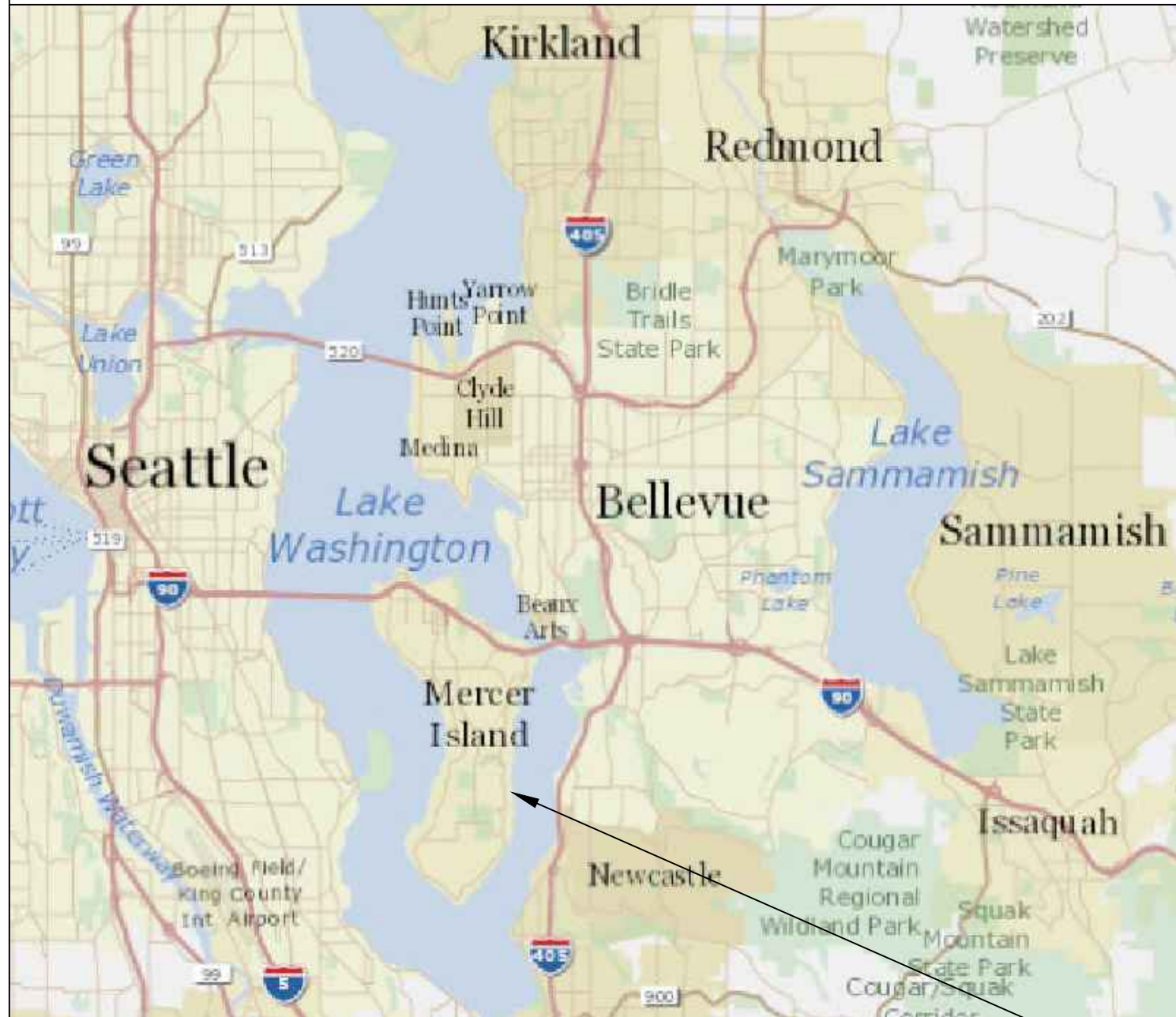
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Washington Department of Fish and Wildlife (WDFW). 2022. Priority Habitats and Species. Online database. Accessed May 2021 at <http://apps.wdfw.wa.gov/phsontheweb/>

WDFW. 2022. SalmonScape. Online database. Accessed May 2022 at <http://apps.wdfw.wa.gov/salmonscape/>

Appendix A: Project Drawings

SITE PLAN



Pin: 192405-9078

Legal Description: PCL A MI LLA SUB03-006 REC #20040423900002 TGW SH LDS ADJ SD LLA IS SIT IN THE N 200 FT OF S 2120 FT OF STR 19-24-05 & ELY OF A RD ESMT PER REC #S 3368003 & 4004443

Plat Block:
Plat Lot:

LAT: 47.55138 LONG: -122.21043

**SUBJECT
PROPERTY**





Seaborn Pile Driving
1080 W Ewing St
Seattle, WA 98119

Office: 206-236-1700 ext. 3
www.seabornpiledriving.com

Scope of Work: We propose to repair (8) piles, repair the existing deck, stairs, and dock with grated decking material, and permitting the relocation of one lift.

<p>County: King County</p> <p>Location: Lake Washington</p>	<p>Applicant: Rosato Residence 5652 E. Mercer Way Mercer Island, WA 98040</p>
<p>Datum: CORPS OF ENGINEERS 1919 SE Quarter Of Section 19, Township 24, Range 05</p>	<p>Adjacent Owners: LI JAKE ZHENLIN & WUYANCI 5646 E MERCER WAY 98040</p>
<p>SHEET A1.0</p>	
<p><small>NWS-2021-XXX PAGE 1 OF 14</small></p>	

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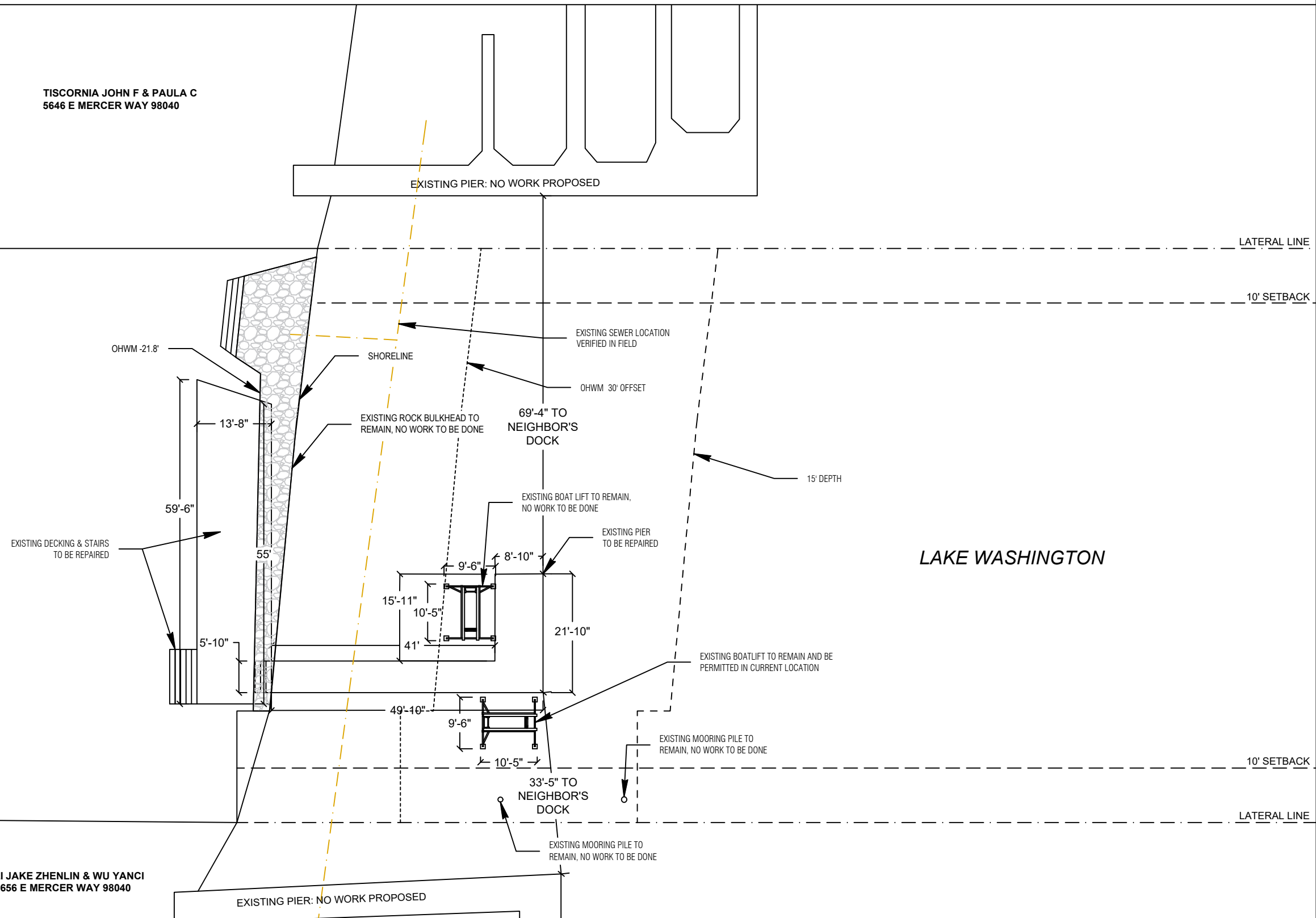
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EXISTING CONDITIONS

