PROJECT NARRATIVE AND CODE CONSISTENCY ANALYSIS
FOR
HICKS LAKE APARTMENTS

Prepared by
Barghausen Consulting Engineers, Inc.
May 12, 2021

Assessor Map: Section 28, Township 18 N, Range 1 West

Site Address: 2712 Hazelwood Lane

Tax Lot Number: 11828111100

Procedure(s): Site Plan Review, Shoreline Conditional Use, Wetland Review, Forest Practices

Zoning District: High Density Residential

Comprehensive Plan: High Density Residential

Shoreline Master Plan Designation: Conservancy

Site Size: 4.98 acres (216,975 sf)

PROJECT PROPOSAL

The proposal is to develop 4.98 acres to construct a 178-unit apartment complex including three residential buildings, two recreational structures, 293 parking stalls (surface and underground), an in-ground pool and spa, open spaces with landscaping and picnic areas, and a pier with floating dock at the shoreline of Hicks Lake.

SITE DESCRIPTION

The site is located at the northeast corner of Hicks Lake Road SE and Hazelwood Lane SE, adjacent and south of the WDFW Hicks Lake public boat ramp. The site is comprised of approximately 4.9-acres zoned High Density Residential (HDR) with a shoreline designation of Urban Conservancy. The eastern area of the site is developed with four mobile/modular homes, driveways, and accessory structures. The property slopes gently downward from west to east with an overall relief of approximately 30 feet.

Surrounding properties are also zoned HDR. Surrounding uses include the public boat ramp to the north, apartments to the west, single family homes to the east/southeast, and single family homes to the south. Recreational sites nearby include Wanschers Park to the north and the private Gwinwood Christian Camp to the south.

CODE CONSISTENCY ANALYSIS

Below are applicant analyses to demonstrate compliance with city codes. Codes are provided in italics followed by applicant responses to articulate how the project meets the requirements.

LMC 16.18 High Density Residential

Response: The proposed multifamily use is allowed in the zone and subject to LMC 14.23 Design Review.

	Allowed/Required	Proposed
Max building coverage	50 percent	±70,460 SF = 32.5 percent
Max development coverage	85 percent	±127,409 = 58.7 percent
Max building height	80 feet	±61 feet
Accessory building setbacks	Front: 10 feet Sides: 5 feet Rear: 3 feet	The plan complies
Perimeter Landscape Buffer	Varies	8 feet at frontage and north perimeter, 15 feet at single family
Parking	1.5 stalls per unit	1.6 stalls per unit

The project complies with MF zoning standards for density, setbacks, building height, lot coverage, impervious coverage, open space, and parking. Tree retention standards are met with preservation and replacement of trees in designated Tree Preservation Areas.

LMC 14.23.080 Design Criteria for Multi-Family, Condos, and Townhouses

- *Intent*: The units will be complimentary to the neighborhood and will promote infill.

- *Building Location and Orientation*: The west two buildings area oriented to Hicks Road SE. Units facing Hicks Road SE have balconettes and windows for "eyes on the street". Pedestrian entrances to the buildings are clearly visible from the internal access. The proposal has varied building shapes and sizes with modulation.

- *Surface Parking and Garages*: Surface parking is all internal to the project (rear of buildings) or underground. Parking garage entries are from the project's internal access road and not visible from the public street.

- *Vehicular Access and Connectivity*: Proposed sidewalks from the public street and throughout the project will minimize vehicle and pedestrian conflicts.

- *Pedestrian Access and Amenities*: The site is pedestrian focused with sidewalk linkages from the public road and all of the apartment buildings to all of the open spaces and amenities on the site. All internal access lanes have 5-foot wide concrete sidewalks on at least one side. Bike racks are to be determined.

- *Common Open Space*: The project provides approximately 44 percent of the site in common open space with a myriad of amenities for residents. Amenities are expected to include lawn areas for play and socializing, landscaping, a tot-lot play area, a swimming pool/spa area, a bar-be-que area, two recreation buildings, a tennis court, and a private pier and floating dock. The north and south apartment buildings are designed with courtyards near the building entries.

- *Private Open Space*: Private balconies are provided in all of the buildings.

LMC 16.19 Shoreline Zoning: All proposed improvements within the shoreline jurisdiction are recreational uses that are consistent with the sensitive areas ordinance and the Shoreline Master Program. Please refer to the "Shoreline, Wetland Delineation, and Fish and Wildlife Habitat Assessment Report with Conceptual Restoration Plan" prepared by Soundview Consultants dated August 2020.

LMC 16.54 Environmentally Sensitive Areas: All proposed improvements near wetlands are recreational uses that are consistent with the sensitive areas ordinance and the Shoreline Master Program. Please refer to the "Shoreline, Wetland Delineation, and Fish and Wildlife Habitat

Assessment Report with Conceptual Restoration Plan" prepared by Soundview Consultants dated August 2020.

LMC 16.72 Parking: Parking is provided as 293 underground and surface stalls with a parking rate of 1.6 stalls per unit. Bike parking is still to be determined but the requirements of 1 bike space per 10 vehicle stalls, minimum two stalls per building, will be met.

LMC 16.80 Landscaping: Landscaping is provided at the perimeter of the site as well as throughout the site. All landscaping will be irrigated – designed with final engineering. Tree preservation is met by the establishment of Tree Protection Areas where trees can be retained or planted. Tree replacement and retention is shown on the Preliminary Landscape Plans included with this application.

Shoreline Master Program – Title 17

The project proposes a myriad of facilities in the shoreline jurisdiction. Table 3 activities require a Shoreline Substantial Development Permit and per Table 5 the proposed pier/dock triggers a Shoreline Conditional Use Permit because it only serves one parcel.

Table 3 Uses and Activities: The following uses are proposed in the shoreline jurisdiction for recreation and water enjoyment and trigger a Shoreline Substantial Development Permit:

- Recreation facilities, including:
    - Pier/dock (water dependent)
    - Tot lot (non water oriented > 100 feet from shoreline)
    - Sport court (non water oriented > 100 feet from shoreline)
    - Two recreation buildings (non water oriented > 100 feet from shoreline)
    - Spa and pool (non water oriented > 100 feet from shoreline)
    - Four covered shelters and bar-be-ques (water enjoyment)
    - Bar-be-que areas, gas fire pit (water enjoyment)
    - Pedestrian walkway to pier/dock
- Shoreline area restoration – see the "Shoreline, Wetland Delineation, and Fish and Wildlife Habitat Assessment Report with Conceptual Restoration Plan" prepared by Soundview Consultants dated August 2020).
- Tree preservation areas #1 and #2
- Landscaping
- Pervious paver sidewalks and patio (water enjoyment)
- Parking: 11 stalls setback > 75 feet
- Asphalt roadway setback > 75 feet
- Utilities accessory to the permitted use: water, sewer, stormwater, electrical, natural gas, phone, cable
- Stormwater facilities (infiltration gallery, outfall, pipes)

Table 4 Development Standards: The project complies with all of the required setbacks for improvements within the shoreline jurisdiction.

- Water related-enjoyment picnic shelters: setback 50 feet

- Pervious trail/walkway to dock and beach areas: setback 0 feet

Table 5 Shoreline Modification: The project proposes a pier and dock that will serve one property, which triggers a Shoreline Conditional Use Permit.

Conditional Use for Pier & Dock – 17.30.015 & 17.61.010

1. *Uses which are classified or set forth in the City of Lacey's Shoreline Master Program as conditional uses may be authorized provided that the applicant demonstrates all of the following:*

    A. *That the proposed use is consistent with the policies of RCW 90.58.020 and the master program;*

    Excerpt from RCW 90.58.020…"The legislature declares that the interest of all of the people shall be paramount in the management of shorelines of statewide significance. The department, in adopting guidelines for shorelines of statewide significance, and local government, in developing master programs for shorelines of statewide significance, shall give preference to uses in the following order of preference which:

    1) Recognize and protect the statewide interest over local interest;

    2) Preserve the natural character of the shoreline;

    3) Result in long term over short term benefit;

    4) Protect the resources and ecology of the shoreline;

    5) Increase public access to publicly owned areas of the shorelines;

    6) Increase recreational opportunities for the public in the shoreline;

    7) Provide for any other element as defined in RCW 90.58.100 deemed appropriate or necessary."

    Response: The proposed uses within the shoreline are consistent with the intent of shoreline regulations to preserve and restore natural character and provide access and recreational opportunities to the residents of the project. The project will improve the existing shoreline environment – see the "Shoreline, Wetland Delineation, and Fish and Wildlife Habitat Assessment Report with Conceptual Restoration Plan" prepared by Soundview Consultants dated August 2020, excerpt below.

    "The majority of the new structures, including all of the multi-family residential structures, will be built outside of shoreline jurisdiction and outside of wetland buffer. Careful site planning was used to avoid and reduce impacts to these onsite critical areas and their buffers, but due to site constraints, portions of the patio and the lakeside picnic areas shelters are located within the Wetland A buffer. In addition, the water-dependent pier must span Wetland A to provide access to Hicks Lake. To offset these minor impacts, the existing mobile homes and impervious areas will be removed from the Wetland A buffer and 3,000 square feet of wetland buffer enhancement will occur along the shoreline of Hicks Lake. The buffer enhancement will include removing non-native, invasive plant species and planting native species.

    The Applicant also proposes shoreline restoration to improve shoreline ecological functions. Existing pollutant-generating shoreline stabilization treatments, a dilapidated solid-surface float, and plastic debris will be removed from the shoreline. Non-native

invasive plants will be removed from the riparian areas and the shoreline will be further be restored through the installation of clean beach gravels, anchored large woody debris and rocks along the length of the subject property's shoreline to maintain the shoreline and limit erosion due to anthropogenic uses and activities in the area. The restoration and enhancement actions will result in a net increase in wetland and shoreline functions and values and provide safe shoreline access for residential recreational use."

B. *That the proposed use will not interfere with the normal public use of public shorelines;*

Response: The proposal will have no effect on public shoreline uses. Public shoreline access is available from the WDFW boat ramp property adjacent to the site (north) and from Wanschers Park.

C. *That the proposed use of the site and design of the project is compatible with other authorized uses within the area and with uses planned for the area under the Comprehensive Land Use Plan and Shoreline Master Program;*

Response: The proposed uses within the shoreline include the following community amenities: lawn areas, covered shelters, picnic tables, pier and dock, shoreline enhancement and restoration, parking for shoreline access, recreation spaces (pool, spa, sport court, two recreation buildings), patios with landscaping and fire pit.

The following **2016 Comprehensive Land Use Plan Policies** support the planned uses on the site and within the shoreline areas:

County-wide Planning Policies: The County-wide Planning Policies (CWPP's) are policy statements used to provide a county frame-work for the development of local comprehensive plans to ensure the coordination and consistency between City and County Comprehensive Plans and provide a framework for joint planning between local jurisdictions.

The CWPP's were updated in 2015 to reflect policies that are contained in the regional sustainability plan titled, *Creating Places - Preserving Spaces*: A Sustainable Development Plan for the Thurston Region.

Land Use Element III – Community Vision – Framework Land Use Policies

Policy A: It is the City's overall goal to enrich the quality of life in Lacey for all our citizens by building an attractive, inviting, and secure community. The City will work in partnership with the community to foster community pride, to develop a vibrant and diversified economy, to plan for the future, and to preserve and enhance the natural beauty of our environment. All policies and proposed development code and zoning changes should be reviewed with this goal in mind.

Policy B: Lacey's land use pattern should accommodate carefully planned levels of development that promote efficient use of land, reduce sprawl, encourage alternative modes of transportation, safeguard the environment, promote healthy neighborhoods, protect existing neighborhood character, and maintain Lacey's sense of community.

Policy E: Diverse, affordable, attractive, and stable residential neighborhoods should be encouraged while providing for a variety of housing opportunities.

Policy F: Protect and enhance the quality of the natural environment by protecting and restoring important environmental areas such as shorelines, wetlands, drinking water supplies, urban forests, and the Woodland Creek basin by ensuring development projects

meet or exceed established environmental protections, encouraging existing septic systems to connect to City sewer when services are available, and focusing on redevelopment of existing buildings and targeted infill sites.

Policy K: Encourage active participation by all Lacey residents in planning for the future of the community.

Land Use Element III – Community Vision – Plan Coordination

Goal 1: Ensure consistency and coordination between all elements of the Comprehensive Plan, as well as other plans and regulatory land use codes.

> Policy A: Establish land use policies that are consistent with, and help implement, requirements of the Growth Management Act.
>
> Policy B: Establish land use policies that are consistent with and implement county-wide planning policies.
>
> Policy E: Provide land use policies that are consistent with, and implement all elements of, the Comprehensive Plan, as well as plans and land use regulations referenced by those plans, including the Housing Element; Capital Facilities Plan; Utilities Element; Transportation Element; Environmental Element; Water Comprehensive Plan; Wastewater Comprehensive Plan, Economic Development Element; Comprehensive Plan for Outdoor Recreation; and the Public Participation Plan.

Land Use Element III – Community Vision – Residential Goals and Policies

Residential

Goal 1: Ensure sustainable and wise use of land resources to provide an adequate amount and mix of housing types for the anticipated increase in population.

> Policy A: Assign land use designations that will provide for adequate opportunity for increased densities and a diversity of housing types.

Goal 2: Ensure that development regulations meet the current vision outlined in the Comprehensive Plan.

> Policy A: Review development code provisions to provide increased density opportunities and better define the stated intent of development standards to meet the goals of the Plan.
>
> Policy B: Achieve a level of design with innovative, creative, and efficient concepts for integration of different land use types that will facilitate development of great places that provide increased opportunities to live, work, and play.

Infill

Goal 1: Adopt zoning strategies that will promote the intensification, densification, and evolution of Lacey's land use distribution and form into a sustainable pattern of high quality urban development.

> Policy A: Identify areas to focus infill density and mixed-use concepts based upon potential capacity, built condition, and infrastructure.

Policy B: Development approval criteria should require availability of urban utilities, such as water and sewer.

Policy C: Where compatibility issues can be adequately addressed, allow for a range of densities

Land Use Element IV – Planning Areas – Horizons

- Goal 1: Continue to encourage the development of a range of residential types, providing opportunity for high density residential development along arterials with transitions to existing low density residential development.
    - Policy C: Encourage a full range of higher density residential uses, including single-family zero lot line developments, townhouse units, mixed residential use, planned residential developments and multifamily apartments.

Environmental Element

Critical areas

Policy A: Recognize that Lacey's quality of life is one of its competitive advantages and promote economic growth that maintains and enhances this quality of life.

Wetlands

Goal 1: Work to achieve no net loss of wetland resources and increase the quality and quantity of these resources.

Housing Element

Goal 1: Have a sufficient number of single-family dwelling units, multifamily units, and group and special need housing to provide a selection of rental and home ownership affordable housing opportunities for all persons.

Policy A: Provide opportunities for development of all housing types to accommodate future needs for each type of housing.

Policy C: Encourage a wide variety of housing from low to high income in range to allow placement and mobility within the housing market.

Goal 4: Achieve housing that is compatible and harmonious with existing neighborhood character while allowing infill and providing for environmental sensitivity.

Policy A: When designating areas for infill and zoning classifications, consider and place emphasis on the composition of the neighborhood, housing need, available infrastructure, principals of walkability and healthy communities.

Policy B: When implementing infill projects in designated areas, require design of infill projects that:

Meet the housing needs of the planning area considering variety and choice.

Integrate successfully into the existing residential environment considering form based concepts and healthy community objectives.

Provide a form, look and feel and social functionality that will add to the character, desirability and value of the surrounding neighborhood.

Policy C: Continue to utilize design review guidelines for all residential developments.

The following **Shoreline Master Program Policies** support the planned uses within the shoreline areas of the proposed apartment complex:

17.44.000

Goal: Achieve appropriate use, protection and restoration of shoreline resources, by identification of their values and functions and application of criteria and standards to shoreline uses, activities and modifications.

Policy: Apply standards for proper maintenance and restoration of degraded shorelines. Where there are no regulatory opportunities, use incentives to encourage developers, property owners, community groups and others to enhance degraded shorelines and return them to an ecologically functioning condition.

Policy: Evaluate all shoreline uses and activities for their effect on the aquatic environment to ensure every proposal that is approved achieves no net loss of ecological functions and values and does not adversely impact public health.

Policy: Assess project-specific impacts, cumulative impacts, and a project's potential to result in a net loss of ecological functions. Require compliance with the mitigation sequence and compensatory mitigation as necessary to mitigate unavoidable impacts. If impacts cannot be mitigated, the application for use, activity or modification may be denied.

Policy: Require shoreline permits to be consistent with the Shoreline Management Act (RCW 90.58), the Washington Administrative Code (WAC 173-26), and this Master Program.

Policy: Eliminate inappropriate shoreline uses and poor quality shoreline conditions when authorizing a new shoreline development or activity on the same property and under the same ownership.

17.45.000 Shoreline Modifications

Goal: Achieve protection of shoreline functions and values by implementation of Shoreline Master Program policies that foster design with nature. Use naturalized concepts and strategies that promote natural functions and processes over concepts that require structural modification.

Policy: Design and locate new development to prevent the need for shoreline stabilization measures and flood protection works.

Policy: Retain natural features serving a stabilization function such as snags, stumps or uprooted trees that support fish and wildlife and other aquatic systems and that are not a significant navigation hazard.

Policy: Beach restoration/enhancement using naturally regenerating systems for the prevention and control of beach erosion are preferred rather than bulkheads and other structures…

17.61 Piers and Docks

Policy: Ensure that permits for pier and dock projects address the goals, policies and development standards within the Shoreline Ecological Function Chapter 17.40.000.