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

TISCORNIA JOHN F & PAULA C
5646 E MERCER WAY 98040

SUBJECT PROPERTY:
ROSATO RESIDENCE
5652 E MERCER WAY 98040
Parcel #: 192405-9078



LAKE WASHINGTON

LI JAKE ZHENLIN & WU YANCI
5656 E MERCER WAY 98040



SCALE: 1" = 20'-0"
0' 5' 10' 20'



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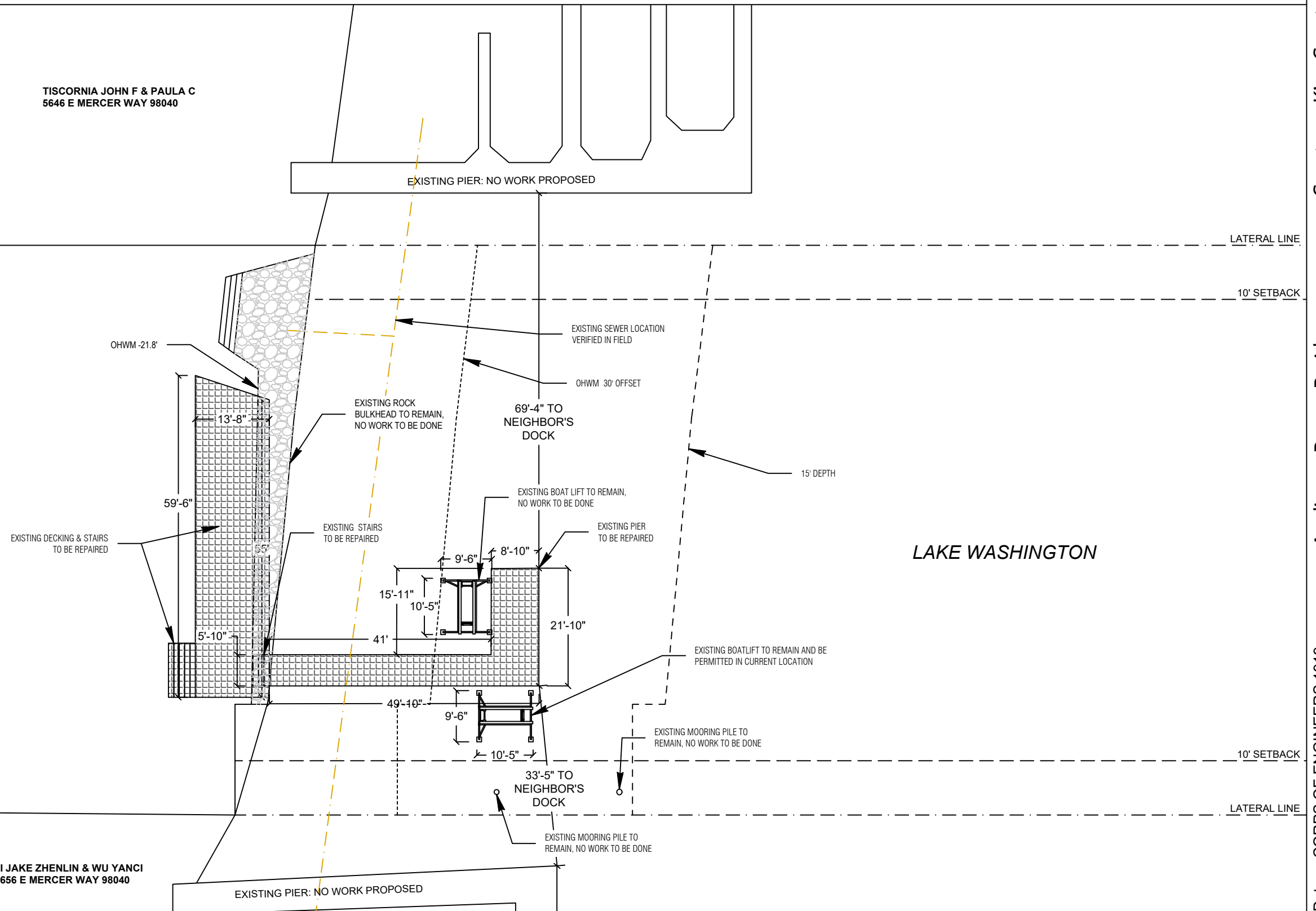
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A2.0**

PROPOSED CONDITIONS

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

TISCORNIA JOHN F & PAULA C
5646 E MERCER WAY 98040

SUBJECT PROPERTY:
ROSATO RESIDENCE
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Parcel #: 192405-9078



SCALE: 1" = 20'-0"
0' 5' 10' 20'

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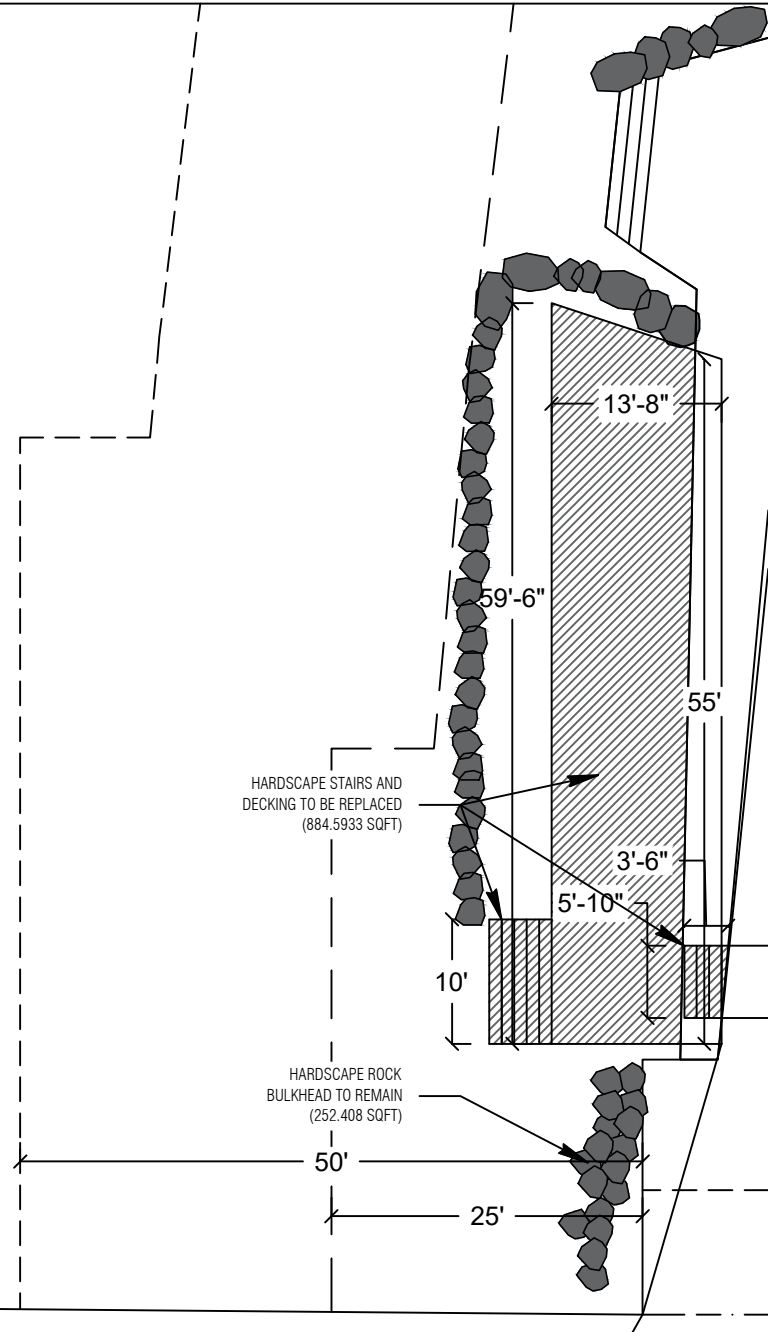
HARDSCAPE CALCULATION

Allowed Impervious Quantities

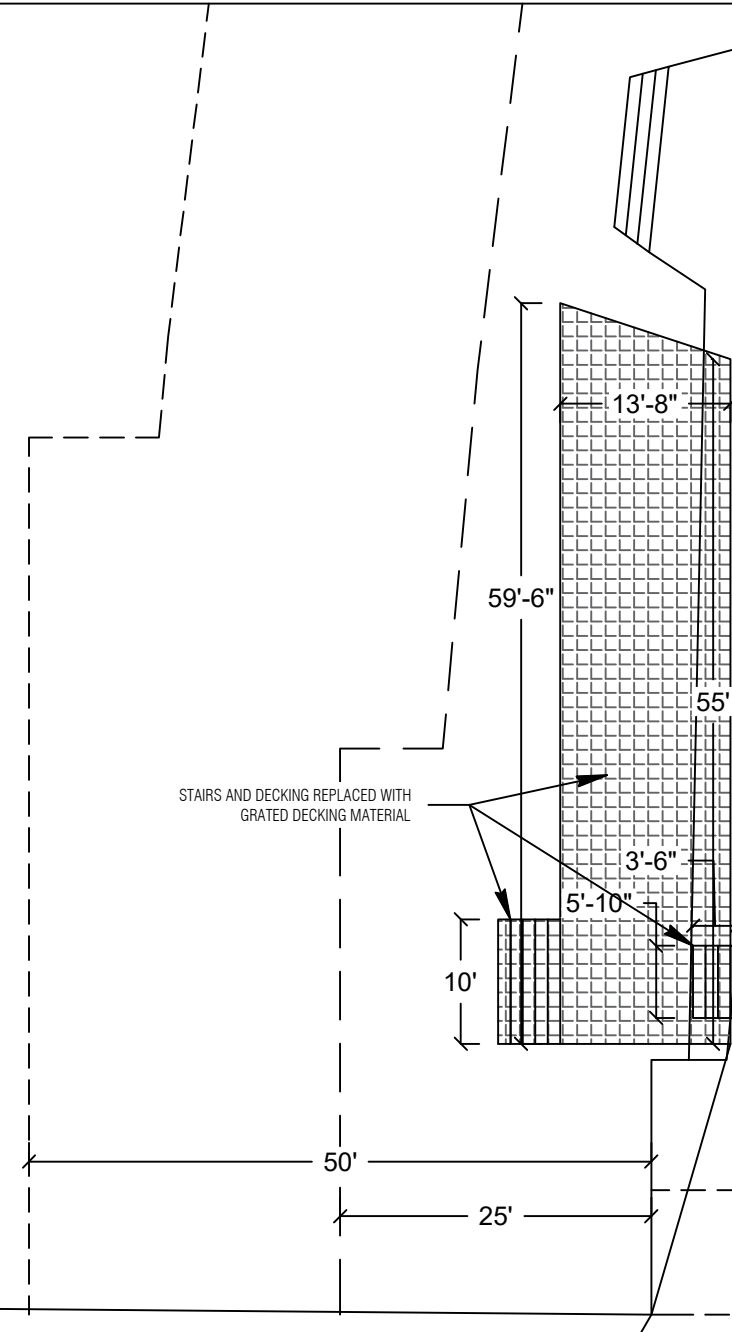
SETBACK (total sqft)	ALLOWED	CURRENTLY USED	REMOVING (TOTAL%)	PROPOSED
0' - 25' SETBACK (2,841.1491 sqft)	10% (284.1491 sqft)	40% (1,137.0013 sqft)	31% (884.5933 sqft)	8.88% (252.408 sqft)
25' - 50' SETBACK (2,865.3035 sqft)	30% (859.5911 sqft)	N/A	N/A	REMAIN AS IS

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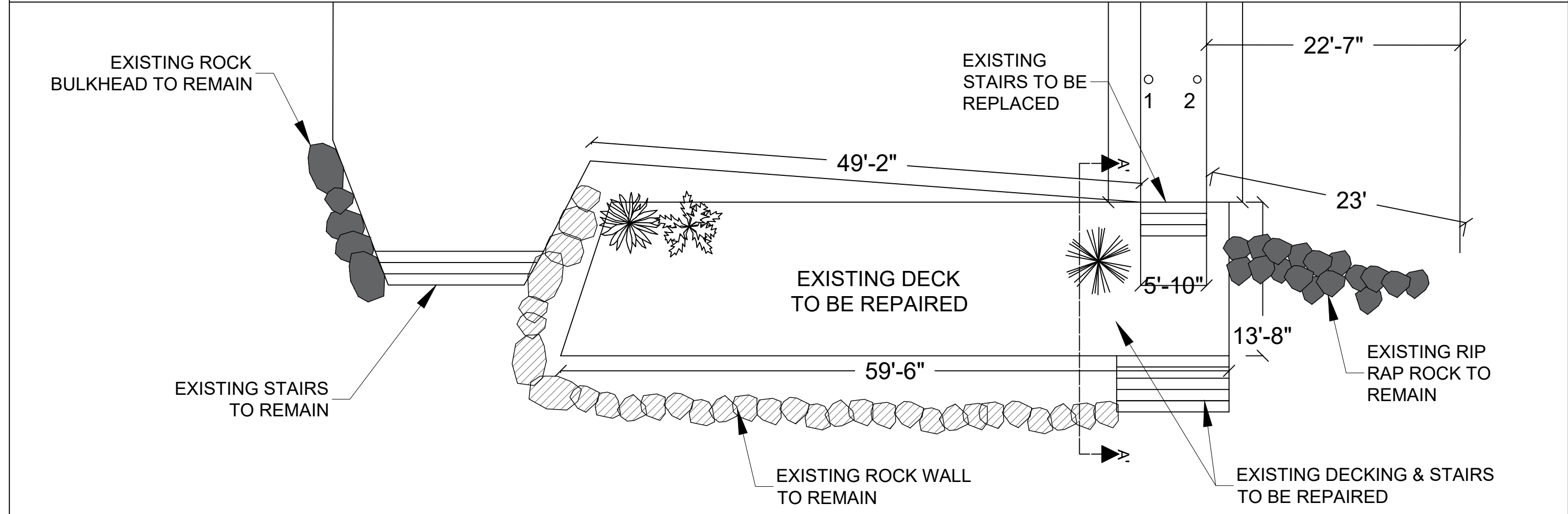
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Scope of Work: We propose to repair (8) piles, repair the existing deck, stairs, and dock with graded decking material, and permitting the relocation of one lift.

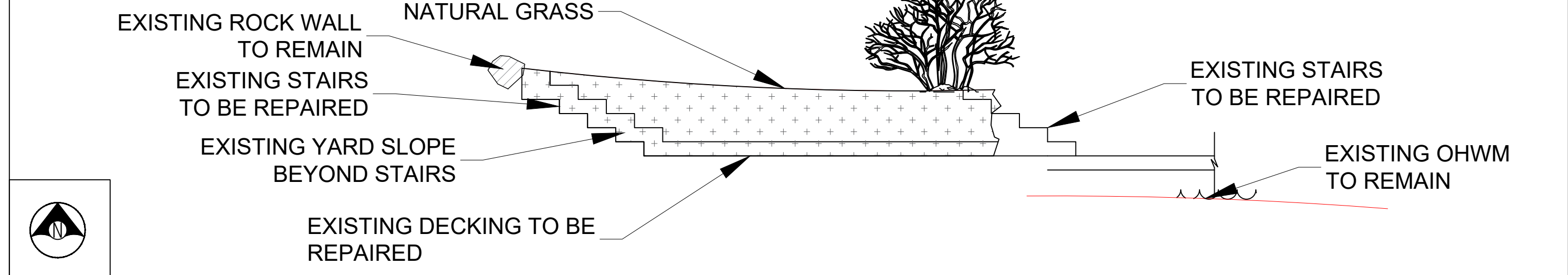
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PROPOSED CONDITIONS



PLAN VIEW

A'-A' SECTION VIEW



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PIER DETAILS - EXISTING/PROPOSED

LEGEND

- ⊕ (10) EXISTING PILES - TO BE REPAIRED
- (4) EXISTING PILES - NO WORK TO BE DONE
- (2) EXISTING MOORING PILE - NO WORK TO BE DONE

Area: 432 sqft (new grated decking)