Policy: Design and locate piers and docks to minimize obstructions to scenic views and conflicts with recreational boaters and fishermen.

Policy: Locate piers and docks so as to: A. Cause minimum interference with navigable waters and the public's use of the shoreline; and B. Avoid locations where they will adversely impact shoreline ecological functions or processes, including currents and littoral drift, water circulation and quality, and fish and wildlife habitat.

Policy: Construct piers and docks of materials that will not adversely affect water quality or aquatic plants and animals over the long-term.

Policy: Minimize the length and size of any dock, pier or float.

Policy: Use materials that will allow light to pass through the deck for walkways or gangplanks in nearshore areas.

D. That the proposed use will cause no significant adverse effects to the shoreline environment in which it is to be located; and

Response: As noted in the *Shoreline, Wetland Delineation, and Fish and Wildlife Habitat Assessment Report with Conceptual Restoration Plan* prepared by Soundview Consultants dated August 2020: "The subject property contains multiple dwelling units near the shoreline and the shoreline and wetland areas are currently degraded. The existing 100-foot vegetation management area for Hicks Lake and the embedded 80-foot buffer of Wetland A are currently degraded due to location of a mobile home, parking area, and dominance of non-native species and lawn vegetation. The existing shoreline condition is further degraded by the presence of creosote-treated timbers, metal spikes, a dilapidated solid surface wooden float, automotive tires, and other debris. Minor temporary disturbance of the vegetation management area is proposed through removal of existing features; however, the overall project is anticipated to enhance the wetland and Hicks Lake buffer functions over the long term."

The proposed pier will be elevated above the wetland and require minor impacts to the wetland buffer. The ramp and floating dock will have light permeable surfacing.

E. That the public interest suffers no substantial detrimental effect.

Response: The shoreline area within the site is currently degraded. The project will have a net reduction of impervious area in the shoreline environment and will enhance the shoreline and associated wetlands. The public interest will suffer no detrimental effect because overall the project is anticipated to enhance the wetland and Hicks Lake buffer functions over the long term.

2. *In the granting of all conditional use permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area, for example, if conditional use permits were granted for other developments in the area where similar circumstances exist. The total of the conditional uses shall also remain consistent with the policies of RCW 90.58.020 and shall not produce substantial adverse effects to the shoreline environment.*

   Response: The proposal is an apartment community that will share the shoreline area and one recreational dock amongst 178 dwelling units. If the property were developed in a different manner more than one dock could be proposed.

3. *Other uses which are not classified or set forth in Lacey's Master Program may be authorized as conditional uses provided the applicant can demonstrate consistency with the requirements of this section, and the requirements for conditional uses contained in the Shoreline Master Program, and the intent of provisions of the Comprehensive Land Use Plan.*

   Response: This does not apply.

4. *Uses which are specifically prohibited by the Shoreline Master Program may not be authorized.*

   Response: No prohibited uses are proposed.

Piers and Docks – 17.61.020

1. *New piers and docks shall be allowed only for water-dependent uses or public access. As used here, a dock associated with a single-family residence is a water-dependent use provided that it is designed and intended as a facility for access to watercraft and otherwise complies with the provisions of this section.*

   Response: The proposed pier and dock will be shared by all residents of the 178-unit apartment complex for water dependent uses, including but not limited to swimming, boating, and water-based recreational uses.

2. *Pier and dock construction shall be restricted to the minimum size necessary to meet the needs of the proposed water-dependent use.*

   Response: The pier is designed to extend over the wetland to minimize impacts and limit impacts to the buffer only. As noted in the *Shoreline, Wetland Delineation, and Fish and Wildlife Habitat Assessment Report with Conceptual Restoration Plan* prepared by Soundview Consultants dated August 2020: "the pier's design includes locating the ell outside of the wetland so that launching and temporary mooring of small watercraft will be directed outside of the wetland. The pier will be also be constructed following the Green Shoreline Guidelines from the City of Lacey SMP (LMC 17.61.020.6) to minimize impacts to the Wetland A aquatic bed."

3. *New pier or dock construction, excluding docks accessory to single-family residences, shall be permitted only when the applicant has demonstrated that a specific need exists to support the intended water-dependent uses.*

   Response: This does not apply. The proposal is to construct shoreline amenities and a pier and dock for the enjoyment of future occupants of the proposed 178 apartment units.

4. *If the City has performed a needs analysis associated with its Comprehensive Plan for Outdoor Recreation, or Public Access Plan, and it determines a pier or dock is necessary and consistent with this Program, it shall serve as the necessary justification for pier or dock design, size, and construction. The intent of this provision is to allow the City the flexibility necessary to provide for existing and future public recreational opportunities associated with the use of piers and docks.*

Response: The

5. *New residential development of two or more dwellings must provide joint use or community dock facilities, when feasible, rather than allow individual docks for each residence.*

   Response: The proposal is to construct shoreline amenities and a pier and dock for the enjoyment of future occupants of the proposed 178 apartment units.

6. *Piers and docks, including those accessory to single-family residences, shall be designed and constructed to avoid or, if that is not possible, to minimize and mitigate the impacts to ecological functions, critical areas resources such as eelgrass beds and fish habitats and processes such as currents and littoral drift. See Section 17.35.*

   Response: The pier is designed to extend over the wetland to minimize impacts and limit impacts to the buffer only. As noted in the *Shoreline, Wetland Delineation, and Fish and Wildlife Habitat Assessment Report with Conceptual Restoration Plan* prepared by Soundview Consultants dated August 2020: "the pier's design includes locating the ell outside of the wetland so that launching and temporary mooring of small watercraft will be directed outside of the wetland. The pier will be also be constructed following the Green Shoreline Guidelines from the City of Lacey SMP (LMC 17.61.020.6) to minimize impacts to the Wetland A aquatic bed."

7. *Piers and docks shall adhere to the Green Shoreline Guidelines concepts in Appendix 2 and construct such structures of materials that have been approved by applicable state agencies.*

   Response: The pier is designed to extend over the wetland to minimize impacts and limit impacts to the buffer only. As noted in the *Shoreline, Wetland Delineation, and Fish and Wildlife Habitat Assessment Report with Conceptual Restoration Plan* prepared by Soundview Consultants dated August 2020: "the pier's design includes locating the ell outside of the wetland so that launching and temporary mooring of small watercraft will be directed outside of the wetland. The pier will be also be constructed following the Green Shoreline Guidelines from the City of Lacey SMP (LMC 17.61.020.6) to minimize impacts to the Wetland A aquatic bed."

8. *New piers and docks in the marine environment shall only be permitted when identified as a public need in Lacey's Comprehensive Plan for Outdoor Recreation, and when owned and maintained by the City of Lacey. No net loss of function and value of shoreline resources shall be demonstrated.*

   Response: The site is not in a marine environment.

9. *An existing pier/dock in the natural environment designation may be maintained provided it has an identified value to the general public, as identified in Lacey's Comprehensive Plan for Outdoor Recreation, and it is owned and maintained by the City for public benefit.*

   Response: The site is not in a natural environment designation.

10. *Residential moorage shall include no more than one moorage type (i.e. buoy or pier/dock) per waterfront lot.*

    Response: The project complies by proposing only one pier/dock for the entire development of 178 apartment units.

11. *Prior to approval of a residential pier or dock, the applicant shall document why the use of a mooring buoy or shared moorage are not feasible.*

Response: The proposal is to construct shoreline amenities and a pier/dock for the enjoyment of future occupants of the proposed 178 apartment units. For the purposes of this criteria the applicant has met the standard.

12. *Shared moorage proposed for lease to upland property owners shall be reviewed as a marina and shall be subject to requirements for marinas as identified in this SMP. This provision does not apply when the upland property owners share a shoreline open space area with shoreline property owners and shared moorage facilities are provided as outlined in Section 17.55.020 (1).*

    Response: The proposed pier/dock is a community dock for the 178-unit apartment complex. No leased moorage is proposed.

13. *Docks and piers are prohibited on lakes where the distance to the opposite shore is one hundred fifty (150) feet or less. This is to insure the maintenance of navigation.*

    Response: This does not apply, the opposite shore of Lake Hicks is farther than 150 feet from the site.

14. *Prior to final project approval of a residential development, a usable area shall be set aside for a community pier or dock unless there is no suitable area.*

    Response: The proposed pier/dock is a community dock for the 178-unit apartment complex.

15. *All pier and dock development shall be painted, marked with reflectors or otherwise identified so as to prevent unnecessarily hazardous conditions for water surface users during day or night.*

    Response: Compliance with this requirement will be demonstrated with building permit plans for the pier and dock.

16. *The standards for new or repaired piers or docks in fresh water are as follows:*

    A. *Pier and dock surface coverage shall not exceed: four hundred and eighty (480) square feet for single user structures, seven hundred (700) square feet for two (2) party joint use, and one thousand (1,000) square feet for residential pier/docks serving three (3) or more residences.*

        Response: As noted on the Dock Layout Plan prepared by Bradley Smith, P.E. dated July 11, 2020, the proposed pier and the dock area combined area of 1,152 square feet; however, less than 1,000 square feet will be beyond the ordinary high water mark. We believe the design complies with the requirement. Please see Sheet 19 of the Barghausen Consulting Engineers, Inc. plan set.

    B. *Piers shall not exceed four (4) feet in width and must be fully grated with at least sixty percent (60%) open area.*

        Response: As noted on the Dock Layout Plan prepared by Bradley Smith, P.E. dated July 11, 2020, the proposed pier and the dock is designed to be four feet wide. The decking material will conform to the required 60 percent open requirement, to be demonstrated at the building permit design phase.

    C. *Ramps shall not exceed three (3) feet in width and must be one hundred percent (100 %) grated.*

Response: As noted on the Dock Layout Plan prepared by Bradley Smith, P.E. dated July 11, 2020, the proposed ramp is an extension from the pier to the dock, so the proposed width of the ramp is consistent at four feet.

D. *Docks shall not rest on the fresh water substrate at any time. Stoppers on the pilings anchoring the dock or stub pilings shall be installed so that the bottom of the docks floatation is a minimum of one (1) foot above the level of the beach substrate.*

Response: The design of the dock will comply. Demonstration of compliance with this requirement will be provided with the pier/dock building permit plans.

E. *Except for docks with floats the bottom of all structures shall be a minimum of one and one half (1.5) feet above the ordinary high water elevation.*

Response: The design of the dock will comply. Demonstration of compliance with this requirement will be provided with the pier/dock building permit plans.

F. *The first in-water (nearest shore) set of pilings shall be steel, a maximum of four (4) inches in diameter and at least eighteen (18) feet from the ordinary high water mark. Additional piling shall be spaced a minimum of eighteen (18) feet apart and shall not exceed twelve (12) inches in diameter.*

Response: The design of the dock will comply. Demonstration of compliance with this requirement will be provided with the pier/dock building permit plans.

G. *Docks with floats or ells shall be limited to one of the following size options:*

1) *Up to six (6) feet wide by twenty (20) feet long with a two (2) foot strip of grating down the center;*

2) *Up to six (6) feet wide by twenty six (26) feet long with grating, providing that there is a sixty percent (60%) open area over the entire ell or float; or*

3) *A single two (2) feet wide by twenty (20) feet long, with one hundred percent (100 %) grated finger ell.*

Response: The design complies, please see the Dock Layout Plan prepared by Bradley Smith, P.E. dated July 11, 2020

17. *Docks and piers shall be setback from the side property line ten (10) feet on fresh water.*

Response: The design complies with this requirement. The proposed pier/dock is setback more than 80 feet from the north property line and more than 70 feet from the south property line.

18. *The required side yard setbacks may be waived with a shared use moorage facility for two (2) or more property owners. The applicant or proponents shall file with the Thurston County Auditor a legally enforceable joint use agreement or other legal instrument which addresses the following as a condition of permit approval:*

A. *Apportionment of construction and maintenance expenses;*

B. *Maintenance responsibilities for the facility and associated upland area in perpetuity by identified responsible parties;*

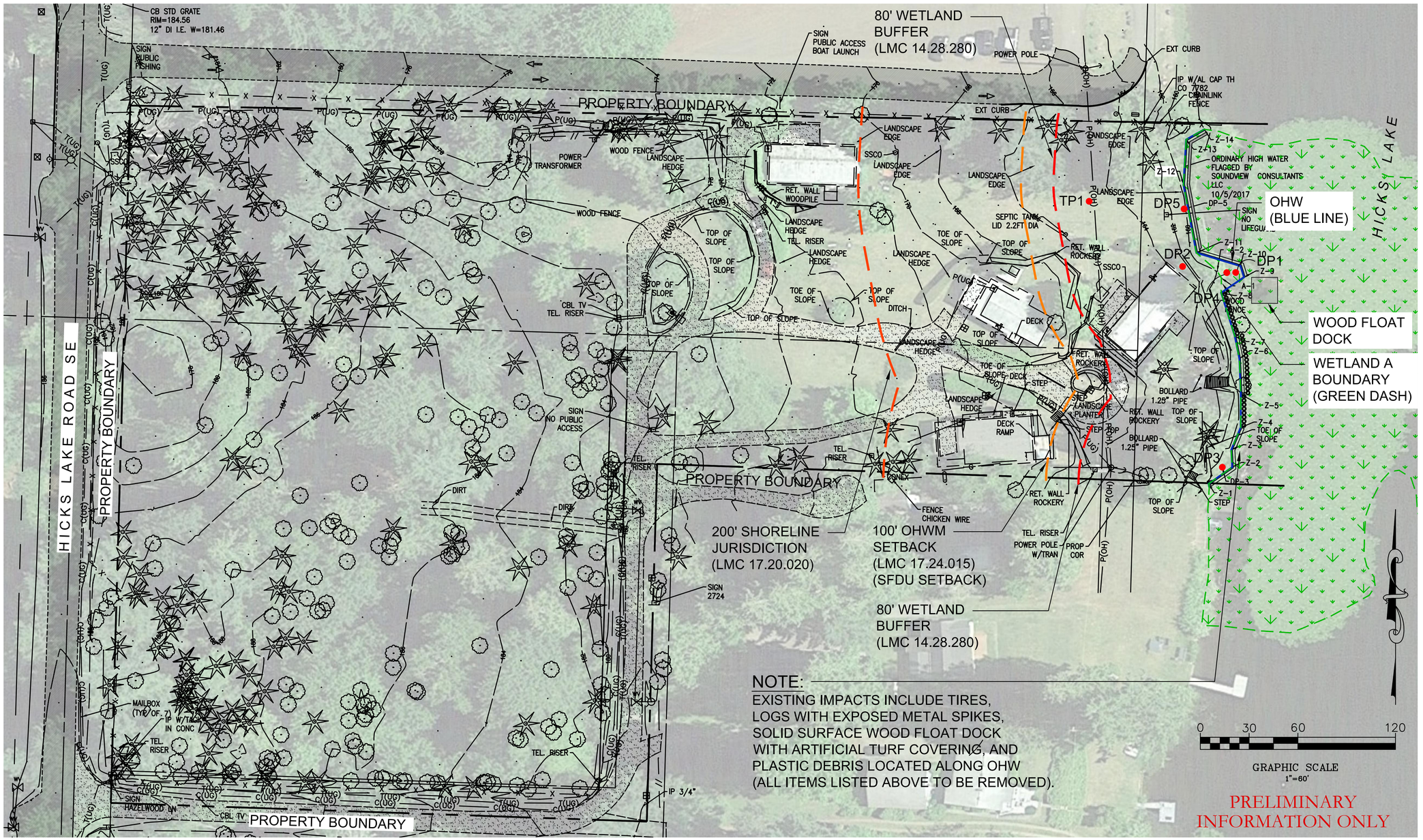
C. *Easements and liability agreements;*

D. *Use restrictions; and*

E. *The easement must acknowledge that each property owner is giving up the right to construct a separate single-family moorage.*

Response: No setback waiver for the new pier/dock is proposed.

SCHNEIDER HOMES - HICKS LAKE APARTMENTS - EXISTING CONDITIONS



PRELIMINARY INFORMATION ONLY

NOT FOR CONSTRUCTION

SOUNDVIEW CONSULTANTS LLC ASSUMES NO LIABILITY OR RESPONSIBILITY FOR CONSTRUCTION, IMPROVEMENTS, OR ESTIMATES BASED ON THIS PLAN SET

SOURCES:

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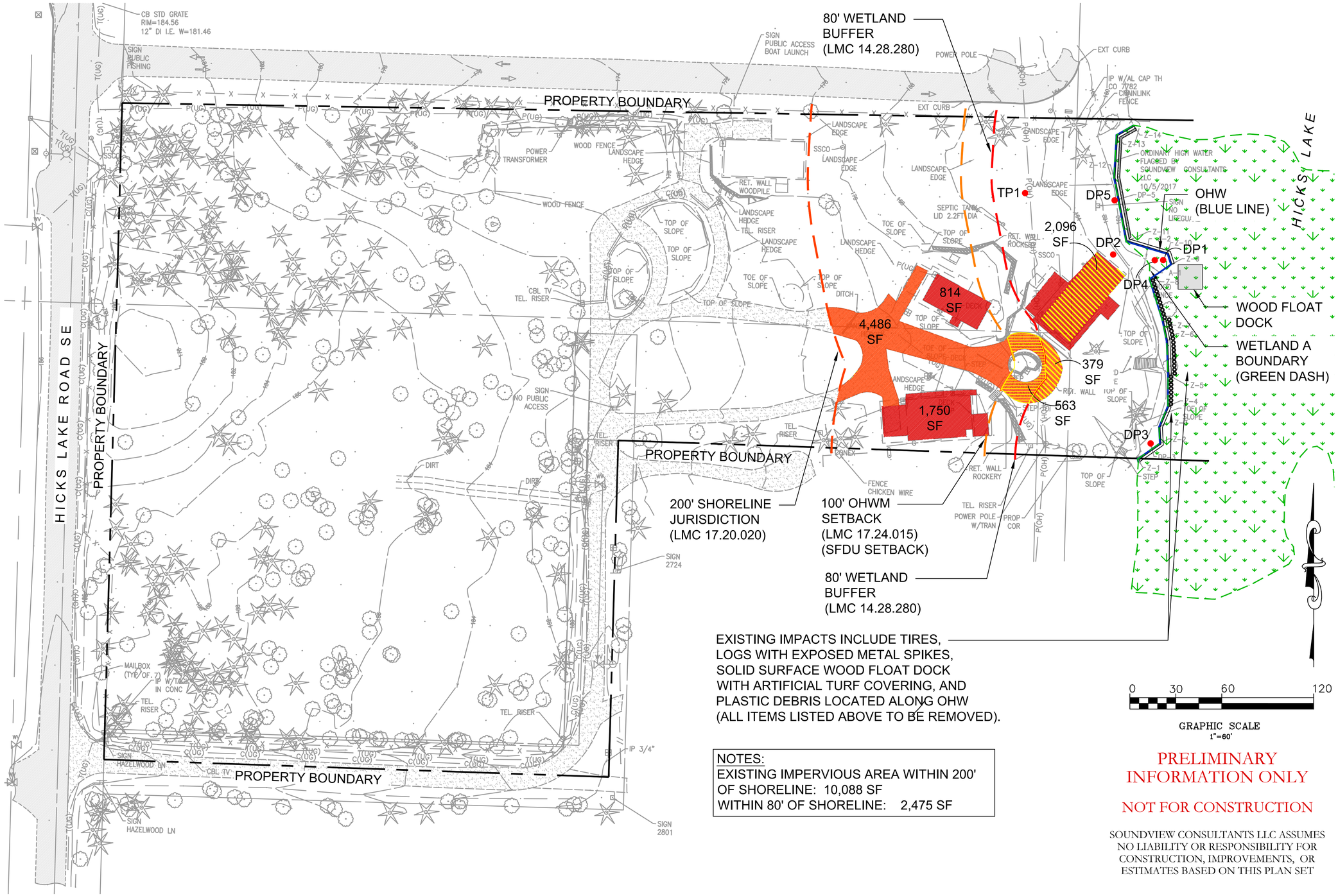
SCHNEIDER HOMES
HICKS LAKE APARTMENTS
2712 HAZELWOOD LANE SE
LACEY, WASHINGTON 98503
THE NW & NE ¼ OF SECTIONS 27 & 28, TOWNSHIP 18N, RANGE 1W, W.M.

DATE:	3/04/2020
JOB:	1596.0001
BY:	DS
SCALE:	SEE GRAPHIC
SHEET	1 OF 6

SCHNEIDER HOMES - HICKS LAKE APARTMENTS - EXISTING IMPACTS



NOTES:
EXISTING IMPERVIOUS AREA WITHIN 200' OF SHORELINE: 10,088 SF
WITHIN 80' OF SHORELINE: 2,475 SF

PRELIMINARY INFORMATION ONLY

NOT FOR CONSTRUCTION

SOUNDVIEW CONSULTANTS LLC ASSUMES NO LIABILITY OR RESPONSIBILITY FOR CONSTRUCTION, IMPROVEMENTS, OR ESTIMATES BASED ON THIS PLAN SET

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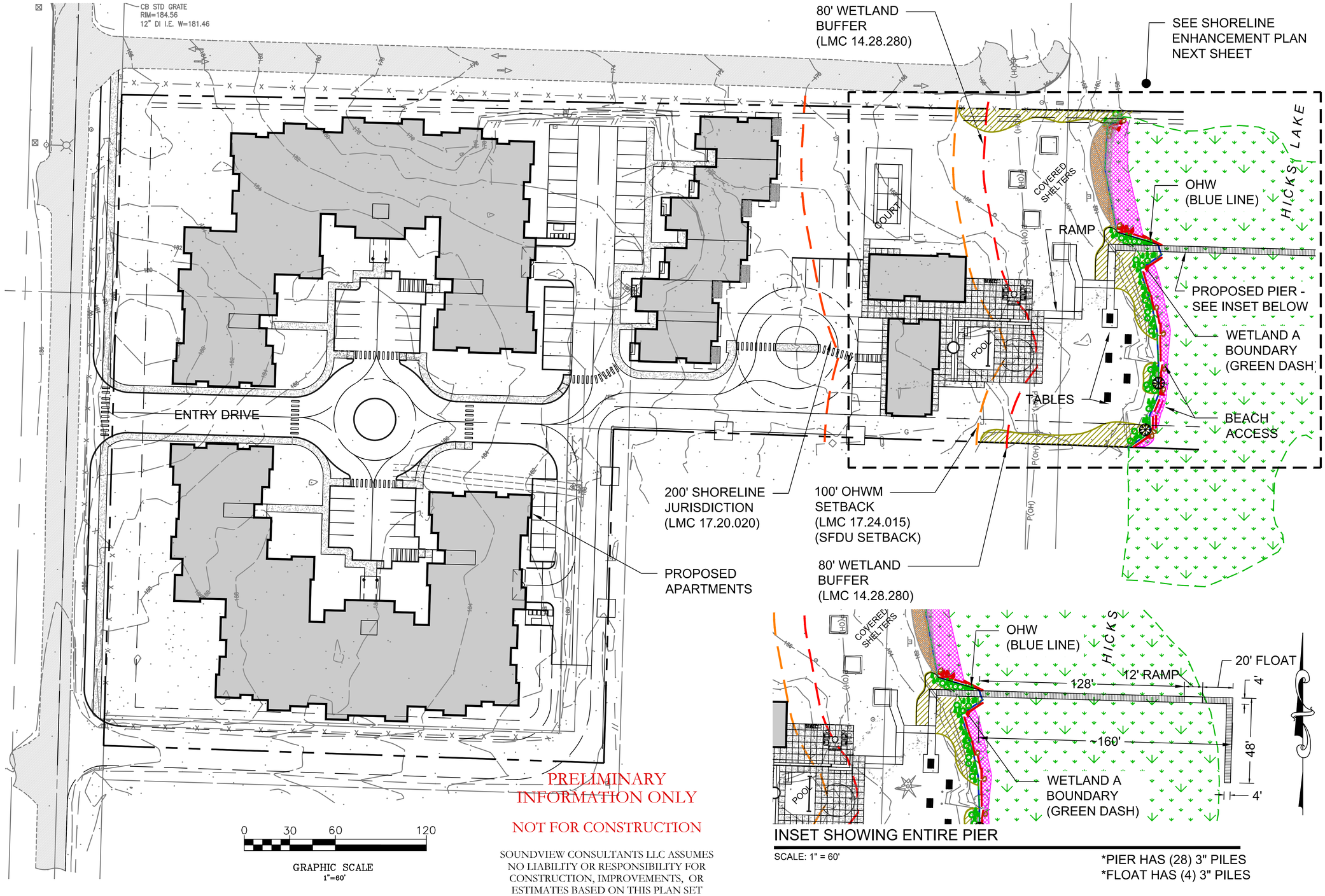
DATE:	3/04/2020
JOB:	1596.0001
BY:	DS
SCALE:	SEE GRAPHIC
SHEET	2 OF 6

SCHNEIDER HOMES - HICKS LAKE APARTMENTS - PROPOSED PLAN



INSET SHOWING ENTIRE PIER

SCALE: 1" = 60'

*PIER HAS (28) 3" PILES
*FLOAT HAS (4) 3" PILES

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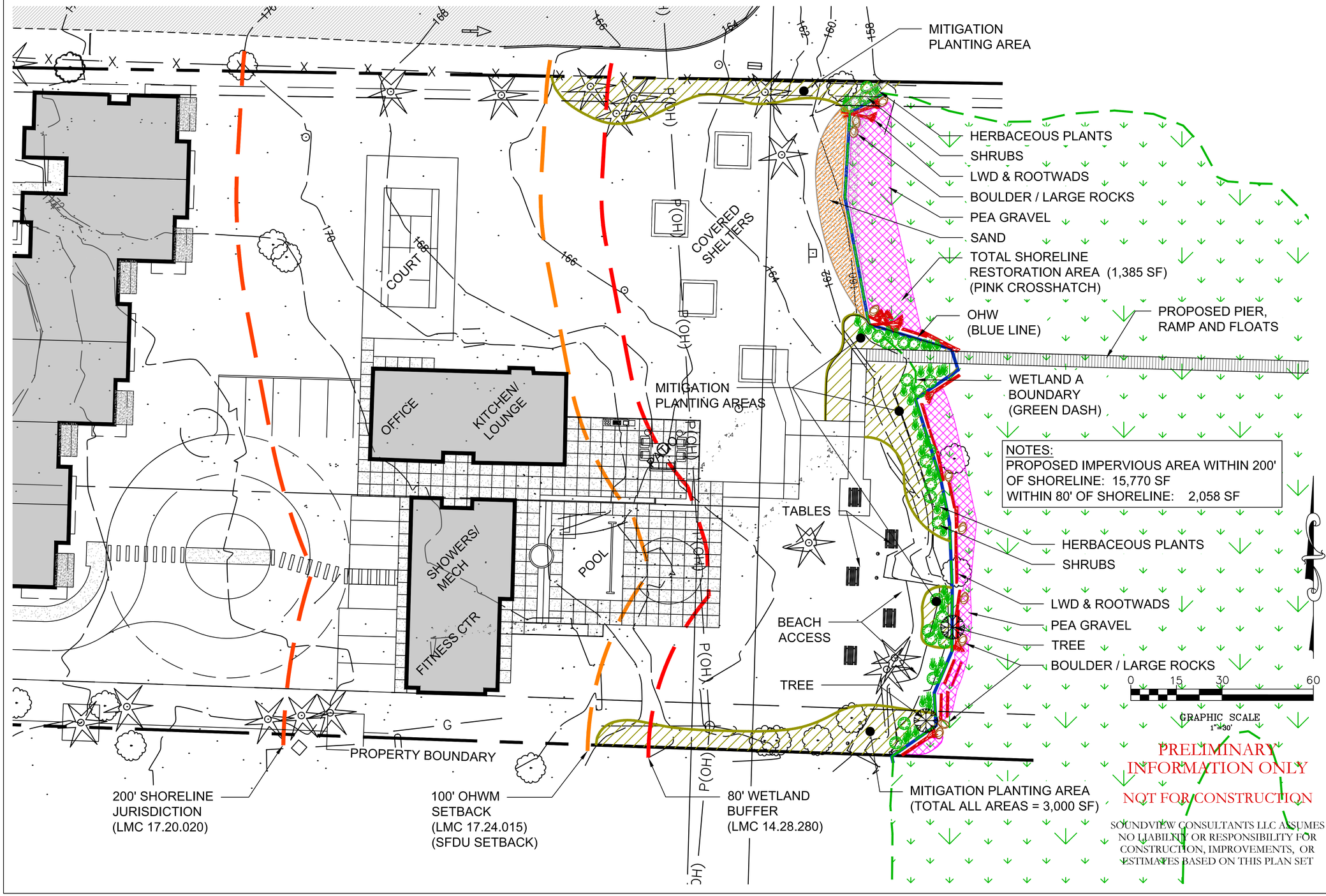
DATE:	3/04/2020
JOB:	1596.0001
BY:	DS
SCALE:	SEE GRAPHIC
SHEET	3 OF 6

SCHNEIDER HOMES - HICKS LAKE APARTMENTS - DETAIL - PROPOSED SHORELINE ENHANCEMENT PLAN



NOTES:
PROPOSED IMPERVIOUS AREA WITHIN 200' OF SHORELINE: 15,770 SF
WITHIN 80' OF SHORELINE: 2,058 SF

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DATE:	3/04/2020
JOB:	1596.0001
BY:	DS
SCALE:	SEE GRAPHIC
SHEET	4 OF 6

SCHNEIDER HOMES - HICKS LAKE APARTMENTS - PRELIMINARY NATIVE PLANT SCHEDULE

PRELIMINARY NATIVE PLANT SCHEDULE

Plant Name			Planting Areas		Total	Spacing	Size	Condition	Planting Area
Scientific	Common	Plant Status	Mitigation Planting Areas	Shoreline Enhance't Planting					
Trees		Sq. Feet:	3,000	-	**3,000**				
		Acres:	0.07	-	**0.07**				
Betula papyrifera	Paperbark birch	FAC	-	-	**-**	**8 - 10 ft**	**3 - 4 ft**	**Bare root**	**Dry/Moist**
Picea sitchensis	Sitka spruce	FAC	-	-	**-**	**12 - 15 ft**	**3 - 4 ft**	**Bare root**	**Moist - wetland edge**
Prunus emarginata	Bitter cherry	FACU	-	-	**-**	**10 - 12 ft**	**3 - 4 ft**	**Bare root**	**Dry**
Rhamnus purshiana	Cascara	FAC	-	-	**-**	**10 - 12 ft**	**3 - 4 ft**	**Bare root**	**Dry**
Thuja plicata	Western Red Cedar	FAC	-	-	**-**	**10 - 12 ft**	**3 - 4 ft**	**Bare root**	**Dry/Moist - buffer**
Total			-	-	**-**				
Shrubs / Groundcover									
Acer circinatum	Vine maple	FAC	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Moist/Wet**
Arctostaphylos uva-ursi	Kinnikinnick	FACU				**3 - 5 ft**	**1 gal.**	**Cont.**	**Dry**
Gaultheria shallon	Salal	FAC	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Moist/Wet**
Mahonia nervosa	Dwarf Oregon grape	FACU	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Dry/Moist**
Ribes sanguineum	Red flowering currant	FACU	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Dry/Moist**
Rosa gymnocarpa	Bald hip rose	FACU	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Dry/Moist**
Rosa nutkana	Nootka rose	FAC	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Dry**
Rubus parviflorus	Thimbleberry	FACU	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Moist**
Spiraea betulifolia var. lucida	White spirea	FACU	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Dry/Moist**
Symphoricarpos albus	Snowberry	FACU	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Dry**
Total			-	-	**-**				
Herbaceous									
Armeria maritima	Sea-thrift	FAC	-	-	**-**	**18 - 24 in**	**1 gal.**	**Cont.**	**Dry**
Dicentra formosa	Bleeding heart	FACU	-	-	**-**	**18 - 24 in**	**1 gal.**	**Cont.**	**Dry**
Fragaria chiloensis	Coast strawberry	FACU				**18 - 24 in**	**1 gal.**	**Cont.**	**Dry**
Linnaea borealis	Twinflower	FACU	-	-	**-**	**18 - 24 in**	**1 gal.**	**Cont.**	**Dry**
Tiarella trifoliata	Threeleaf foamflower	FAC				**18 - 24 in**	**1 gal.**	**Cont.**	**Moist/Shady**
Tolmiea menziesii	Youth-on-age	FAC				**18 - 24 in**	**1 gal.**	**Cont.**	**Dry/Moist**
Total			-	-	**-**				
Habitat Structures									
Large Woody Debris		**Quan.**	-	-	**Clean**	**12-20 feet long, 8 inch minimum at top, some w/ root wad**			
Large Rocks/Boulders		**Quan.**	-	-	**Clean**	**2' - 3'**			
Buffer Seed Mix - 30 lbs/acre									
Agrostis exerata	Spike bentgrass	FACW	10						
Alopecurus pratensis	Meadow foxtail	FAC	10						
Elymus glaucus	Blue wildrye	FACU	25						
Festuca idahoensis	Idaho fescue	FACU	10						
Festuca rubra	Red fescue	FAC	10						
Hordeum brachyantherum	Meadow barley	FACW	25						
Lupinus polyphyllus	Streamside lupine	FAC	10						
Total			**100**						

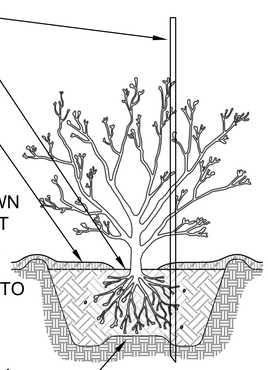
1 - Scientific names and species identification taken from *Flora of the Pacific Northwest (Hitchcock and Cronquist, 1973 and Cooke, 1997).*

2 - Over-sized and/or container plants are suitable for replacement pending project biologist's approval.

3 - All plans and schedules are conceptual for regulatory review and impact analysis. Final plans may be needed for construction, and may be subject to regulatory approval.

TREE AND SHRUB PLANTING DETAIL (TYPICAL)

NOT TO SCALE



NOTES:

1. PLANT SHRUBS OF THE SAME SPECIES IN GROUPS OF 3 to 9 AS APPROPRIATE, OR AS SHOWN ON PLAN. AVOID INSTALLING PLANTS IN STRAIGHT LINES TO ACHIEVE A NATURAL-LOOKING LAYOUT.
2. EXCAVATE PIT TO FULL DEPTH OF ROOT MASS AND 2 X ROOT MASS DIAMETER. SPREAD ROOTS TO FULL WIDTH OF CANOPY. SCARIFY SIDES OF PIT.
3. MIDWAY THROUGH PLANTING ADD AGROFORM TABLET AND WATER THOROUGHLY.
4. BACKFILL TO BE COMPACTED USING WATER ONLY.
5. WATER IMMEDIATELY AFTER INSTALLATION.