**Grated decking material is 43% light permeable

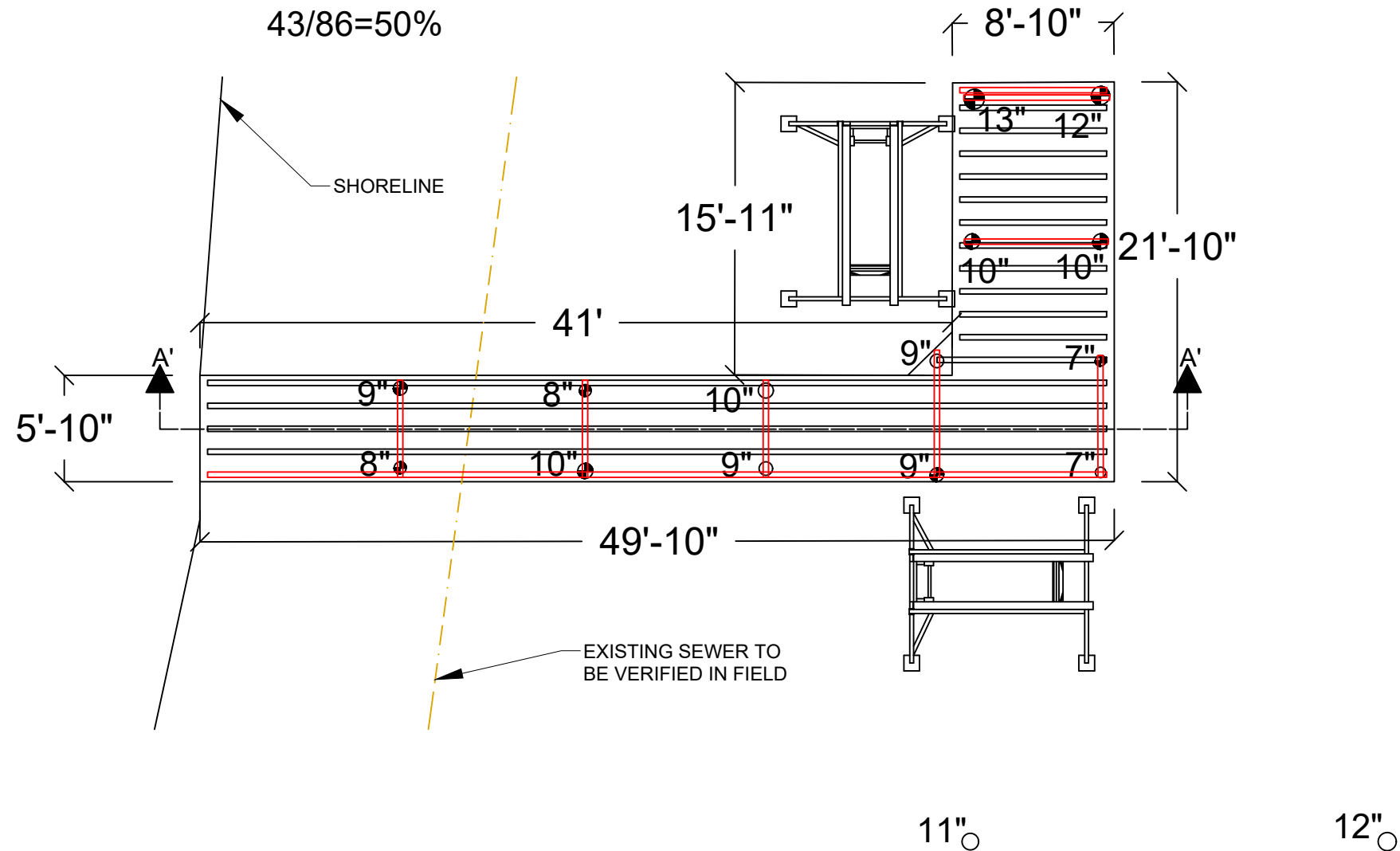
MEMBER REPLACEMENT

EXISTING:

- (14) EXISTING PILES
- (7) EXISTING CAPS
- (37) EXISTING STRINGERS
- (28) EXISTING BRACKETS
- (86) TOTAL MEMBERS

REPAIR:

- (10) PILES
- (7) CAPS
- (6) STRINGERS
- (20) BRACKETS
- (43) MEMBER REPAIRS



PLAN VIEW



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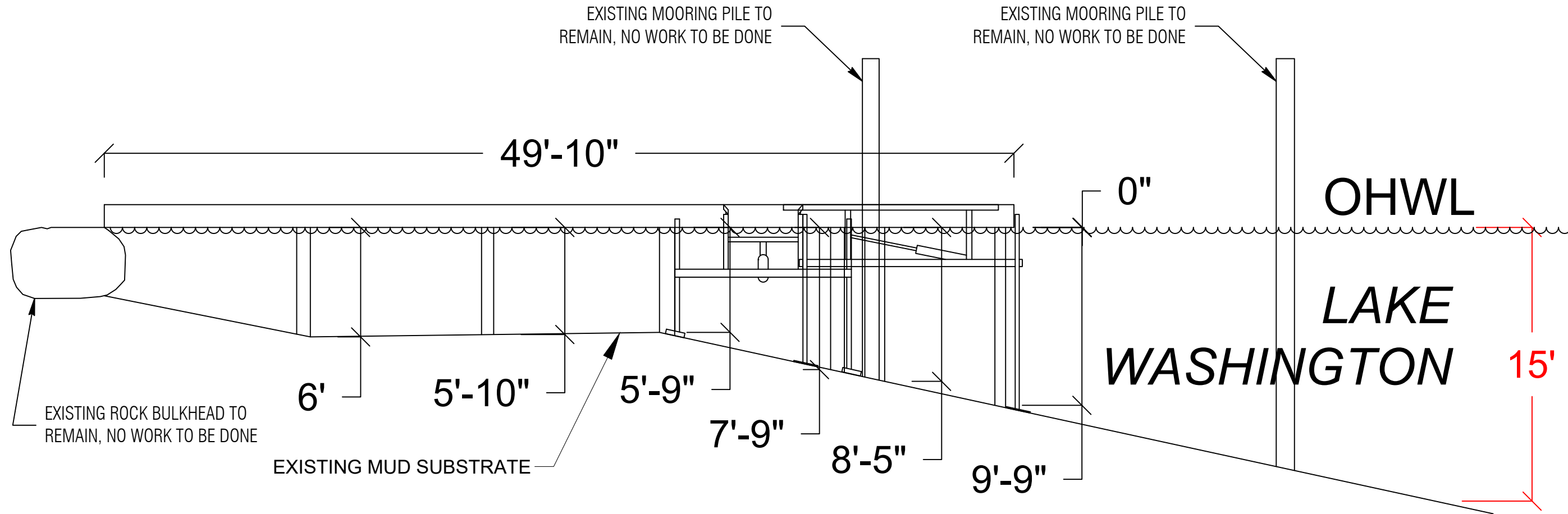
Adjacent Owners:
LI JAKE ZHENLIN & WU YANCI
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TISCORNIA JOHN F & PAULA C
5646 E MERCER WAY 98040

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PIER DETAILS EXISTING/PROPOSED



SECTION VIEW: A'-A'



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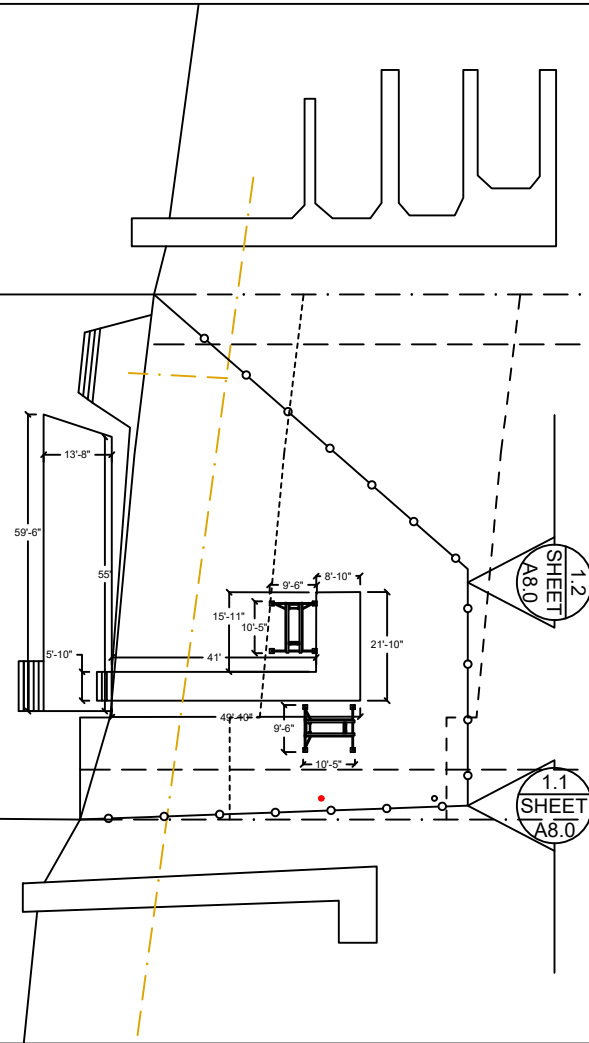
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BMP INFORMATION

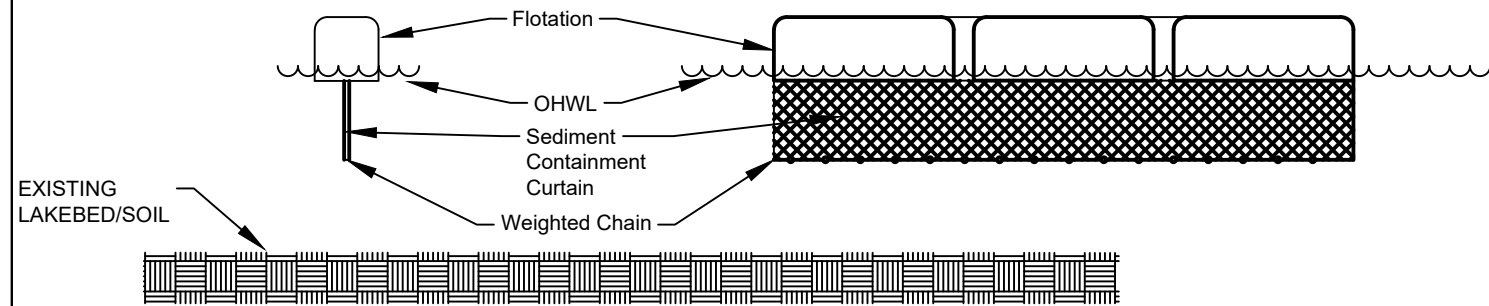


BMP NOTES:

- 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.
- 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.
 - 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.
 - 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.
 - 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.
 - 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.
- Appropriate materials to contain and clean potential spills shall be stored and readily available at the work site and/or aboard project-related vessels.
 - 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.
 - To the greatest extent practicable, utilize biodegradable oils for equipment that would be operated in or near water.
 - 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.
 - 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.
 - All wastes shall be collected and contained for proper disposal at approved upland disposal sites appropriate for the material(s).
 - When removing piles and other similarly treated wood, containment booms 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.
 - 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 booms.
 - When removing piles, no actions shall be taken that would cause adhering sediments to return to lake waters.
 - Above-water containment shall be installed around removed piles to prevent sediment laden waters from returning to lake waters.
 - Construction staging (including stocking of materials, etc.) will occur on the supply barge.
 - All Exposed wood to be used on the project will be treated with a cheminite treatment.

DETAIL 1.1

DETAIL 1.2



DETAIL 1.1 & 1.2



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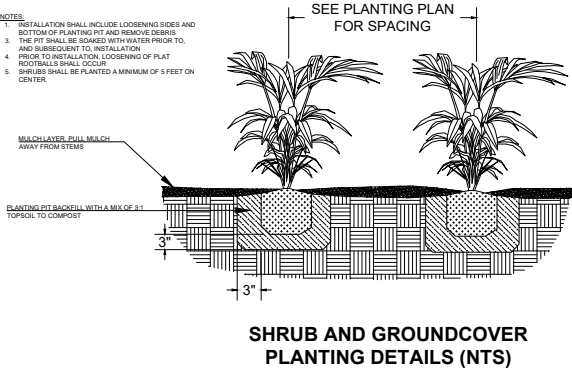
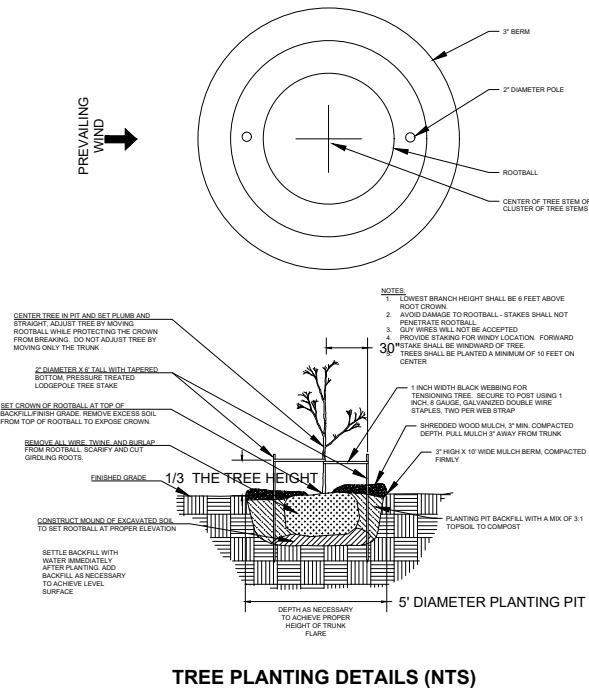
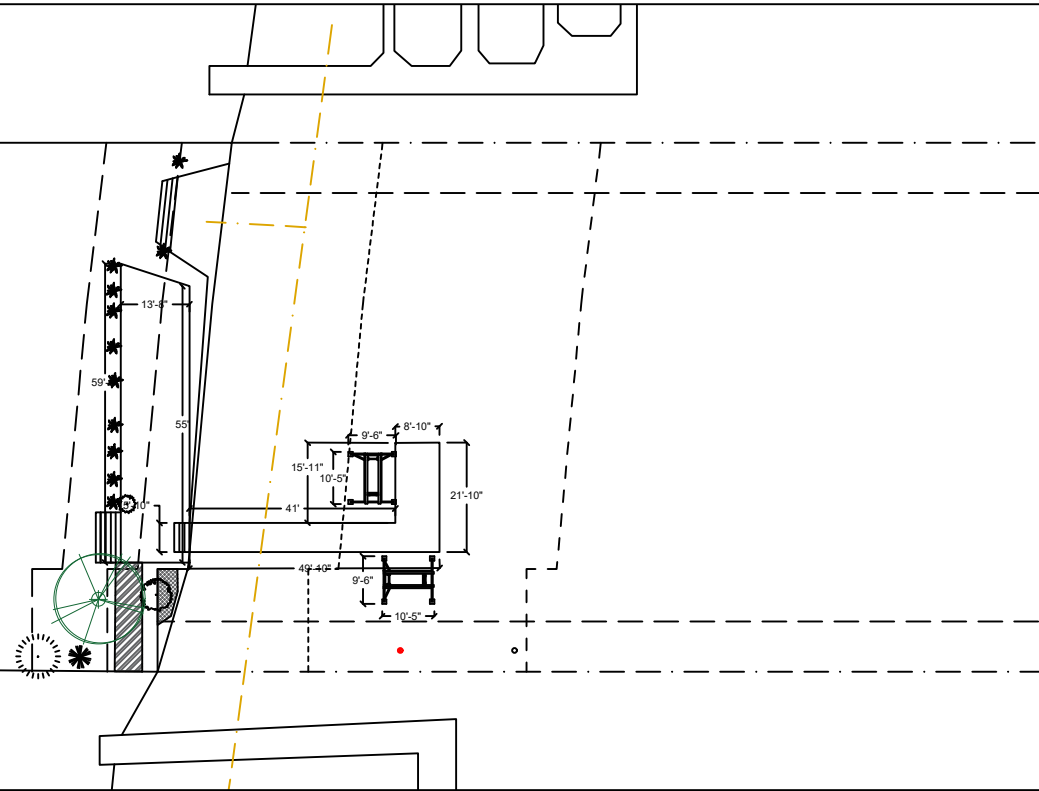
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MITIGATION PLAN



Notes:

1. Shrubs are show, and shall be planted, at least five feet on center. Trees are show, and shall be planted, at least ten feet to center.
2. The property owner will implement and abide by the shoreline planting plan. The plants shall be installed before or concurrent with 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 will maintain and monitor the survival of installed shoreline plantings for five years after the U.S. Army Corps of Engineers accepts the as-built report. Installed plants shall achieve 100% survival during monitoring Years 1 and 2. Installed plants shall achieve at least 80% survival during monitoring Years 3, 4 and 5. Percent survival is based on the total number of plants installed in accordance with the approved riparian planting plan. Individual plants that die will be replaced with native riparian species in order to meet the survival performance standards.
4. The property owner will provide annual monitoring reports for five years (Monitoring Years 1-5). Each annual monitoring report will include written and photographic documentation on plant mortality and replanting efforts and will document whether the performance standards are being met. 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.

PROPOSED PLANTING SPECIES/QUANTITIES

SYMBOL	LATIN NAME	COMMON NAME	QTY	SIZE
	Thuja picatta	Western Redcedar	1	3 ft

PLANTS: Shrubs to be installed 5ft on center and trees to be installed 10ft on center.