PRELIMINARY
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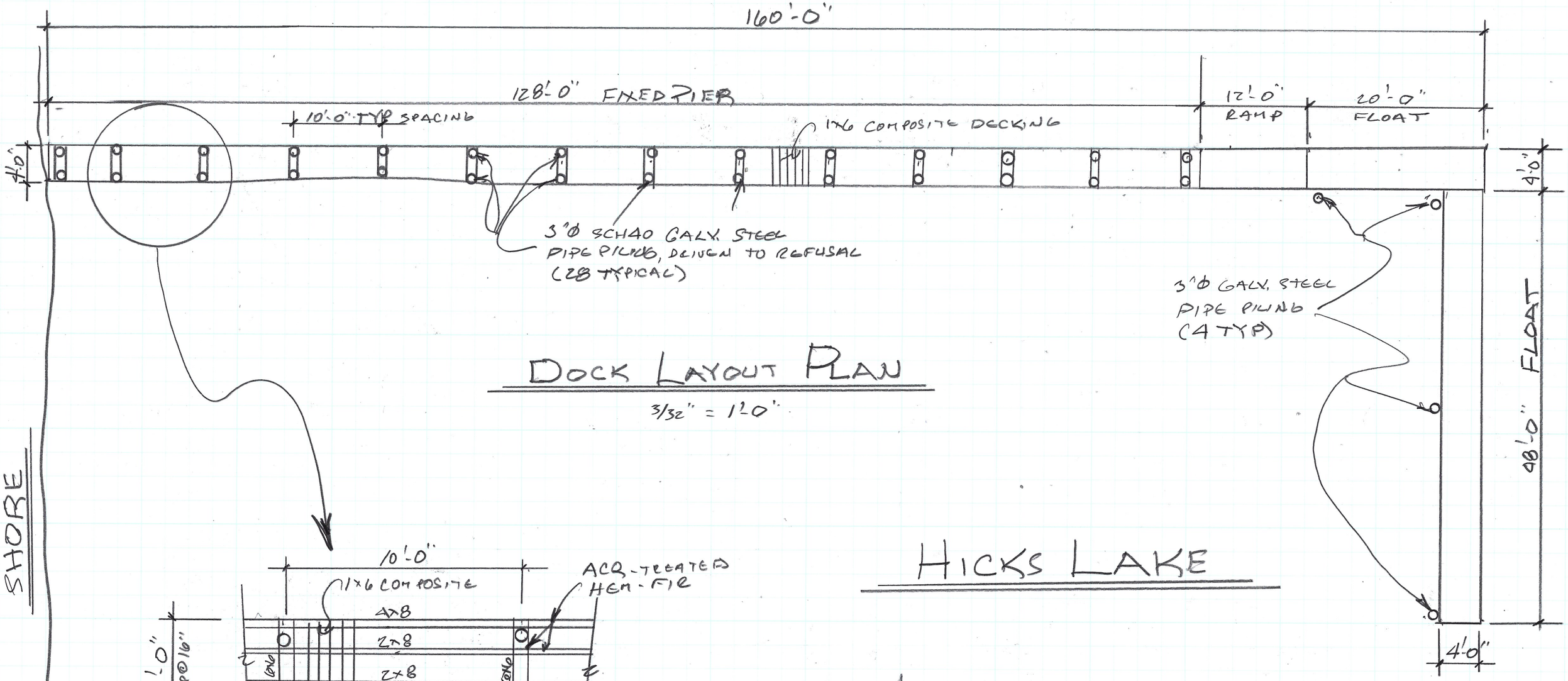
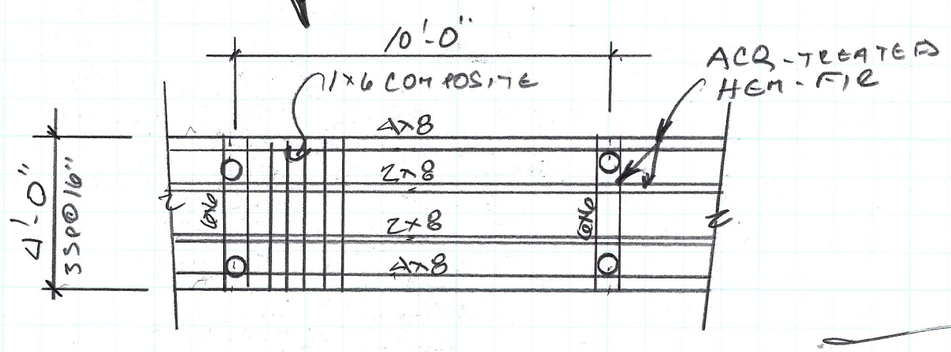
DATE: 3/04/2020
JOB: 1596.0001
BY: DS
SCALE: SEE GRAPHIC
SHEET 5 OF 6



DOCK LAYOUT PLAN

3/32" = 1'-0"



PIER DETAIL

1/4" = 1'-0"

HICKS LAKE

BRADLEY CHARLES SMITH
STATE OF WASHINGTON
22923
REGISTERED
PROFESSIONAL ENGINEER

7-11-2020

SCHNEIDER HOMES
NEW DOCK
2712 HAZELWOOD LANE SE
LACEY, WA 98503

Shoreline, Wetland Delineation, and Fish and Wildlife Habitat Assessment Report With Conceptual Restoration Plan

Hicks Lake Apartments

August 2020

Soundview Consultants
Environmental Assessment
Planning + Land Use Solutions

Shoreline, Wetland Delineation, and Fish and Wildlife Habitat Assessment Report With Conceptual Restoration Plan

Hicks Lake Apartments

August 21, 2020

Project location

2712 Hazelwood Lane Southeast
Lacey, Washington 98503

Prepared for

Schneider Homes
6510 South Center Boulevard #100
Tukwila, Washington 98188

Prepared by

Soundview Consultants LLC
2907 Harborview Drive, Suite D
Gig Harbor, Washington 98335
(253) 514-8952

Soundview Consultants
Environmental Assessment
Planning + Land Use Solutions

Executive Summary

Soundview Consultants LLC (SVC) has been contracted by Schneider Homes (Applicant) to perform wetland, shoreline, and fish and wildlife habitat assessment for the redevelopment project proposed at 2712 Hazelwood Lane Southeast in Lacey, Washington. The subject property is situated in the Northwest & Northeast ¼ of Section 27 & 28, Township 21 North, Range 01 West, W.M. (Thurston County Tax Parcel Number (11828111100).

SVC investigated the project area and publicly accessible areas within 300 feet of the project for the presence of potentially regulated wetlands, waterbodies, fish and wildlife habitat, and/or priority species fall of 2017. The site investigation identified the shoreline of Hicks Lake along the eastern boundary of the subject property and one onsite wetland (Wetland A). Wetland A is Category III lake fringe wetland. The Washington Department of Fish and Wildlife (WDFW) maps priority species and habitats along the shoreline approximately 100 feet north of the subject property. A Federal Emergency Management Agency (FEMA) mapped flood zone associated with Hicks Lake exists to the east of the subject property. The shoreline of Hicks Lake is regulated by the U.S. Army of Corps of Engineers, Washington State Department of Ecology (Ecology), and the City of Lacey.

The Applicant proposes to redevelop the site by removing existing mobile homes and associated improvements and constructing a multi-family residential development. The proposed multi-family residential development includes three residential buildings, parking areas and road access connections to existing public roads, one sports court, one administrative and recreational use complex (including two buildings, one pool, patio space, and pedestrian shoreline access), covered shelters, and one dock. The project proposes impact avoidance and minimization measures through best management practices (BMPs) and careful site planning to reduce impacts to Wetland A and to the shoreline of Hicks Lake. Due to the extent of Wetland A across the entirety of the subject property's shoreline, temporary impacts to the wetland and its associated protective buffer are unavoidable. To offset the temporary impacts to the wetland and buffer and the shoreline, the Applicant proposes to remove impervious surfaces and restore buffer functions through careful project planning that proposes water-enjoyment uses only to be located within 100 feet of Hicks Lake and Wetland A. Restoration and enhancement actions include a reduction in existing impervious surfaces, the removal of non-native invasive plants and installation of native riparian and buffer plant species within 3,000 square feet of shoreline and wetland buffer areas. In addition, the Applicant proposes to restore the subject property's shoreline by removing debris, an old wood float, and existing pollutant-generating shoreline stabilization that uses creosote-treated timbers, metal spike, and automotive tires. The project will provide natural habitat features through placement of beach nourishment and carefully placed large rock, and the installation of large woody debris along the ordinary high water (OHW) of Hicks Lake.

The project is proposed in compliance with the City of Lacey Shoreline Master Program (SMP) and City of Lacey Municipal Code (LMC) Title 14.28 for Wetlands Protection.

Wetland/Shoreline Name	Size/Length onsite	Category/ Type[1]	Regulated Under LMC Chapter 14.28 or Chapter 17	Regulated Under RCW 90.48	Regulated Under Clean Water Act
Hicks Lake	~1,340 sf	Type S	Yes	Yes	Yes
Wetland A	3,000 sf	III	Yes	Yes	Yes

Notes:

1. Current Washington State Department of Ecology (WSDOE) wetland rating methods (Hruby, 2014) and current LMC wetland and habitat conservation area classification guidelines.

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Appendix A — Methods and Tools
Appendix B — Background Information
Appendix C — Site Plans
Appendix D — Qualifications

Chapter 1. Introduction

Soundview Consultants LLC (SVC) has been contracted by Schneider Homes (Applicant) to perform wetland, shoreline, and fish and wildlife habitat assessment with conceptual restoration plan for the proposed residential redevelopment of a 4.98-acre property located at 2712 Hazelwood Lane Southeast in Lacey, Washington. The subject property is situated in the Northwest & Northeast ¼ of Section 27 & 28, Township 21 North, Range 01 West, W.M. (Thurston County Tax Parcel #11828111100).

The purpose of this Shoreline, Wetland Delineation, and Fish and Wildlife Habitat Assessment Report with Conceptual Restoration Plan is to document the presence of potentially regulated waterbodies, wetlands, fish and wildlife habitat on or near the subject property; to assess potential impacts to these areas from the proposed project; and to provide recommendations to avoid, minimize, and/or mitigate for these impacts and to improve ecologic functions associated with the critical areas and the shoreline of Hicks Lake.

This report provides conclusions and recommendations regarding:

- Site description, project description, and area of assessment;
- Background research and identification of potentially regulated wetlands, fish and wildlife habitat, and priority species within the vicinity of the proposed project;
- Identification and assessment of project impacts on potentially regulated shorelines, wetlands, fish and wildlife habitat;
- Standard buffer recommendations, building setbacks, and development limitations;
- Documentation of avoidance, minimization, and mitigation measures;
- Evaluation of wetland impacts;
- Description of conceptual wetland buffer and shoreline restoration and enhancement plan;
- Supplemental information for regulatory review.

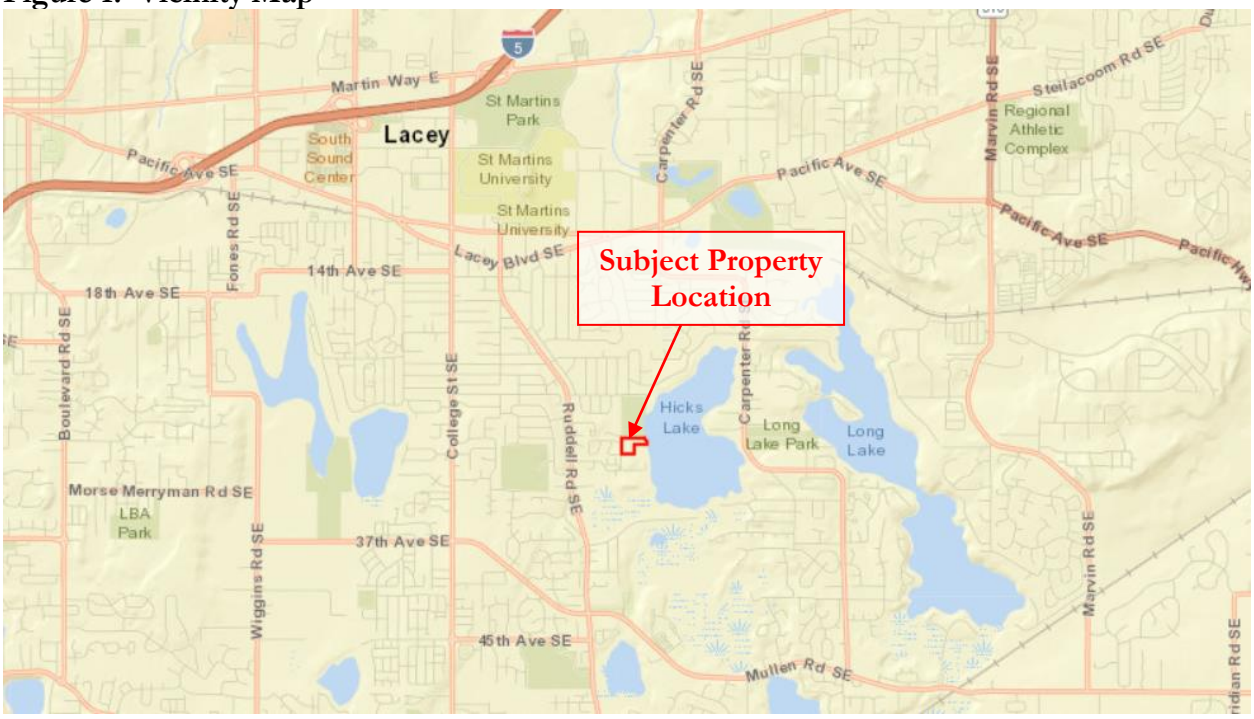
Chapter 2. Proposed Project

2.1 Location

The proposed project is located on one 4.98-acre parcel at 2712 Hazelwood Lane Southeast, in Lacey, Washington. The subject property is situated in the Northwest & Northeast ¼ of Section 27 & 28, Township 21 North, Range 01 West, W.M. (Thurston County Tax Parcel Number (11828111100).

To access the site from I-5 South, take exit 109 for Martin Way toward College Street and take a right on Martin Way East. Take the first left onto College Street Southeast and proceed for 0.3 mile. Turn left onto Lacey Boulevard Southeast and proceed for 0.8 mile. Turn right onto Ruddell Road Southeast and proceed for 0.8 mile. Turn left onto 25th Ave Southeast and proceed for 0.3 mile. Turn right onto Hicks Lake Road Southeast and proceed for 0.3 mile. Turn left onto Hazelwood Lane Southeast, continue for 338 feet, and the subject property will be on the left.

Figure 1. Vicinity Map



2.2 Project Description

The Applicant proposes to build a multi-family residential development (Hicks Lake Apartments). The multi-family residential development will include three buildings with residential units, parking areas and road access connections to existing public roads along the western portions of the subject property. The project also includes an administrative office and recreational use areas within eastern portions of the subject property. All buildings, including two small buildings associated with an administrative office and recreational use facilities, will be located a minimum of 100 feet from the ordinary high water (OHW) of Hicks Lake. Recreational use areas include one sports court, a pool, and patio space located between 100 and 200 feet from Hicks Lake. Recreational uses within 100 feet

of Hicks Lake include pedestrian shoreline access, lakeside picnic areas, and a recreational use dock proposed to provide a point of safe, small craft access located outside of the lake fringe wetland. The picnic area will consist of four 10-foot by 10-foot covered picnic shelters in the northern shoreline area where a previously cleared shoreline will be restored with the use of native planting areas and beach nourishment/fish mix gravels. Two of the shelters are proposed approximately 33 feet from the OHW of Hicks Lake and two of the shelters are proposed greater than 50 feet from Hicks Lake. Five picnic tables will be located along the southern shoreline area where existing mature native vegetation will be preserved and the non-native and invasive vegetation will be removed and replaced with native plant species. The proposed dock will consist of a pier, ramp, and two floats that form an ell-shape. The dock spans over Wetland A and as such, necessarily extends approximately 160 feet into Hicks Lake, and each component is approximately 4 feet wide. The proposed ramp is 12 feet long, the pier 128 feet long, and the two floats that comprise the ell-shape are 20 and 48 feet long. The longer float runs parallel to the shore, forming the ell-shape of the dock, and contributes to a combined 52 feet of the dock structure running parallel to the shore. The combined pier, ramp, and float structures will be approximately 832 square feet in size. Please see site plans for more details. In addition, removal of an existing solid surface wooden floating dock is proposed. Public access to the shoreline is provided by the access roads, and pedestrian shoreline access through the administrative and recreational use complex and the picnic area.

All proposed residential structures (other than the dock) are located greater than 100 feet away from the OHW of Hicks Lake. Approximately 2,200 square feet of impervious patio area and a sum of 400 square feet of covered picnic shelters are proposed within the same area. Any additional walkways or patio areas shown in the site plans in Appendix C that are in excess of 2,200 square feet will be constructed using pervious surface pavers or other similar pervious materials. The proposed patio and picnic shelter footprints are replacing approximately 2,649 square feet of existing impervious surface areas covered by existing manufactured homes and associated driveways (see Sheet 2 of 5 in Appendix C). A net reduction in impervious surface areas by 449 square feet is proposed within 100 feet of the lake. In addition, the installation of native plants and removal of non-native invasive plants within 3,000 square feet along the OHW and the north and south property boundaries are proposed to restore shoreline and wetland buffer functions currently impacted by the residential footprints near Hicks Lake. Please see Sheets 4 and 5 of 5 for the planting plans attached in Appendix C.