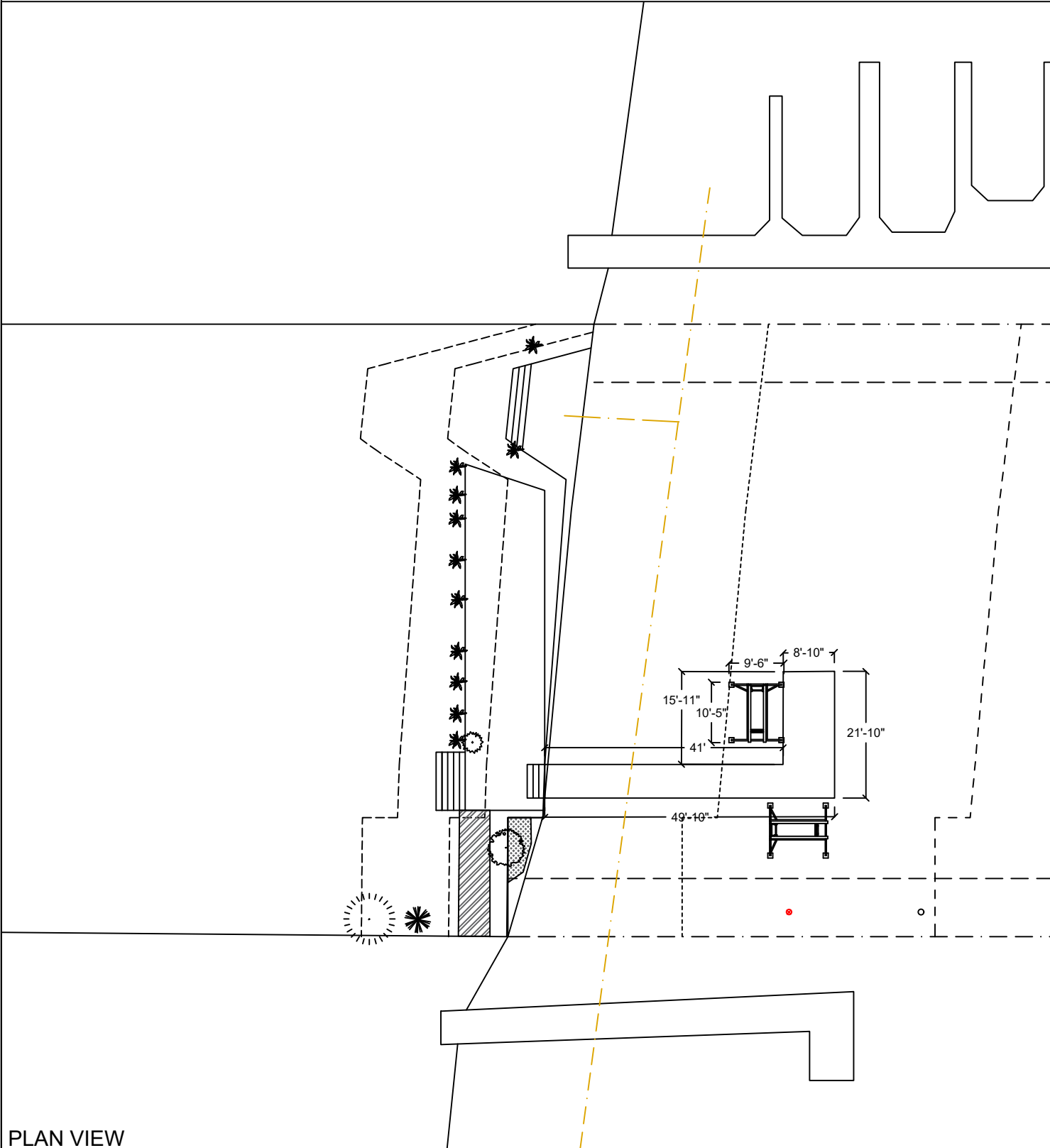


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1080 W Ewing St
Seattle, WA 98119
Office: 206-236-1700 ext. 3
www.seabornpiledriving.com

Scope of Work: We propose to repair (8) piles, repair the existing deck, stairs, and dock with grated decking material, and permitting the relocation of one lift.

County: King County
Location: Lake Washington
Applicant: Rosato Residence
5652 E. Mercer Way
Mercer Island, WA 98040
Datum: CORPS OF ENGINEERS 1919
SE Quarter Of Section 19, Township 24, Range 05
Adjacent Owners:
LI JAKE ZHENLIN & WU YANCI
5656 E MERCER WAY 98040
TISCORNIA JOHN F & PAULA C
5646 E MERCER WAY 98040
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EXISTING PLANT PLAN



EXISTING PLANTING SPECIES/QUANTITIES

SYMBOL	SCIENTIFIC NAME	COMMON NAME	QTY	SIZE
	<i>Pinus contorta v. contorta</i>	Shore Pine	1	~6'
	<i>Myrica californica</i>	Pacific wax myrtle	1	~5'x22'
	<i>Cotoneaster horizontalis</i>	Rockspray Cotoneaster	1	~10ft
	<i>Carex bromoides</i>	Brome-Like Sedge	11	~4'
	<i>Polystichum munitum</i>	Western Sword Fern	1	~4'
	<i>Liriodendron tulipifera</i>	Tulip Poplar	1	~5'
	<i>Berberis thunbergii</i>	Japanese barberry	1	~4'

EXISTING PLANTS TABLE

PLAN VIEW

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GENERAL NOTES:

MATERIALS SPEC LIST:

Boat Lifts:

- * SL10014ARW - 114" x 125"
- * SL10014ARW - 114" x 125"

Decking Material: FRPP - Fiberglass reinforced polypropylene

Light permeable percentage:

- * Surface - 43%
- * 18" Dock Height - 61%

Sewer:

- * All sewer is field verified by probing the lake bed manually during the allowed work windows for the area.

Piles:

- * Repair piles are done as a sleeve/strap method

Mitigation:

- * Originally submitted mitigation will change following CORPS submittal. We will update the plan set to reflect all changes before submitting for an amendment

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 is no larger than authorized

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);

Not applicable

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

Water depth is not changing

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

NNL report attached

iw. 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.

Plan set is in review by CORPS and WDFW

Datum: CORPS OF ENGINEERS 1919

Last permit issued for property: Building WW523R 7/16/18
Dock established/constructed: 10/28/1983

County: King County
Location: Lake Washington

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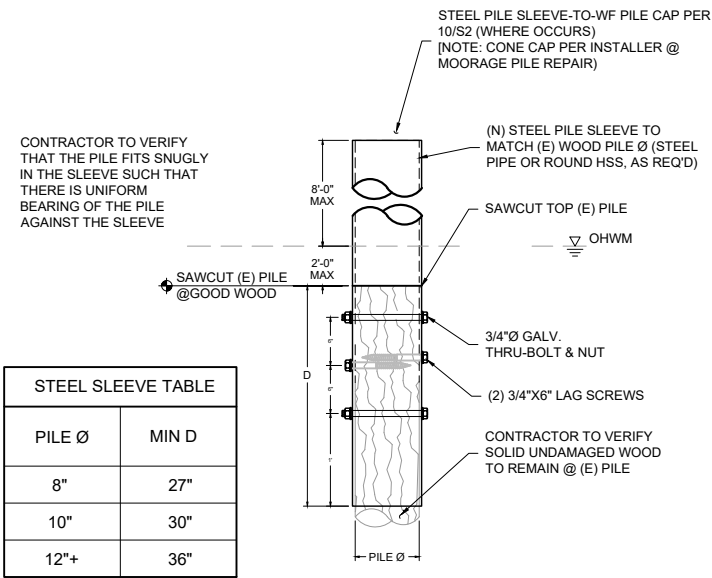
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DETAILS - REPAIR



PILE Ø	MIN D
8"	27"
10"	30"
12"+	36"

S1 SLEEVE PILE REPAIR - TYP
SCALE: 1/2" = 1'

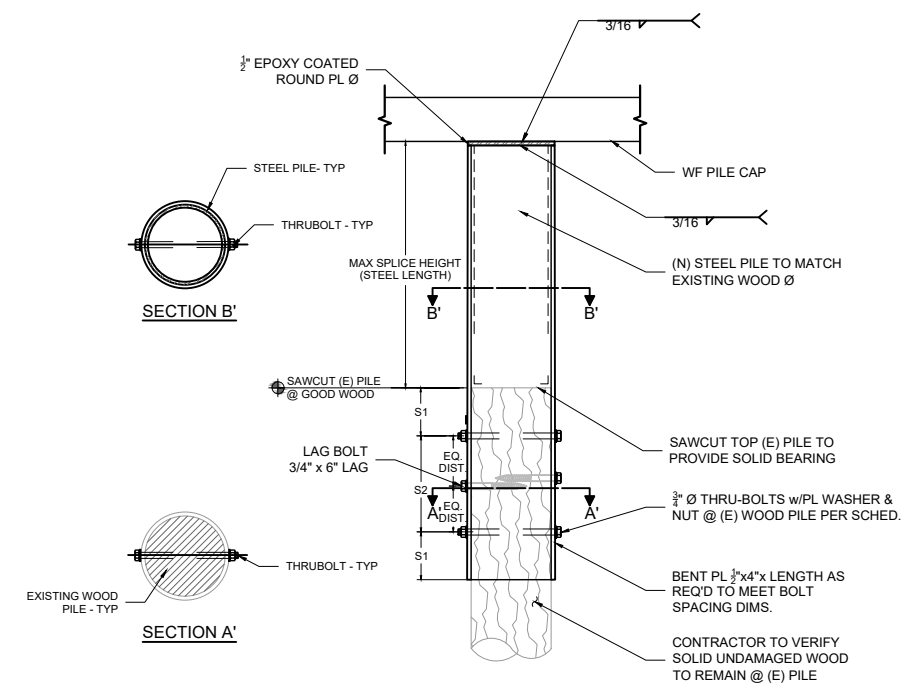
S2 DETAIL NOT IN USE

S3 DETAIL NOT IN USE

PILE Ø	MAX SPLICE HEIGHT	S1	S2	S3
9"	15"	6"	12"	3"
12"+	28"	6"	12"	3"