The ordinary high water (OHW) of Hicks Lake is currently impacted by shoreline armoring comprised of creosote-treated timbers, metal spikes, large automotive tires, and trash and debris. The project will restore the shoreline by removing these items and placing clean beach gravels, large woody debris, and some carefully placed large rocks. Riparian area vegetation will be enhanced through the removal of non-native invasive plants and replacement with native trees, shrubs, and herbaceous plants. The proposed project is anticipated to restore and enhance environmental functions provided by the buffer areas associated with Hicks Lake and Wetland A as well as enhancing the water quality and habitat within the shoreline of Hicks Lake. A net reduction in impervious surface areas is proposed within 100 feet of Hicks lake. In addition, the installation of native plants and removal of non-native invasive plants within 3,000 square feet along the OHW and the north and south property boundaries are proposed to restore shoreline and wetland buffer functions currently impacted by the residential footprints near Hicks Lake.

Chapter 3. Methods

SVC investigated and assessed wetlands, shorelines, and other potentially-regulated fish and wildlife habitat on and within 300 feet of the subject property in August and October 2017. Wetland, critical habitat, and shoreline determinations were made using observable vegetation, hydrology, and soils in conjunction with data from the U.S. Geological Survey (USGS) topographic maps, the Natural Resources Conservation Service (NRCS) Soil Survey of Thurston County (Pringle et al., 1990), Thurston County Geographic Information Systems (GIS) data, U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), the Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) and SalmonScape mapping tools, the Washington State Department of Natural Resources (DNR) water typing system, local precipitation data, and various orthophotographic resources. Appendix A contains details of the methods and tools used to prepare this report.

Wetland boundaries were determined by qualified wetland scientists using the *Delineation Manual: Western Mountains, Valleys, and Coast Region* (Version 2.0) (USACE, 2010). Wetland boundaries onsite were marked with orange surveyor's flagging labeled alpha-numerically and tied to 3-foot lath or vegetation along the wetland boundary along the upland side of the wetland. No flagging was hung within Hicks Lake. Pink surveyor's flagging was labeled alpha-numerically and tied to 3-foot lath or vegetation at formal sampling locations to mark the points where detailed data was collected (DP-1 through DP-5).

SVC classified all wetlands using both the hydrogeomorphic (Brinson, 1993) and Cowardin (Cowardin, 1979; Federal Geographic Data Committee, 2013) classification systems, using the *Wetland Functions Characterization Tool for Linear Projects* (Null et al., 2000). Following classification and assessment, the wetlands were rated and categorized using the *Washington State Wetland Rating System for Western Washington – Revised, Washington State Department of Ecology Publication # 04-06-029* (Hruby, 2014) and definitions established in LMC 14.28.100.
OHW mark determinations were made using the Washington State Department of Ecology's (WSDOE) methodology detailed in *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson et al, 2016) and the definitions established in the Shoreline Management Act (Revised Code of Washington [RCW] 90.58.030(2)(b) and Washington Administrative Code (WAC) 173-22-030(11). To mark the OHW of the shoreline, blue surveyor's flagging was alpha-numerically labeled and tied to vegetation or wooden stakes.

The fish and wildlife habitat assessment was conducted during the site visits by a qualified fish and wildlife biologist. An experienced biologist made visual observations using stationary and walking survey methods for both aquatic and upland habitats noting any special habitat features or signs of fish and wildlife activity.

Pocket gopher presence/absence was determined through onsite investigations and uses the WDFW's *Mazama Pocket Gopher Mound Survey Protocol* (WDFW 2012). This protocol identifies habitat requirements of these pocket gophers, including forage requirements on an assortment of roots and above-ground plant parts, including herbaceous species such as clover (*Trifolium spp.*), lupines (*Lupinus spp.*), false dandelions (presumably *Hypochaeris radicata*), and grasses, and especially plant species with bulbs, such as wild onion and wild garlic (Maser et al. 1981; Stinson 2005). Mazama pocket gopher primary habitat includes open meadows, prairie, and/or grassland areas with friable soils that are not too rocky.

Chapter 4. Background and Existing Conditions

4.1 Landscape Setting

The subject property is located in a residential setting in the City of Lacey. The subject property is adjacent to Hicks Lake to the west, Wanschers Community Park to the north, and single-family residences and residential complexes to the south and east (across existing public roads). The site generally slopes very gradually from the western boundary east to the shoreline. The western portion of the site is undeveloped forest with an understory of scrub-shrub. The eastern portion of the subject property consists primarily of mown grasses and existing development. This existing development includes four mobile homes and associated infrastructure. The subject property is located within Water Resource Inventory Area (WRIA) 13 -Deschutes. A USGS Topographic map is provided in Appendix B1.

Figure 2. Aerial View of the Subject Property

4.2 Soils

The NRCS Soil Survey of Thurston County, Washington identifies two soil series present on the subject property: Nisqually loamy fine sand, 0 to 3 percent slopes (73) and Indianola loamy sand, 3 to 15 percent slopes (47). The mapped soils are not hydric. A soil map is provided in Appendix B2.

Nisqually loamy fine sand, 0 to 3 percent slopes (73)
According to the NRCS survey, Nisqually loamy fine sand is somewhat excessively drained. In a typical profile, the surface layer is black loamy fine sand to a depth of 5 inches. Below this layer from 7 to 26 inches is very dark grey and very dark grayish brown loamy fine sand. Permeability is moderately rapid in the surface layer and very rapid in the substratum. Available water capacity is moderate, runoff is slow, and the hazard of water erosion is slight.

Indianola loamy sand, 3 to 15 percent slopes (47)
According to the NRCS survey, Indianola loamy sand is a somewhat excessively drained soil. In a typical profile, the surface layer is dark reddish brown loamy sand to a depth of about 6 inches. Within the subsoil from 6 to 13 inches, the soil is a dark reddish brown loamy sand, and from 13 to 25 inches is a dark brown loamy sand. Permeability is rapid, available water capacity is moderate, runoff is slow, and the hazard of water erosion is slight.

4.3 Vegetation

The forested area located on the western half of the subject property is composed primarily of Douglas fir (*Pseudotsuga menziesii*) and big leaf maple (*Acer macrophyllum*), with an understory of salal (*Gaultheria shallon*), Oregon grape (*Mahonia aquifolium*), and sword fern (*Polystichum munitum).* The eastern half of the subject property consists of maintained upland ornamentals and grasses. Invasive, non-native plants that can be found along the bank of Hicks Lake are field bindweed (*Convolvus arvensis*), reed canarygrass (*Phalaris arundinacea*), and yellow flag iris (*Iris pseudacorus*). A few native trees are also located near the OHW of Hicks Lake in the east. English Ivy (*Hedera helix*) and Himalayan blackberry (*Rubus armeniacus*) can be found throughout the parcel.

4.4 Local and National Wetland and Stream Inventories

The Thurston County wetlands inventory (Appendix B3) and the USFWS NWI map (Appendix B5) both identify Hicks Lake along the eastern boarder of the subject property. Neither the Thurston County streams inventory (Appendix B4) nor the DNR stream typing map (Appendix B6) identify any streams within 300 feet of the subject property.

4.5 Floodplain

The FEMA map (Appendix B9) identifies the 100-year floodplain to 160 feet elevation on a small portion of the eastern subject property.

4.5 Precipitation

Precipitation data was obtained from the National Oceanic and Atmospheric Administration (NOAA) weather station at Olympia Airport in order to obtain percent of normal precipitation during and preceding the site investigation. A summary of data collected is provided in Table 1.

Table 1. Precipitation Summary[1]

Date	Day of	Day Before	1 Week Prior	2 Weeks Prior	Last 30 Days (Observed/Normal)[2]	Year-to-Date (Observed/Normal)[2]	Percent of Normal (Month/Year)
10/5/17	0.0	0.0	0.24	0.27	1.29/1.95	35.73/29.75	66.2/120.1
08/28/17	0.0	0.0	0.00	0.00	0.11/0.81	34.44/27.46	13.5/125.4

1. Precipitation volume provided in inches. Data obtained from NOAA (http://w2.weather.gov/climate/xmacis.php?wfo=sew)
2. Year-to-date precipitation is for the calendar year from October 1st to the onsite date(s)
3. Percent of normal shown for both 30 days prior and year-to-date

Precipitation for the site investigation on October 5, 2017 was below the statistical normal for the preceding 30 days (approximately 66% of normal) and above the statistical normal for the calendar year (approximately 120% of normal). Due to the date of October inspection, the water year-to-date

is not a representative parameter to analyze precipitation. Precipitation during the calendar year to date provides a more representative parameter to analyze precipitation inputs prior to the site visit. Precipitation for the site investigation on August 28, 2017 was below the statistical normal for the preceding 30 days (13.5% of normal) and above the statistical normal for the calendar year (approximately 125% of normal). This data suggests that ground water was normalized when the site investigation was conducted. These conditions were considered in making professional wetland boundary determinations.

4.4 Priority Species and Habitat

Based on data from National Oceanic and Atmospheric Administration (NOAA) Fisheries, US Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC), Thurston County, Washington State Department of Natural Resources (DNR), and the Washington State Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) and SalmonScape programs, ESA-listed species may occur within the vicinity of the proposed project and were considered when investigating listed species presence for the proposed project.

The IPaC system identified pocket gopher (*Thomomys mazama*), Streaked Horned Lark (*Eremophila alpestris strigata*), Yellow-billed Cuckoo (*Coccyzus americanus*), Marbled Murrelet (*Brachyramphus marmoratus*), Bull Trout (*Salvelinus confluentus*), and Golden paintbrush (*Castilleja levisecta*) as potentially occurring within Thurston County. The IPaC system did not identify any critical habitat within one mile of the proposed project. The Thurston County pocket gopher soils data identified Indianola loamy sand, 3 to 15% slopes, as present throughout the majority of the site and Nisqually loamy fine sand, 0 to 3% slopes, as present within a small portion of the northwest corner of the site. The Thurston County pocket soils data categorizes Indianola loamy sand, 3 to 15% slopes, as areas of low preference by pocket gophers and Nisqually loamy fine sand, 0 to 3% slopes, as areas of high preference by pocket gophers. The WDFW Salmonscape map identified documented steelhead (*Onchorhynchus mykiss*) presence within a stream connected to Long Lake, a lake near Hicks Lake. Thurston County maps stream connections between Long Lake and Hicks Lake via an intermediary lake, Pattison Lake. DNR maps these streams or portions as Type F streams. As a potential swimming path exists between Hicks Lake and documented steelhead presence, steelhead are included within the list of ESA-listed species potentially found in the project vicinity.

Table 2. ESA-listed Species Potentially Found In Project Vicinity.

Species Name	Common Name	Federal Listing Status
Thomomys mazama	Pocket Gopher	Threatened
Eremophila alpestris strigata	Streaked Horned Lark	Threatened
Coccyzus americanus	Yellow-billed Cuckoo	Threatened
Brachyramphus marmoratus	Marbled Murrelet	Threatened
Salvelinus confluentus	Bull Trout	Threatened
Oncorhynchus mykiss	Steelhead Trout	Threatened
Castilleja levisecta	Golden paintbrush	Threatened

The WDFW PHS map (Appendix B7) identifies the presence of communal roosts for the big brown bat (*Eptesicus fuscus*), little brown bat (*Myotis lucifugus*), and Yuma myotis (*Myotis yumanensis*) within the township. Based on data from the WDFW Statewide List and Distribution by County, state-listed

species that may occur within the vicinity of the proposed project were also considered when investigating the site. See Table 5 below for a list of WDFW-listed species potentially found in Thurston County.

Table 3. WDFW-listed Species Potentially Found in Thurston County.

Species Name	Common Name	Thurston County Listing Status
Rana pretiosa	Oregon Spotted Frog	Endangered
Actinemys marmorata	Western Pond Turtle	Endangered
Brachyramphus marmoratus	Marbled Murrelet	Threatened
Coccyzus americanus	Yellow-Billed Cuckoo	Endangered
Strix occidentalis	Spotted Owl	Endangered
Eremophila alpestris strigata	Streaked Horned Lark	Endangered
Sciurus griseus	Western Gray Squirrel	Threatened
Thomomys mazama	Mazama Pocket Gopher	Threatened
Martes pennanti	Fisher	Endangered
Polites mardon	Mardon Skipper	Endangered
Euphydryas editha taylori	Taylor's Checkerspot	Endangered

Chapter 5. Results

5.1 General Observations

SVC investigated the subject property for the presence of potentially-regulated wetlands, shorelines, fish and wildlife habitat, and/or priority species. Using current methodology, the site assessment identified and delineated the OHW mark of Hicks Lake, a shoreline of the state, and one potentially-regulated wetland (Wetland A). No other potentially-regulated wetlands or priority habitats or species were observed on or in the vicinity of the subject property during the site investigation.

The western half of the subject property consists of a semi-mature, undeveloped forest comprised primarily of Douglas fir and big leaf maple. The underlying scrub-shrub stratum consists primarily of salal, Oregon grape, and sword fern. Two partially cleared areas contained fallen logs, and some sparse snags and large woody debris were identified in this upland forested area that could provide potential habitat and foraging opportunities to various wildlife species. The developed eastern portion of the subject property consists primarily of ornamental and non-native invasive plants and mown grasses. This area has little opportunity to have a primary association with priority native species beyond the sparse native trees located along the edges of the subject property and along the OHW of Hicks Lake.

5.2 Shoreline

5.2.1 Hicks Lake

The shoreline of Hicks Lake was identified along the subject property's eastern boundary. Existing shoreline stabilization is comprised of creosote-treated timbers, metal spikes, and large automotive tires located within Hicks Lake. Additional debris and a dilapidated float were also observed along the shoreline. The beach substrate consists of sparse cobble and soft silty sand. A lake-fringe wetland (described below) is located across the entire length of the subject property's shoreline.

Table 4. Hicks Lake Shoreline Summary

REGULATED SHORELINE HABITAT INFORMATION SUMMARY		
Location:	Eastern boundary of subject property	
	Waterbody	Hicks Lake
	WRIA	13 - Deschutes
	Local Jurisdiction	City of Lacey
	Shoreline Designation	Urban Conservancy
	Setback	200 feet
	PHS Documented Habitat	No aquatic PHS habitat is documented

Location of Shoreline Relative to Project	The proposed multi-family residential buildings are located outside of the 200-foot shoreline jurisdiction. Portions of the recreational use areas and beach access pathway to the dock are located within 100 feet of the OHW. The dock is located below OHW.
Setback Condition	The 100-foot shoreline setback consist predominantly of mown and maintained lawn grasses, ornamental and non-native invasive vegetation under sparse native trees and the footprints of residential structures, associated infrastructure and compacted gravel driveway and parking areas.

5.2.2 Shoreline Setback

The shoreline at the site is regulated under the City of Lacey Shoreline Master Program (SMP) with specific project requirements found under City of Lacey SMP 17.42.000 for restoration and City of Lacey SMP 17.61.020 for dock construction. Per City of Lacey SMP 17.24.015 Table 4, multi-family dwelling residential development and accessory structures associated with residential development are subject to a 100-foot setback from OHW.

5.3 Wetlands

The site investigation identified one potentially-regulated wetland (Wetland A) on the eastern portion of the subject property. The identified wetland contained indicators of wetland hydrology, hydric soils, and a predominance of hydrophytic vegetation according to current wetland delineation methodology. No other potentially regulated wetlands and/or fish and wildlife habitat were observed on or within 300 feet of the site. The wetland data forms, wetland rating forms, and wetland rating maps are provided in Attachments D, E, and F respectively. Table 2 summarizes the wetland identified during the site investigations.

5.3.1 Wetlands Overview

Table 5. Wetland Summary

Wetland	Predominant Wetland Classification / Rating				Wetland Size Onsite (sq ft)	Buffer Width (feet)[E]
	Cowardin[A]	HGM[B]	Ecology[C]	City of Lacey[D]		
A	PABH	Lake Fringe	III	III	3,000	80

A. Cowardin et al. (1979) Class based on vegetation: PABH = Palustrine Aquatic Bed; with modifiers for Water Regime or Special Situations: H = Permanently Flooded.
B. Brinson, M. M. (1993).
C. Ecology rating according to Washington State Wetland Rating System for Western Washington – Revised Hruby (2014).
D. LMC 14.28.100
E. LMC 14.28.280

Wetland A

Wetland A is approximately 3,000 square feet (0.07 acre) in size onsite with hydrology provided by Hicks Lake, precipitation, and surface water drainage. The dominant vegetation in Wetland A is creeping buttercup (*Ranunculus repens*) and water lily (*Persicaria maculosa*). Wetland A is classified as a Lake Fringe Palustrine Aquatic Bed Permanently Flooded (PABH) wetland. Under LMC 14.28.100, Wetland A is a Category III wetland. According to LMC 14.28.280, wetlands with a habitat score of 3 and located within a high intensity land use, are subject to a standard 80-foot buffer. Table 3 provides a detailed summary of Wetland A.

Table 6. Wetland A Summary

<table>
<tr><th colspan="3">WETLAND A – INFORMATION SUMMARY</th></tr>
<tr><td>Location:</td><td colspan="2">Located in the eastern portion of the subject property, adjacent to Hicks Lake</td></tr>
<tr><td colspan="2" rowspan="10"> </td><td>Local Jurisdiction</td><td>City of Lacey</td></tr>
<tr><td>WRIA</td><td>13 - Deschutes</td></tr>
<tr><td>Ecology Rating (Hruby, 2014)</td><td>III</td></tr>
<tr><td>City of Lacey Rating</td><td>III</td></tr>
<tr><td>City of Lacey Buffer Width</td><td>80 feet</td></tr>
<tr><td>Wetland Size</td><td>3,000 SF</td></tr>
<tr><td>Cowardin Classification</td><td>PABH</td></tr>
<tr><td>HGM Classification</td><td>Lake Fringe</td></tr>
<tr><td>Wetland Data Sheet(s)</td><td>DP-4</td></tr>
<tr><td>Upland Data Sheet (s)</td><td>DP-1, 2, 3, & 5</td></tr>
<tr><td>Boundary Flag color</td><td>Orange</td></tr>
<tr><td>Dominant Vegetation</td><td colspan="2">The dominant vegetation in this wetland is creeping buttercup (Ranunculus repens) and water lily (Persicaria maculosa).</td></tr>
<tr><td>Soils</td><td colspan="2">Hydric soil S5 (Sandy Redox) was observed.</td></tr>
<tr><td>Hydrology</td><td colspan="2">Hydrology fluctuates with Hicks Lake water levels. Some hydrology provided by precipitation and surface flow.</td></tr>
<tr><td>Rationale for Delineation</td><td colspan="2">Clear transitions between wetland and upland vegetation and hydrology.</td></tr>
<tr><td>Rationale for Local Rating</td><td colspan="2">Local rating is based upon Hruby (2014) rating system per LMC 14.28.100.</td></tr>
<tr><th colspan="3">Wetland Functions Summary</th></tr>
<tr><td>Water Quality</td><td colspan="2">Wetland A has moderate potential to improve water quality due to the surrounding landuse and presence of powerboats on the lake. However, the lack of dense emergent and herbaceous vegetation in the wetland limits its ability to filter pollutants.</td></tr>
<tr><td>Hydrologic</td><td colspan="2">Wetland A has a low potential to provide hydrologic function to the watershed due to the location predominantly within the OHW of Hicks Lake.</td></tr>
<tr><td>Habitat</td><td colspan="2">Wetland A has low species richness, consists primarily of aquatic bed, and is surrounded by residential development landuse. As such, the habitat function of Wetland A is low.</td></tr>
<tr><td>Buffer Condition</td><td colspan="2">The buffer surrounding Wetland A is degraded by prior development activities and ornamental and invasive, non-native vegetation.</td></tr>
</table>

5.2.2 Wetland Functions

The wetlands on the subject property may provide some water quality, habitat and hydrologic functions. Wetland functions were evaluated using the Wetland Functions Characterization Tool for Linear Projects (BPJ) (WSDOT, 2000).

Wetland A is a Category III, lake fringe wetland. The wetland's dominant water regime is provided by Hicks Lake, with persistent, rooted, vascular vegetation. Wetland A may contribute to sediment, nutrient, and toxicant removal as well as foraging opportunities for fish and birds. Wetland A provides a moderate degree of potential for water quality and hydrologic functions due to its location in the watershed and surrounding land use pollutant generation. Wetland A has the potential to provide functional habitat for aquatic invertebrates, and wetland associated mammals, and birds. However, the buffer of this unit is degraded due ornamental and invasive, non-native plants and the shoreline is armored with logs, tires, and rocks.

Table 6. Functions and Values of Existing Wetlands

Function / Value[A]	Wetland
	A-1
Water Quality Functions	
Sediment Removal	x
Nutrient and Toxicant Removal	x
Hydrologic Functions	
Flood Flow Alteration	-
Erosion Control & Shoreline Stabilization	x
Habitat Functions	
Production & Export of Organic Matter	x
General Habitat Suitability	x
Habitat for Aquatic Invertebrates	x
Habitat for Amphibians	-
Habitat for Wetland-Associated Mammals	x
Habitat for Wetland-Associated Birds	x
General Fish Habitat	x
Native Plant Richness	x
Special Characteristics	
Educational or Scientific Value	-
Uniqueness and Heritage	-

[A] "-" means that the function is not present; "x" means that the function is present is of lower quality; and "+" means the function is present and is of higher quality.

5.3.3 Wetland Buffers

Under LMC 14.28.100, Wetland A is a Category III wetland with a habitat score of 3. Wetland buffer widths are based on habitat function value and surrounding land use intensity under LMC 14.28.280. For the purposes of this analysis, it will be assumed that the future intensity of the surrounding land use will be high intensity. As such, Wetland A is likely subject to a standard 80-foot buffer.

5.4 Priority Species and Habitat

Pocket gopher mounds, identifiable by their skewed conical shape produced by the unidirectional excavations made by this species, were not identified onsite. Further, despite the NRCS mapped soils of the subject property being consistent with suitable soils found in potential pocket gopher habitat, the pocket gopher assessment determined that the site is not suitable habitat due to several reasons. The site offers no foraging opportunity for this species. The only portion of the site containing potential for herbaceous vegetation forage, (the maintained lawn area along the eastern portion) is lacking suitable forage due to the maintained and mown condition of all herbaceous plants in this area. Further, the soils within the eastern site area appear to consist of a previous fill and very compacted gravelly and rocky substrate that would preclude much of the burrowing activity required for this species. The mixed-deciduous forested area on the western portion of the parcel (refer to Attachment A for the existing site conditions map) is not suitable habitat for pocket gophers. therefore, the subject property provides no opportunity for any recruitment of any protected pocket gopher species.

Puget Sound steelhead trout and coastal/Puget Sound bull trout are documented within a stream connecting to Long Lake, a lake that is connected to Hicks Lake through two streams and an intermediary lake, Pattison Lake. While there is hydrological connection between Hicks Lake and a stream with documented steelhead presence, the WDFW Salmonscape map does not identify the two streams connecting Hicks Lake to Long Lake as containing any salmonid species. The shoreline, in its current armored state, does not have habitat suitable to provide any primary association with the native fish. Furthermore, WDFW identifies largemouth bass as being present in Hicks Lake, which would prey on and directly compete with the native fish.

The snags have the potential to provide foraging and nesting opportunities for the pileated woodpecker. No nests or active foraging activities were observed while investigating the site, however, the area is considered to have potential for a primary association with the pileated woodpecker. The forested area also has the potential to provide habitat to the fisher. Though there is no documented presence on or near the site, and none were observed while conducting the site investigation, the large woody debris and dense vegetated forests are preferred by the fisher.

Chapter 6. Regulatory Considerations

The results of the site investigations identified Hicks Lake and a potentially-regulated wetland (Wetland A) on the subject property. No other potentially-regulated wetlands, waterbodies, or regulated fish and wildlife habitat areas were identified on or near the subject property. The proposed project includes residential development on uplands, recreational and water-related recreational areas within the shorelands associated with Hicks Lake. Shoreline, wetland, and associated buffer area restoration and enhancement actions are proposed as mitigation to offset temporary impacts as well as to enhance the existing environmental conditions onsite. The project will result in a net reduction in impervious surfaces within 100 feet of Hicks Lake and the restoration of native tree, shrub, and herbaceous plant species within 3,000 square foot area near Hicks Lake and Wetland A to restore and enhance riparian and wetland buffer functions. The project will also remove existing pollutant-generating shoreline armoring and an old solid surface wooden float from the waters of Hicks Lake and Wetland A. No net loss of shoreline waters, or shoreline ecological functions or processes are expected from the proposed project.

6.1 Local Considerations

6.1.1 Regulated Shoreline

Shorelands include those areas extending 200 feet landward from the OHW of Hicks Lake as defined, SMP 17.15.225. The Applicant proposes to construct structures associated with the multi-family residences including approximately 10 parking spaces, an administrative and recreational use facility for enjoyment of lakeside recreation, a sports court, and a pool with patio within shoreland areas between 100 and 200 feet from Hicks Lake. Within 100 feet of Hicks Lake the project will be limited to a portion of patio associated with the residential recreation areas, a beach access pathway, lakeside picnic areas, and the restoration of native plants within an area 3,000 square feet in size. In addition, the Applicant proposes to construct a dock within Hicks Lake that will span Wetland A. These project elements are regulated by the City of Lacey SMP as adopted by LMC 14.26.010. The remaining elements of the proposed project are located landward of the shorelands of Hicks Lake and entirely outside of the 80-foot buffer for Wetland A.

The City of Lacey SMP provides descriptions of shoreline environments and a list of preferred uses for each shoreline environment. The shoreline associated with the project area is designated as Urban Conservancy shoreline (City of Lacey SMP 17.20.100). City of Lacey SMP 17.20.065 & 066 describe Urban Conservancy environments as designed to protect and restore ecological functions of open space, flood plain and other sensitive areas within the urban and developed while also allowing for compatible uses. The designation gives priority to water oriented uses and projects that preserves or restores the natural shoreline environment and promote no net loss of ecological values and functions.

The Applicant proposes to construct structures for the purpose of multi-family residential use and water-related and enjoyment use within the shorelands of Hicks Lake. Per City of Lacey SMP 17.24.015 Table 3, multi-family residential and water-related and enjoyment uses are allowed within the Urban Conservancy shoreline designation with a Substantial Development Permit (SDP). Per City of Lacey SMP 17.24.015 Table 4, multi-family dwelling residential development and accessory structures associated with residential development are subject to a 100-foot setback from OHW and structures associated with water-related and enjoyment use are subject to a 50-foot setback from

OHW. Further, pedestrian trails and shoreline access segments are permitted outright in the Urban Conservancy environment with no setback requirements. The proposed administrative and recreational use facilities including sports court, parking areas, and pool are located landward of the 100-foot setback for multi-family dwelling residential development. Pedestrian trails and access are proposed within 100 feet of the OHW in addition to the lakeside picnic areas. Picnic tables are proposed in the southern area of the shoreline and four covered picnic shelter areas are proposed in the northern shoreline. Two of the proposed picnic area shelters in the northern shoreline area are located approximately 33 feet from the OHW and two are located a minimum of 50 feet from the OHW.

Per City of Lacey SMP 17.24.015 Table 4, the 100-foot setback for multi-family dwelling residential development may also be viewed as a vegetation management area. A Shoreline Vegetation Management Plan is typically required for shoreline parcel development that requires a shoreline SDP, shoreline CUP, or shoreline variance (City of Lacey SMP 17.41.020). However, the requirement for a Shoreline Vegetation Management Plan may be waived by the Administrator (City of Lacey) from the proposed permit or action when the project seeks to improve ecological functions of the shoreline such as the removal of a bulkhead (City of Lacey SMP 17.41.020.2.E). The level of functional improvement resulting from the proposed action shall be proportionate to that which would be provided through implementation of a Vegetation Management Plan. The Applicant proposes to improve shoreline ecological functions through removal of existing pollutant-generating shoreline armoring including creosote-treated timbers, metal spikes, and large automotive tires in addition to removal of a dilapidated solid surface float, and additional trash and plastic debris along the shoreline. Non-native vegetation will also be removed within the shoreline riparian area and replaced with native vegetation, including species from the Shoreline Plantings Plant List form the Green Shoreline Landscaping: Examples and Guidelines in Appendix 2 of the City of Lacey SMP. The project will result in a net reduction in impervious surface area within 100 feet of the OHW. These shoreline restoration actions included within the project proposal will improve the ecological functions of the shoreline, and the proposed project may be suitable for waiving the requirement for a Shoreline Vegetation Management Plan. The project uses SMP 17.41.020 as a guide for the proposed vegetation management and planting plan to restore shoreline and buffer functions. See Appendix C for details.

The Applicant proposes to restore the shoreline along the subject property. The proposed shoreline restoration follows the general standards for beach restoration and enhancement (City of Lacey SMP 17.42.020.4):

A. Beach restoration and enhancement shall be the preferred way to protect an existing single-family residence or to maintain access to an authorized shoreline use, as opposed to hard shoreline stabilization structures such as bulkheads, landfills, levees, dikes, groins, or jetties.

Shoreline erosion appears to occur onsite due to wave action from boats, especially along the northern portion of the site, and from access to the shoreline for what may presumably be a variety of recreational uses. The adjacent boat launch offsite to the north creates a source of boat wash and waves that appears to limit vegetation growth within Wetland A and impacts the north shoreline of the subject property. In addition, access to open waters of Hicks Lake appears seasonally available in the cleared southern shoreline area when the aquatic vegetation within Wetland A is diminished during the fall and winter. Protection of the shoreline from both boat waves and pedestrian or small craft water access will be provided through the proposed use of clean gravels, sand, and rock and carefully placed logs. Implementation of these features will also

help to restore the substrate and habitat within Hicks Lake and Wetland A following the removal of the existing stabilization and debris along the shoreline. The removal of the existing armoring treatments, solid surface dock, and trash and debris will improve water quality and habitat conditions immediately following the actions. As such, the proposed project uses beach restoration and enhancement to maintain access to authorized shoreline uses.

B. *Beach restoration and enhancement may be permitted to restore or enhance degraded shoreline functions.*

The existing shoreline condition is degraded due to the presence of creosote-treated timbers, metal, a dilapidated float, tires, plastic debris, and non-native, invasive species along the shoreline. The proposed shoreline restoration actions will protect the restored shoreline areas from boat waves, recreational water enjoyment, and will improve shoreline functions by removing the pollutants and armoring features and providing natural habitat structures.

C. *The location and design of beach restoration and enhancement projects shall utilize the best available technology, such as the use of gravel berms, large woody debris, and sediment mixtures designed to either move within the drift cell or to resist the normal wave action of the site.*

The shoreline restoration design uses native plant enhancement, implementation of appropriate beach gravels and other features, such as large woody debris, described in the City of Lacey's Green Shoreline Landscaping Examples and Guidelines (City of Lacey SMP Appendix 2).

D. *Beach restoration and enhancement project shall demonstrate that they will not:*

1) Cause significant change in littoral drift or river currents,

The shoreline of the subject property is situated within a shallow lake bed area protected seasonally by wetland vegetation. As such, natural sediment movement within the shoreline would be limited; however, as described in Part A above, erosive forces including beach access and boat waves and wash from the adjacent boat launch create ongoing sources of erosional forces that would result in a significant increase in onsite shoreline erosion if the existing armoring is removed without replacement. The proposed shoreline restoration and enhancement actions include removal of water quality and habitat limitations imposed by the existing shoreline conditions. The placement of native plants along the riparian area, beach gravels, large woody debris and rocks immediately adjacent to OHW will minimize shoreline disturbance over the long term and provide immediate shoreline and wetland benefits to water quality and habitat functions. This shoreline restoration design will likely not significantly change the movement of sediments along the lake.

2) Adversely affect adjacent properties,

The proposed shoreline restoration will not adversely affect adjacent properties as the onsite features will not extend to adjacent properties nor significantly affect shoreline sediment movement. In addition, the fetch across Hicks Lake (distance from the onsite shoreline to the closest point of land on the opposites shoreline) in this area is approximately 1,500 linear feet and the replacement of the existing solid surface float with a dock/pier that extends over Wetland A (160 linear feet) is 11 percent of the fetch and would not present an obstacle to the use of Hicks Lake by neighboring properties.

3) Adversely affect adjacent spawning grounds or other areas of biological significance, and

The proposed shoreline restoration will not adversely affect spawning or other significant biological features in Hicks Lake. Proposed project actions are expected to be beneficial for habitat.

4) Interfere with the normal public use of the navigable waters of the state.

The fetch across Hicks Lake in this area is approximately 1,500 linear feet and the replacement of the existing solid surface float with a dock/pier that extends over Wetland A (160 linear feet) is 11 percent of the fetch and would not present an obstacle to the use of Hicks Lake by neighboring properties. The proposed shoreline restoration will not interfere with public use of Hicks Lake.

The Applicant proposes to construct a dock within Hicks Lake. Piers and docks serving one property are subject to a Conditional Use Permit (CUP) per City of Lacey SMP 17.24.020 Table 5. Considerations for CUP criteria are described below. Development standards for piers and docks are listed in City of Lacey SMP 17.61.020. The purpose of the proposed dock is to enable water-dependent recreational use by providing a location for launching and temporary mooring of small watercraft and pedestrian access to Hicks Lake outside of Wetland A. The existing shoreline does not have a safe location for launching and/or accessing small watercraft beyond Wetland A. Therefore, the proposed dock is necessary to support water-dependent recreational uses; such as, small craft launching and swimming, from the subject property (City of Lacey SMP 17.61.020.3). In addition, per the City's needs analysis associated with Comprehensive Plan for Outdoor Recreation or Public Access Plan, the dock is consistent with the priorities for Hicks Lake to facilitate opportunities for swimming. Maximum surface coverage for docks serving multiple residences shall be 1,000 square feet. Piers shall be 4 feet wide and fully grated using 60% open area and be a minimum of 1.5 feet above the OHW elevation. Docks with floats or ells shall be limited to 6 feet wide by 26 feet long with grating provided 100% grating. Docks and piers shall be designed and constructed to avoid, or minimize and mitigate the impacts to ecological functions, critical areas, and processes (City of Lacey SMP 17.61.020.6). The use of the proposed dock for launching and temporarily mooring small watercraft will assist in minimizing impacts to the shoreline of Hicks Lake that could otherwise occur from repeated launching and temporary anchoring of small watercraft along the shoreline. The proposed pier cannot avoid impacts to the Wetland A as the wetland extends across the entire length of the subject property shoreline. However, the proposed dock design will minimize impacts to Wetland A by locating the float outside of Wetland A and using grated surface materials to allow light transmittal. Pier and dock designs shall follow the Green Shoreline Guidelines from the City of Lacey SMP (City of Lacey SMP 17.61.020.6). These guidelines include selection of non-toxic material for pier piles and decking, scheduling construction within approved work windows, use of grated decking, designing the dock such that the bottom of the structure is at least 18 inches above OHW, and avoiding use of overwater lights throughout the entire night (City of Lacey SMP 17, Appendix B). The proposed dock will be designed to meet these standards. Pier, ramp, and float dimension standards are listed in City of Lacey SMP 17.61.020.16. The proposed dock is 4 feet wide throughout its length and consists of a 128-foot long pier, 12-foot long ramp, and two floats comprising the ell-shape that are 20 and 48-feet long, which exceeds the dimensional length standard given in City of Lacey SMP 17.61.020.16.G and may require a shoreline variance. However, total overwater coverage

of this dock is 832 square feet and as such, does not exceed the 1,000 square foot maximum surface area standard for docks serving multiple residences, per SMP 17.61.020.16.A. Shoreline conditional use and variance criteria are described and analyzed below.