- NOTES:
- 1) MAX PILE LOAD = 1,200 # / PILE (BOAT LOAD PARALLEL TO DOCK). CONTACT ENGINEERING IF BOAT SIZE EXCEEDS GENERAL NOTES MAXIMUM ALLOWABLE.
 - 2) MINIMUM BOLT SPACING = 3"
 - 3) STRAP AXIS SHALL BE ORIENTED PERPENDICULAR TO LONGITUDINAL AXIS OF DOCK.

S5 SPLICE PILE REPAIR - TYP
SCALE: 1/2" = 1'



S4 DETAIL NOT IN USE



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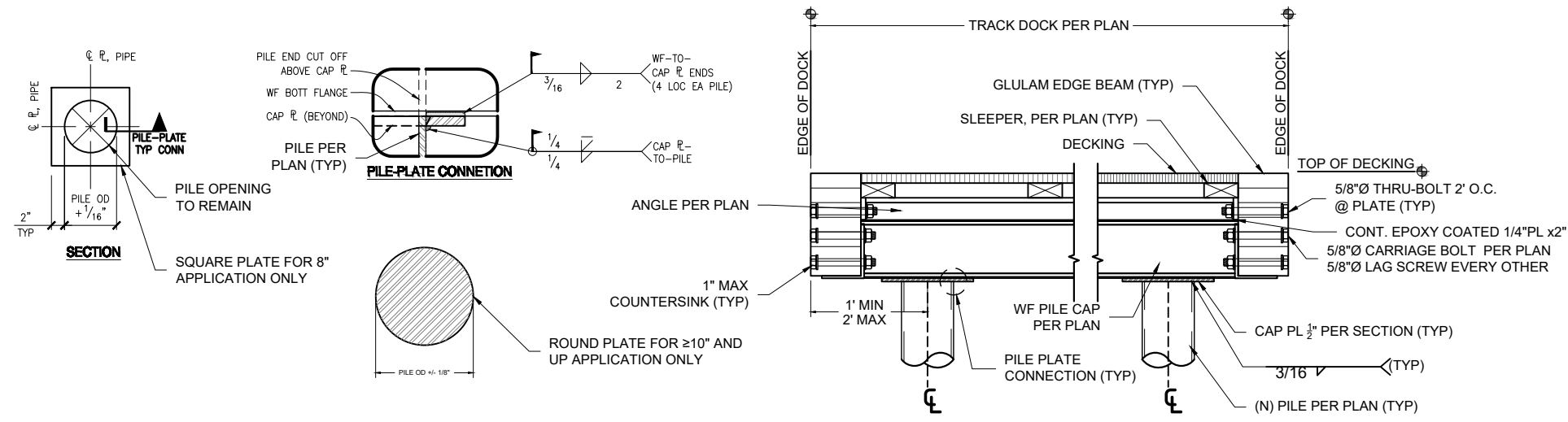
Adjacent Owners:
LI JAKE ZHENLIN & WU YANCI
5656 E MERCER WAY 98040

Created:

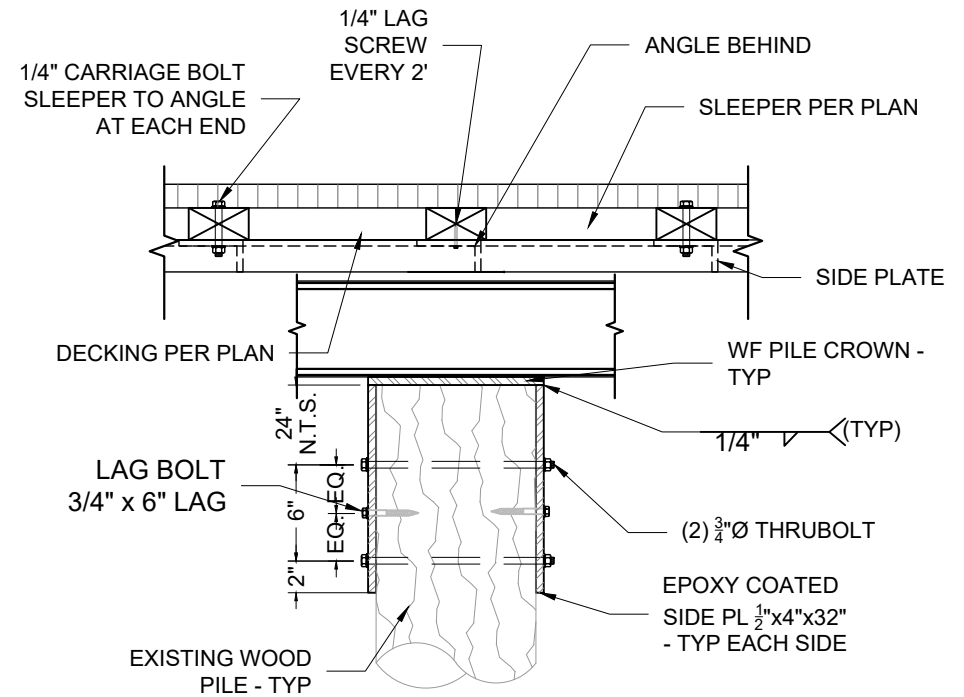
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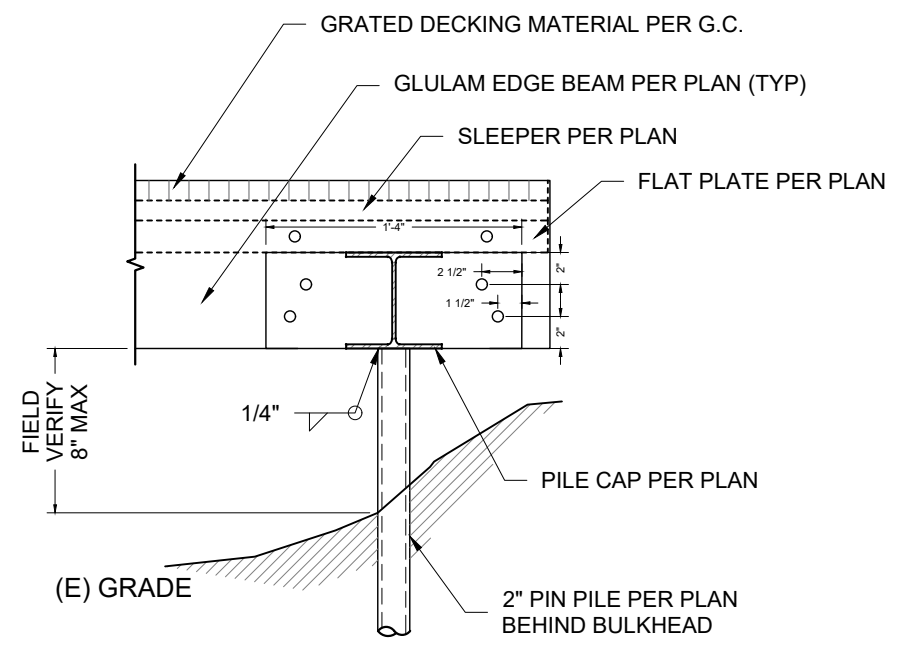
DETAILS - TRACK



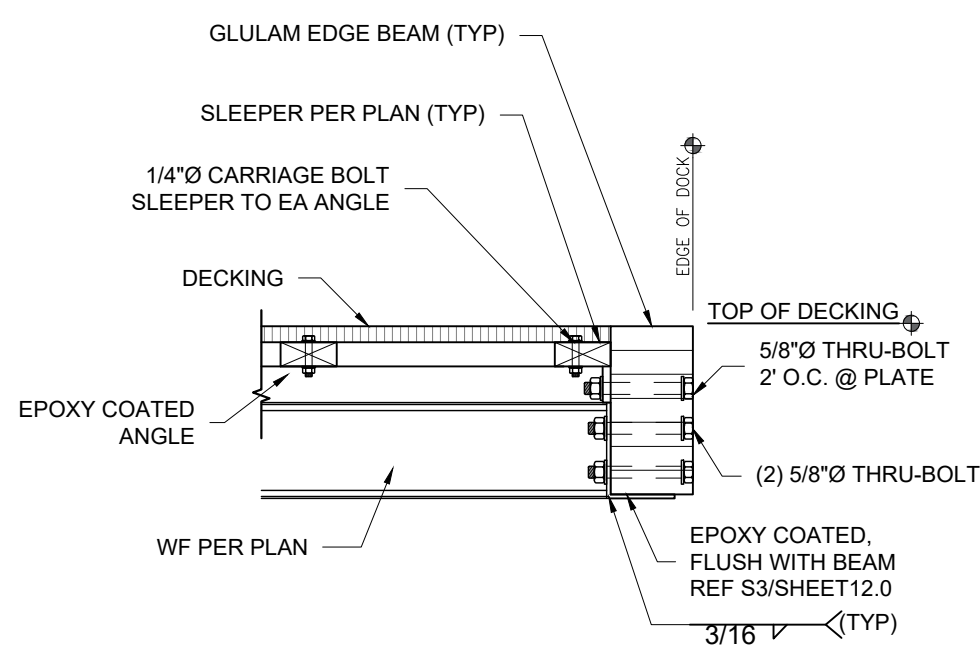
S1 DOCK SECTION w/PILES - TYP
SCALE: 1" = 1'



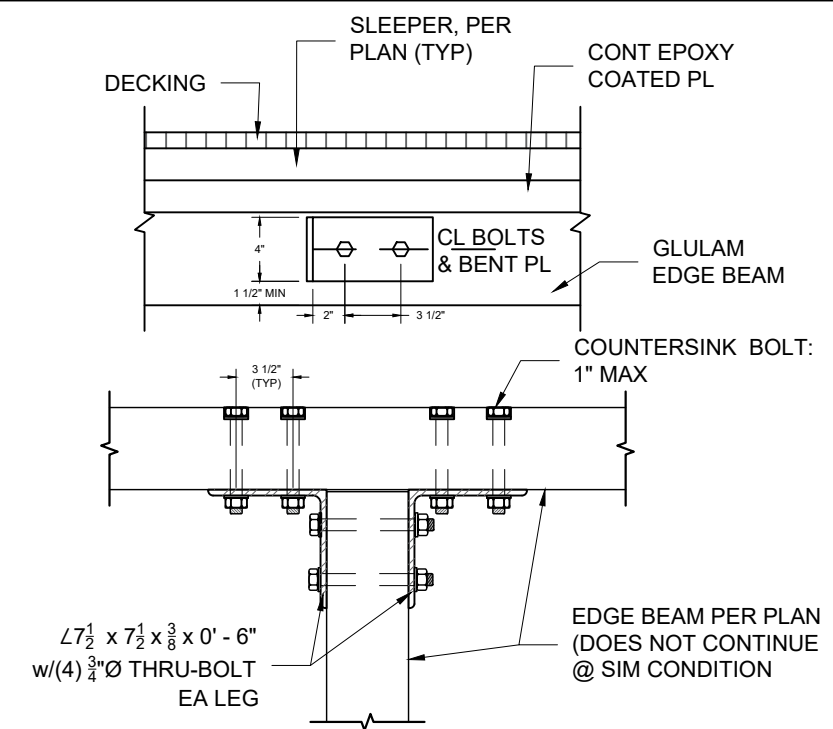
S3 I-BEAM CAP TO WOOD PILE - TYP
SCALE: 1" = 1'



S4 PIN PILE @SHORE MOUNT - TYP
SCALE: 1" = 1'



S5 EDGE SECTION (STEEL TRACK) - TYP
SCALE: 1" = 1'



S6 BEAM TO BEAM - TYP
SCALE: 1" = 1'



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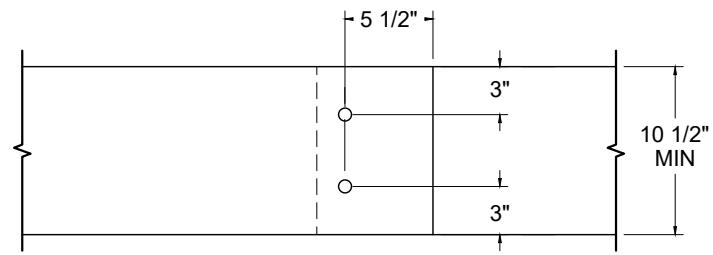
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DETAILS - TRACK

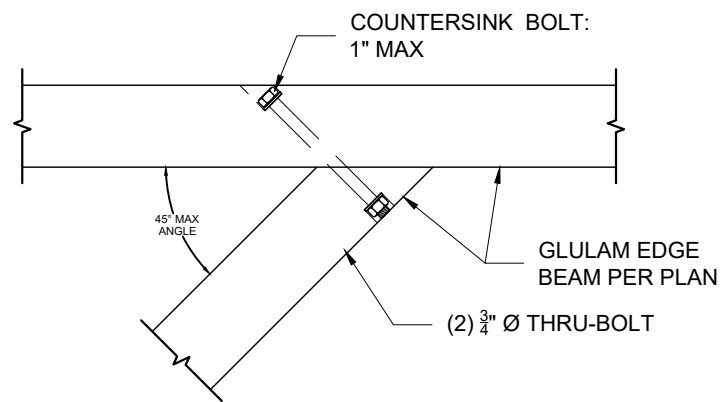
S1 DETAIL NOT IN USE

S2 ANGLE TO PLATE - TYP
SCALE: 1" = 1'

S3 BEAM SADDLE BRACKET
SCALE: 3/4" = 1'



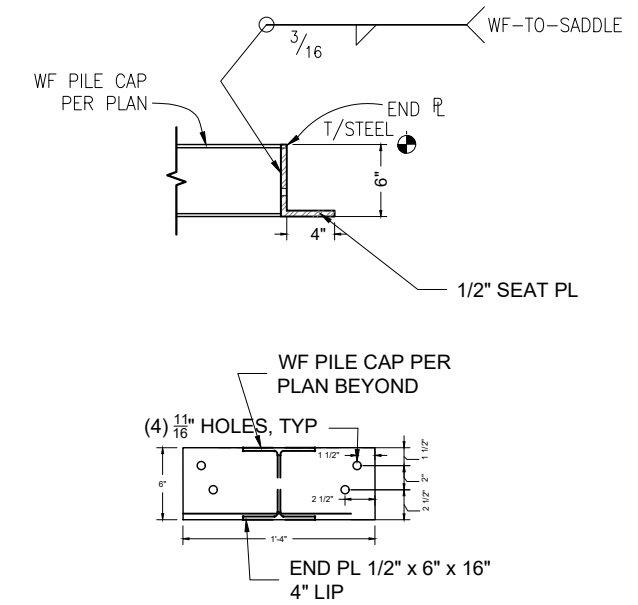
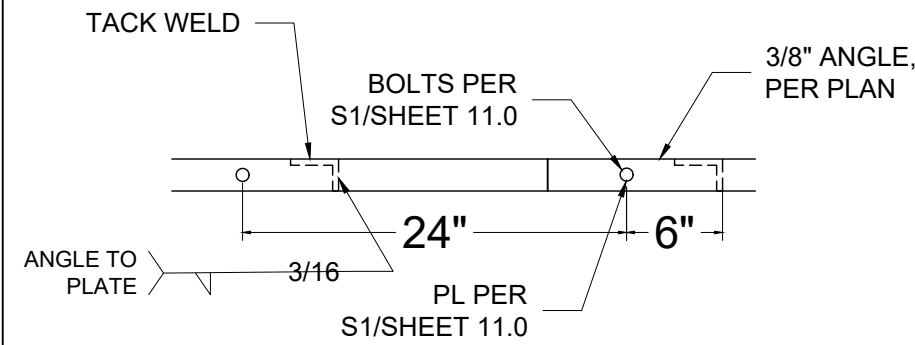
ELEVATION - BOLT SPACING



S4 FILLET CONNECTION - TYP
SCALE: 1" = 1'

S5 DETAIL NOT IN USE

S6 DETAIL NOT IN USE



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Appendix B: Site Photographs



Photo 1 - Existing dock looking waterward.



Photo 2 - Existing dock looking landward.



Photo 3 - Shoreline conditions north of the dock.



Photo 4 - Shoreline conditions south of the dock.



Photo 5 - Shoreline conditions adjacent to the property to the north.



Photo 6 - Shoreline conditions adjacent to the property to the south.