Conditional Use Criteria

The Applicant proposes to construct a pier, ramp, and two floats (dock) in Hicks Lake; as it serves a single property this action may require a CUP. Consideration for this proposed conditional use with regards to the conditional use criteria listed in City of Lacey SMP 17.30.015 is given below:

A. That the proposed use is consistent with the policies of RCW 90.58.020 and the master program;

RCW 90.58.020 recognizes the necessity of coordinated planning to protect the public interest associated with shorelines of the state, while also recognizing and protecting private property rights consistent with the public interest. RCW 90.58.020 states that local governments shall follow the use preferences listed in RCW 90.58.020 in developing local shoreline master programs. The City of Lacey SMP establishes shoreline environment designations to direct preferred uses along shorelines of the state. The subject property is in an Urban Conservancy designation, which gives priority to water oriented uses and projects that preserves or restores the natural shoreline environment and promote no net loss of ecological values and functions. As a water-dependent use incorporated within a project that includes shoreline restoration actions, the proposed dock is consistent with the Urban Conservancy shoreline environment designation and the policies of the RCW 90.58.020 and City of Lacey SMP.

B. That the proposed use will not interfere with the normal public use of public shorelines;

The proposed dock will span Wetland A and extend approximately 11 percent of fetch within Hicks Lake and is not anticipated to interfere with navigation along the lake.

C. *That the proposed use of the site and design of the project is compatible with other authorized uses within the area and with uses planned for the area under the Comprehensive Land Use Plan and Shoreline Master Program;*

The City of Lacey's Comprehensive Land Use Plan designates the subject property as being within the Lakes Planning Area, which is centered on Hicks, Long, Pattison, and Southwick Lakes. The description of the Lakes Planning Area's environmentally sensitive area designations states that uses along the lakes are regulated by the applicable SMP and critical area regulations. As described above for criteria A, the proposed dock is consistent with the uses within the Urban Conservancy environment designated by the SMP. The proposed dock is consistent with wetland protection considerations under LMC 14.28 (please see Section 6.1.2 for further details on wetland protection).

D. That the proposed use will cause no significant adverse effects to the shoreline environment in which it is to be located; and

The proposed dock is located along an existing shoreline degraded by non-native invasive species, a dilapidated wooden float, and shoreline debris. Locating the dock within this shoreline will not cause significant adverse effects to the existing shoreline environment. Furthermore, the proposed dock is designed to minimize impacts to the shoreline environment by following Green Shoreline Guidelines from the City of Lacey SMP (City of Lacey SMP 17.61.020.6). The proposed dock design also locates the ell beyond the Wetland A aquatic bed to minimize impacts to the wetland.

E. That the public interest suffers no substantial detrimental effect

The proposed dock will cause no adverse effect to the public access, public views along shoreline, or to the shoreline ecological functions. As such, the public interest will suffer no substantial detrimental effect.

F. In the granting of all conditional use permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area, for example, if conditional use permits were granted for other developments in the area where similar circumstances exist. The total of the conditional uses shall also remain consistent with the policies of RCW 90.58.020 and shall not produce substantial adverse effects to the shoreline environment.

The proposed dock is intended to provide water-dependent recreation opportunities for a substantial number of residents in the proposed multi-family residences on the subject property. The subject property's Urban Conservancy shoreline designation encourages water-oriented uses. The City of Lacey SMP's development standards for piers and docks (LMC 17.61.020) further encourages providing joint use or community docks for new residential development when feasible. Providing a single structure to enable water use by a substantial number of shoreline residents is consistent with the RCW 90.58.020 policy to protect the public interest in the shoreline while also protecting private property rights consistent with the public interest. The shoreline of Hicks Lake currently contains multiple docks associated with single-family residences. If additional requests for joint-use docks associated with multi-family residential projects were to occur along Hicks Lake, these requests would likely involve use or replacement of existing structures and not produce substantial adverse effects to the shoreline environment.

Shoreline Variance Criteria

The Applicant proposes to construct a dock with dimensional standards that vary from SMP 17.61.020; this action may require a shoreline variance. Consideration for this proposed variance with regards to the variance criteria listed in LMC 17.30.020.2 and LMC 17.30.020.3 is given below:

LMC 17.30.020.3: Variance permits for development and/or uses that will be located waterward of the ordinary high water mark (OHWM) or within any wetland as defined in this Master Program may be authorized provided the applicant can demonstrate all of the following:

A. That the strict application of the bulk, dimensional or performance standards set forth in Lacey's Master Program precludes all reasonable use of the property;

The Applicant proposes to construct a dock for use by a substantial number of residents of the proposed multi-family residences. To accommodate multiple residents using the dock at a single time, the proposed dock dimensions extends the float to 55 feet in length. LMC 17.61.020.16.G provides a 26-foot standard length. Applying this standard to the proposed project would not be reasonable given the need to safely accommodate several people on the pier at a single time.

B. That the proposal is consistent with the criteria established under Section 17.20.030. 2 A-F; and

Please see consideration of the criteria in LMC 17.20.030.2 below.

C. That the public rights of navigation and use of the shorelines will not be adversely affected.

The proposed dock will not adversely affect the public right of navigation and use of the shoreline. Hicks Lake is approximately 1,500 linear feet from the site to the opposite shoreline in this area and the dock length comprises 11 percent of this area, following the contour of the shallow portions comprising Wetland A. No existing navigation occurs or should occur within the area spanned by the pier and therefore, the proposed dock will not hinder any current or proposed use of the water.

LMC 17.30.020.2: Variance permits for development and/or uses that will be located landward of the ordinary high water mark (OHWM) and/or landward of any wetland as defined in this Master Program may be authorized provided the applicant can demonstrate all of the following:

A. That the strict application of the bulk, dimensional or performance standards set forth in Lacey's Master Program precludes or significantly interferes with reasonable use of the property;

Please see consideration for LMC 17.30.020.3.A above.

B. That the hardship described in (A.) of this subsection is specifically related to the property, and is the result of unique conditions such as irregular lot shape, size, or natural features and the application of the master program, and not, for example, from deed restrictions or the applicant's own actions;

LMC 17.30.020.5 encourages residential development with two or more dwellings to provide joint use or community dock facilities when feasible. However, the while the standards listed in LMC 17.30.020.16 adjust the pier surface coverage for residential piers serving 3 or more residences, the standards do not adjust the pier width standards depending on the number of users. Applying the limited dimensions standard to the proposed project would be unreasonable and potentially cause unsafe conditions as multiple people use the proposed dock at the same time.

C. That the design of the project is compatible with other authorized uses within the area and with uses planned for the area under the Comprehensive Land Use Plan and Shoreline Master Program and will not cause adverse impacts to the shoreline environment;

The proposed dock is consistent with the Comprehensive Land Use Plan and City of Lacey SMP as described above under Criteria C of the conditional use criteria.

D. That the variance will not constitute a grant of special privilege not enjoyed by the other properties in the area;

The majority of properties on Hicks Lake are single-family residences and do not face the Applicant's situation of providing safe water access for multiple residents.

E. That the variance requested is the minimum necessary to afford relief; and

The proposed dock dimensions meet the overall maximum standard of 1,000 square feet in size while exceeding the standard float length, it is the minimum necessary to provide for safe use of the dock by multiple residents of the proposed multi-family residential development.

F. That the public interest will suffer no substantial detrimental effect.

The proposed dock dimensions will cause no substantial detrimental effect to the public interest.

6.1.2 Wetland Requirements

The City of Lacey SMP 17.35.020 adopts the LMC Chapter 14 (Critical Areas Ordinances) by reference with special conditions listed in the City of Lacey SMP 17.35.020. The onsite Wetland A is a Category III wetland with 3 habitat points. Under LMC 14.28.280 wetlands with a habitat score of 3 and located within high intensity land use are subject to a standard 80-foot buffer.

The Applicant proposes installing a picnic area, patio, and shoreline access path within the Wetland A buffer and constructing a pier across Wetland A. The standard wetland buffer widths presume that the buffer area is comprised of a relatively intact native vegetation community to protect wetland functions (LMC 14.28.280). The existing Wetland A buffer condition is highly degraded due to the presence of a mobile home, impervious parking area, and dominance of non-native vegetation. The Applicant proposes to restore the Wetland A buffer by removing the mobile home, parking area, and non-native vegetation and planting a mix of native herbaceous, shrub, and tree species. Walkways and trails are allowed activities within wetland buffers provided that the pathways are limited to minor crossings that have no adverse impact on water quality (LMC 14.28.120.F). The proposed shoreline access is a walkway provides pedestrian access to Hicks Lake and may be considered a walkway that causes no adverse impact on water quality. A net reduction in impervious surfaces is proposed in the buffer.

The proposed picnic area and patio within the Wetland A buffer will have minor impacts to the buffer, and the proposed pier will have minor impacts to Wetland A. Removal of the existing solid surface wood float and pollutant-generating shoreline armoring treatments are proposed and will offset the pier footprint. Regulated activities and uses may be permitted in a regulated wetland where the proposed impact is unavoidable and necessary or that all reasonable economic uses are denied (LMC 14.28.350.A).

Unavoidable and necessary impacts can be demonstrated for Category II and Category III wetlands for water-dependent activities where there are no practicable alternatives which would not involve a wetland or which would not have less adverse impact on a wetland or have other significant adverse environmental consequences (LMC 14.28.250.C.1). The proposed pier is a water-dependent structure that cannot avoid impacts to Wetland A as Wetland A spans the length of the subject property's shoreline. As the proposed pier cannot avoid impacts to Wetland A, minimization of wetland impacts is required (LMC 14.28.360.A). The proposed pier minimizes impacts by careful design and selection of materials. The pier's design includes locating the ell outside of the wetland so that launching and temporary mooring of small watercraft will be directed outside of the wetland. The pier will be also be constructed following the Green Shoreline Guidelines from the City of Lacey SMP (LMC 17.61.020.6) to minimize impacts to the Wetland A aquatic bed.

6.2 State and Federal Considerations

The proposed project includes work below Mean High Water and, as such, is located within the jurisdiction of WDFW and the U.S. Army Corps of Engineers (USACE). As such, the proposed project is likely subject to federal regulations associated with the Clean Water Act (33 U.S.C. §1251 et seq.) and Rivers and Harbors Act (33 U.S.C. 403). As the proposed project is subject to federal review, it is also subject to Endangered Species Act (6 U.S.C. § 1531 et seq.) requirements for consultation of proposed project impacts to ESA-listed species. An application for a Hydraulic Project Approval

(HPA) from WDFW is proposed. A Biological Evaluation for submittal to USACE has been prepared separately from this report.

Chapter 7. Conceptual Wetland Buffer and Shoreline Restoration Plan

The majority of the new structures, including all of the multi-family residential structures, will be built outside of shoreline jurisdiction and outside of wetland buffer. Careful site planning was used to avoid and reduce impacts to these onsite critical areas and their buffers, but due to site constraints, portions of the patio and the lakeside picnic areas shelters are located within the Wetland A buffer. In addition, the water-dependent pier must span Wetland A to provide access to Hicks Lake. To offset these minor impacts, the existing mobile homes and impervious areas will be removed from the Wetland A buffer and 3,000 square feet of wetland buffer enhancement will occur along the shoreline of Hicks Lake. The buffer enhancement will include removing non-native, invasive plant species and planting native species.

The Applicant also proposes shoreline restoration to improve shoreline ecological functions. Existing pollutant-generating shoreline stabilization treatments, a dilapidated solid-surface float, and plastic debris will be removed from the shoreline. Non-native invasive plants will be removed from the riparian areas and the shoreline will be further be restored through the installation of clean beach gravels, anchored large woody debris and rocks along the length of the subject property's shoreline to maintain the shoreline and limit erosion due to anthropogenic uses and activities in the area. The restoration and enhancement actions will result in a net increase in wetland and shoreline functions and values and provide safe shoreline access for residential recreational use.

7.1 Purpose and Need

The purpose of the proposed project is to provide additional housing units within the City of Lacey and provide for water-related and water-dependent recreational activities on the subject property.

7.2 Mitigation Sequencing

Please see Section 6.1.2 for a description of avoiding and minimizing impacts of the proposed project on the wetland buffer and wetland.

7.3 Description of Impacts

The subject property contains multiple dwelling units near the shoreline and the shoreline and wetland areas are currently degraded. The existing 100-foot vegetation management area for Hicks Lake and the embedded 80-foot buffer of Wetland A are currently degraded due to location of a mobile home, parking area, and dominance of non-native species and lawn vegetation. The existing shoreline condition is further degraded by the presence of creosote-treated timbers, metal spikes, a dilapidated solid surface wooden float, automotive tires, and other debris. See Section 2.2 and Appendix C for project details. Minor temporary disturbance of the vegetation management area is proposed through removal of existing features; however, the overall project is anticipated to enhance the wetland and Hicks Lake buffer functions over the long term.

7.4 Mitigation Strategy

The proposed restoration and enhancement actions within 100 feet of Hicks Lake and Wetland A use SMP 17.41.020 as a guide and are intended to improve the ecological conditions of the wetland buffer and Hicks Lake shoreline over existing conditions. The project will offset the impact of regulated activities in the wetland buffer and wetland and restore the shoreline. The proposed removal of existing impervious surfaces from the wetland buffer will improve water quality within Wetland A and Hicks Lake. The proposed native plantings will improve habitat function provided by the Wetland A buffer. The proposed replacement of existing hard shoreline features and debris with natural shoreline features will increase the habitat value of the subject property shoreline.

7.5 Mitigation Approach

The Applicant proposes to remove 1,737 square feet of existing impervious surface (mobile home and parking area) within the 80-foot wetland buffer. An additional 912 square feet of existing driveway and parking area will be removed from the 100-foot shoreline vegetation management area. Total removal of 2,640 square feet of impervious surfaces within 100 feet of Wetland A and Hicks Lake will result in a net decrease in impervious surfaces in this area due to the proposed project design. Enhancement actions within the shoreline vegetation management area and wetland buffer will consist of removing the non-native, invasive plants and replanting with native, riparian species across 3,000 square feet of the area. Shoreline enhancement actions will also consist of removing the approximately 250 linear feet of existing shoreline armoring, a wooden float, and shoreline debris as detailed in Section 2.2. Four hundred and seventy square feet of clean beach gravels and sand will be located landward of OHW, and approximately 1,500 square feet below OHW will be restored with clean pea gravel placed to enhance substrate conditions and fish habitat within Hicks Lake. Large woody debris and large rocks will also be carefully placed along the shoreline to enhance and maintain the approximately 250 linear feet of shoreline. The removal of existing environmental constraints in the water and on uplands within 100 feet of Hicks Lake will restore environmental functions, the installation of native plants and natural materials to maintain the shoreline, and the proposed project design will allow for continued residential recreational water access and use. The proposed wetland buffer enhancement and shoreline enhancement actions will increase buffer and shoreline ecological functions.

7.6 Best Management Practices

In-water work will be staged from secure upland location, limited to approved work corridors, and timing of any operation of equipment will occur during approved work windows. Care will be taken to prevent any petroleum products or other toxic or deleterious materials from entering the water. Equipment will be checked regularly for drips or leaks and shall be maintained properly to prevent leaks or spills. The contractor will have a spill kit with oil-absorbent materials on site to be used in the event of a spill or if any oil product is observed in the water. The contractor will be responsible for the preparation of a Spill Prevention, Control, and Countermeasures (SPCC) plan to be used for the duration of the project if required by permitting agencies.

Construction best management practices will include contractor use of work floats or tarps to capture any falling debris associated with the removal of shoreline armoring and the proposed pier/dock installation to prevent debris from entering the waterway. Excess or waste materials will be kept from entering the waterway to the maximum extent possible, and all excess or waste materials will be

collected and recycled or disposed of at an approved facility. The contractor will comply with water quality restrictions as required by law and implement corrective measures if temporary water quality standards are exceeded.

Temporary erosion and sediment control (TESC) measures will be implemented that consist of high-visibility fencing (HVF) installed around existing vegetation along areas to be preserved, silt fencing between the water and development area, plastic sheeting on stockpiled materials, and seeding of disturbed soils. These TESC measures should be installed prior to the start of development and enhancement actions and actively managed for the duration of the project.

Care will be necessary along the shoreline and setback areas to avoid impacts to the waterbody and associated habitat areas. Once construction is complete, any disturbed area should be replanted, using appropriate native plants, to permanently stabilize the soils and prevent erosion and restore any disturbed native vegetation to maintain a no net loss of ecological function.

7.7 Mitigation Implementation

On-site mitigation actions will occur concurrently with the development of the project. A pre-construction meeting should be held between the Applicant, general contractor and the project Biologist to discuss the project and limitations specifically related to protection of critical areas and implementation of mitigation actions. Following the pre-construction meeting, TESC measures will be implemented which should be actively managed for the duration of the project. Installation of the mitigation project should be supervised by a qualified biologist.

7.8 Goals, Objectives, and Performance Standards

The overarching goal for the wetland buffer enhancement plan is to increase wetland buffer functions through removal of existing impervious surfaces in the wetland buffer and planting native species to reduce water quality impacts to Wetland A and Hicks Lake and to increase habitat function within the wetland buffer.

Goal 1 – Improve water quality within Wetland A and Hicks Lake

Objective 1.1 – Remove existing impervious surfaces within the wetland buffer area.

Performance Standard 1.1.1 – The existing mobile homes and paved surfaces within the Wetland A buffer will be removed and photographic documentation will be provided during Year 1 monitoring.

Goal 2 – Establish a thriving native plant community within the wetland buffer area.

Objective 2.1 – Establish dense cover of native shrub and herbaceous species within 3,000 square feet of the shoreline vegetation management area and associated portions within the wetland buffer to improve habitat function.

Performance Standard 2.1.1 – Minimum shrub plant survivorship will be at 100 percent of installed plants at the end of Year 1 (replacement of lost plants allowed), 85 percent at the end of Year 2, 80 percent at the end of Year 3, and

75 percent at the end of Year 5. Native recruits may be counted towards survivorship totals.

Performance Standard 2.1.2 – Non-native, invasive species with the exception of reed canarygrass in the mitigation area will not exceed 10% cover in all monitoring years within the wetland buffer enhancement area. Reed canarygrass growth will be limited to ensure that its growth does not hinder native planting survival.

7.9 Plant Materials, Handling and Installation

7.9.1 Plant Materials

All plant materials to be used for enhancement actions will be nursery grown stock from a reputable, local source. Only native species are to be used; no hybrids or cultivars will be allowed. Plant material provided will be typical of their species or variety; if not cuttings, they will exhibit normal, densely-developed branches and vigorous, fibrous root systems. Plants will be sound, healthy, vigorous plants free from defects, and all forms of disease and infestation. Please refer to the Proposed Shoreline Enhancement Plan (Appendix C) for recommended plant species.

If container stock is used, such materials shall have been grown in its delivery container for not less than six months but not more than two years. Plants shall not exhibit root-bound conditions. Under no circumstances shall container stock be handled by their trunks, stems, or tops. Seeding within the shoreline habitat management vegetation area will be at the Applicant's discretion. Seed mixture used for hand or hydro-seeding shall contain fresh, clean, and new crop seed mixed by an approved method. Areas not seeded or finished within the shoreline habitat management vegetation area will be covered in clean mulch.

Mulch will consist of oyster shells, clean washed round rock or clean recycled wood chips/bark approximately 1/2 inch to 1 inch in size and approximately 2 to 3 inches thick. If free of invasive plant species, the mulch material may be sourced from ground-up woody materials salvaged from the land clearing activities.

7.9.2 Product Handling, Delivery, and Storage

All seed and fertilizer should be delivered in original, unopened, and undamaged containers showing weight, analysis, and name of manufacturer. This material should be stored in a manner to prevent wetting and deterioration. All precautions customary in good trade practice shall be taken in preparing plants for moving. Workmanship that fails to meet industry standards will be rejected. Plants will be packed, transported, and handled with care to ensure protection against injury and from drying out. If plants cannot be planted immediately upon delivery they should be protected with soil, wet peat moss, or in a manner acceptable to the project biologist. Plants, fertilizer, and mulch not installed immediately upon delivery shall be secured on the site to prevent theft or tampering. No plant shall be bound with rope or wire in a manner that could damage or break the branches. Plants transported on open vehicles should be secured with a protective covering to prevent windburn.

7.9.3 Preparation and Installation of Plant Materials

Circular plant pits with vertical sides will be excavated for all container stock. The pits should be at least 12 inches in diameter, and the depth of the pit should accommodate the entire root system. The bottom of each pit will be scarified to a depth of 4 inches.

Broken roots should be pruned with a sharp instrument and root balls should be thoroughly soaked prior to installation. Set plant material upright in the planting pit to proper grade and alignment. Water plants thoroughly midway through backfilling. Water pits again upon completion of backfilling. No filling should occur around trunks or stems. Do not use frozen or muddy mixtures for backfilling. Form a ring of soil around the edge of each planting pit to retain water, and install a 4- to 6-inch layer of mulch around the base of each container plant.

7.9.4 Temporary Irrigation Specifications

While the native species selected for voluntary enhancement and restoration actions are hardy and typically thrive in northwest conditions, and the proposed actions are planned in areas with sufficient hydroperiods for the species selected, some individual plants might perish due to dry conditions. Therefore, irrigation or regular watering will be provided as necessary for the duration of the first two growing seasons while the native plantings become established.

7.9.5 Invasive Plant Control and Removal and Fertilizers

Any non-native invasive species and listed noxious weeds present in the restoration area will be removed. The use of herbicides within the shoreline setback area is not recommended unless it is necessary. If use is necessary, these areas will be pretreated by a licensed professional with a root-killing herbicide approved for use in aquatic sites (i.e. glyphosphate) approximately 30 days prior to being cleared from the shoreline setback area. The pre-treatment with herbicide should occur prior to all planned mitigation actions, and spot treatment of any surviving other invasive vegetation should be performed again each fall by a licensed professional prior to leaf senescence for a minimum of five years. Fertilizers shall be applied according to the directions specific to the fertilizer being used. Fertilizer use should also be limited to the appropriate time of year (i.e. fall or spring) and should be limited to "slow-release" type.

7.10 Maintenance & Monitoring Plan

The conceptual maintenance and monitoring plan is described below in accordance with LMC 14.28.510.E. The Applicant is committed to compliance with the buffer enhancement plan and overall success of the project. As such, the Applicant will continue to maintain the project, keeping the site free from of non-native invasive vegetation, trash, and yard waste.

The buffer restoration plan will require continued monitoring and maintenance to ensure the actions are successful. Therefore, the project site will be monitored for a period of five years with formal inspections conducted initially (at Year 0) by a qualified Biologist. Monitoring events will be scheduled at 30 days after planting in Year 1, and annually in Years 2, 3, 4 & 5 and conducted by the Applicant using an approved protocol from City of Lacey. Closeout assessment will also be conducted in Year 5 to ensure the adequate mitigation plantings have been established.

The initial monitoring will consist of percent cover measurements at permanent monitoring stations, walk-through surveys to identify invasive species presence and dead or dying restoration plantings,

photographs taken at fixed photo points, wildlife observations, and general qualitative habitat and riparian function observations.

To determine percent cover, observed vegetation will be identified and recorded by species and an estimate of areal cover of dominant species within each sampling plots. Circular sample plots, approximately 30 feet in diameter (706 square feet), are centered at each monitoring station. The sample plots encompass the specified stream and stream buffer areas and terminate at the observed stream buffer boundary. Trees and shrubs within each 30-foot diameter monitoring plot are then recorded to species and areal cover. A list of observed tree and shrub species, including percent areal cover of each species is included within the monitoring report.

7.11 Reporting

A brief as-built report will be submitted to the City of Lacey within one month of completion of native plant installation. Following each annual monitoring event, a brief monitoring report describing the condition of the mitigation plantings and any associated management recommendations will be prepared and submitted to the City of Lacey within 90 days of each fall monitoring event to ensure full compliance with the mitigation plan and regulatory conditions of approval. This report may be prepared by the Applicant as a simplified email with appropriate photographs attached. Should planting standards not be met or additional risks or failures be noted by the City of Lacey, additional monitoring and reporting may be provided by the Project Biologist.

7.12 Contingency Plans

If monitoring results indicate that performance standards are not being met, it may be necessary to implement all or part of the contingency plan. Careful attention to maintenance is essential in ensuring that problems do not arise. Should any portion of the site fail to meet the success criteria, a contingency plan will be developed and implemented with regulatory approval. Such plans are adaptive and should be prepared on a case-by-case basis to reflect the failed mitigation characteristics. Contingency plans can include additional plant installation, erosion control, and plant substitutions including type, size, and location.

Contingency/maintenance activities may include, but are not limited to:

1. Replacing plants lost to vandalism, drought, or disease, as necessary;
2. Replacing any plant species with a 20 percent or greater mortality rate after two (2) growing seasons with the same species or native species of similar form and function;
3. Irrigating the enhancement and restoration areas only as necessary during dry weather if plants appear to be too dry, with a minimal quantity of water;
4. Reseeding and/or repair of stream buffer areas as necessary if erosion or sedimentation occurs;
5. Spot treat non-native invasive plant species;
6. Removing all trash or undesirable debris from the stream and buffer areas as necessary,
7. Maintain and repair critical area fence and signs when needed.

Chapter 8. Closure

The findings and conclusions documented in this report have been prepared for specific application to this project. They have been developed in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area. Our work was also performed in accordance with the terms and conditions set forth in our proposal. The conclusions and recommendations presented in this report are professional opinions based on an interpretation of information currently available to us and are made within the operation scope, budget, and schedule of this project. No warranty, expressed or implied, is made. In addition, changes in government codes, regulations, or laws may occur. Due to such changes, our observations and conclusions applicable to this site may need to be revised wholly or in part.

Any waterbody boundaries identified by SVC are based on conditions present at the time of the site visit and considered preliminary until the boundaries are validated by the jurisdictional agencies. Validation of the boundaries by the regulating agency provides a certification, usually written, that these boundaries verified are the boundaries that will be regulated by the agencies until a specific date or until the regulations are modified. Only the regulating agencies can provide this certification.

As waterbodies are dynamic communities affected by both natural and human activities, changes in boundaries may be expected; therefore, delineations cannot remain valid for an indefinite period of time. Local agencies typically recognize the validity of waterbody delineations for a period of 5 years after completion of a delineation report. Development activities on a site 5 years after the completion of this report may require revision of the waterbody delineation. In addition, changes in government codes, regulations, or laws may occur. Due to such changes, our observations and conclusions applicable to this site may need to be revised wholly or in part.

Chapter 9. References

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Appendix A — Methods and Tools

Table A-1. Methods and tools used to prepare the report.

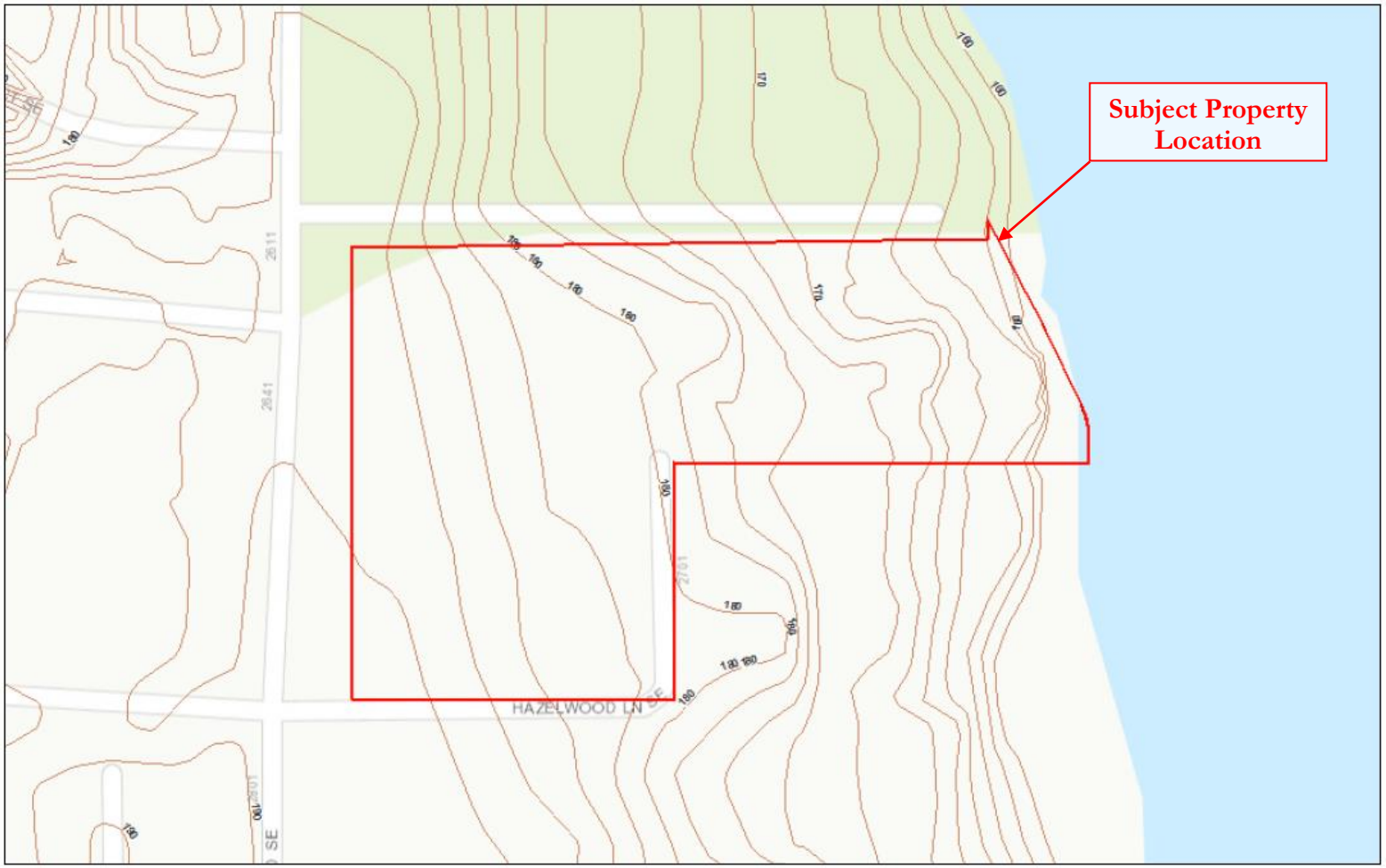
Parameter	Method or Tool	Website	Reference
Wetland Delineation	USACE 1987 Wetland Delineation Manual	http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf	**Environmental Laboratory.** 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
	Regional Supplement to the Core of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)	http://www.usace.army.mil/CECW/Documents/cecwo/reg/west_mt_finalsupp.pdf	**U.S. Army Corps of Engineers.** 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
Wetland Classification	USFWS / Cowardin Classification System	http://www.fws.gov/nwi/Pubs_Reports/Class_Manual/class_titlepg.htm	**Cowardin**, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. Government Printing Office, Washington, D.C.
	Hydrogeomorphic Classification (HGM) System	http://el.erdc.usace.army.mil/wetlands/pdfs/wrpde4.pdf	**Brinson**, M. M. (1993). "A hydrogeomorphic classification for wetlands," Technical Report WRP-DE-4, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
Wetland Rating	Washington State Wetland Rating System	https://fortress.wa.gov/ecy/publications/documents/1406029.pdf	**Hruby**, T. (2014). *Washington State Wetland Rating System for Western Washington: 2014 Update*. (Publication #14-06-029). Olympia, WA: Washington Department of Ecology.
	Ferndale Municipal Code	http://www.codepublishing.com/WA/Ferndale/#!/Ferndale16/Ferndale1608.html#16.08.260	Most current wetland rating system adopted per FMC Title 16.08.260.
Wetland Indicator Status	2016 National Wetland Plant List	https://www.fws.gov/wetlands/documents/National-Wetland-Plant-List-2016-Wetland-Ratings.pdf	**Lichvar**, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List: 2016 wetland ratings*. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X
Plant Names	USDA Plant Database	http://plants.usda.gov/	Website
	Flora of the Pacific Northwest	http://www.washington.edu/uwpress/search/books/HITFLC.html	**Hitchcock**, C.L. and A. Cronquist. 1973. Flora of the Pacific Northwest. University of Washington Press. Seattle, Washington.
Soils Data	NRCS Soil Survey	http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx	Website GIS data based upon: **Goldin, 1992.** Soil Survey of Whatcom County Area, Washington. United States Department of Agriculture, Soil Conservation Service in cooperation with Washington State Department of Natural Resources, and Washington State University, Agriculture Research Center. Washington, D.C.
Hydric Soils Data	Whatcom County Hydric Soils List	http://www.wa.nrcs.usda.gov/technical/soils/hydric_lists/hydsoil-wa-653.pdf	**Natural Resources Conservation Service.** 1979. Hydric Soils List: Whatcom County, Washington. U.S. Department of Agriculture. Washington D.C.
Threatened and Endangered Species	Washington Natural Heritage Program	http://data-wadnr.opendata.arcgis.com/datasets/wnhp-current-element-occurrences	**Washington Natural Heritage Program** (Data published 07/19/17). Endangered, threatened, and sensitive plants of Washington. Washington State Department of Natural Resources, Washington Natural Heritage Program, Olympia, WA
	Washington Priority Habitats and Species	http://wdfw.wa.gov/hab/phspage.htm	**Priority Habitats and Species (PHS) Program** (Data requested 07/24/18). Map of priority habitats and species in project vicinity. Washington Department of Fish and Wildlife (WDFW).

Parameter	Method or Tool	Website	Reference
	NOAA fisheries species list and maps	http://www.nwr.noaa.gov/ESA-Salmon-Listings/Salmon-Populations/Index.cfm and http://www.nmfs.noaa.gov/pr/species/	Website
	USFWS species lists by County	http://www.fws.gov/westwafwo/se/SE_List/endangered_Species.asp	Website
Species of Local Importance	WDFW GIS Data	http://wdfw.wa.gov/mapping/salmonscape/	Website
Report Preparation	Ferndale Municipal Code	http://www.codepublishing.com/WA/Ferndale/#!/Ferndale16/Ferndale1608.html#16.08	FMC Chapter 16.08 Critical Areas

Appendix B — Background Information

This appendix includes a USGS Topographic Map (B1), NRCS Soil Survey Map (B2), Thurston County Wetlands Inventory (B3), Thurston County Streams Inventory (B4), USFWS NWI Map (B5), DNR Stream Typing Map (B6), WDFW PHS Map (B7), WDFW SalmonScape Map (B8), and FEMA Floodplain Map (B9), WSDOE SMA Map (B10).

Appendix B1. USGS Topographic Map



Appendix B2. NRCS Soil Survey Map

August 22, 2017

Lines

- Override 1
- NRCS Soil Survey

- 73 - Nisqually loamy fine sand, 0 to 3 percent slopes
- 47 - Indianola loamy sand, 3 to 15 percent slopes

1:4,514

0 0.035 0.07 0.14 mi

0 0.0425 0.085 0.17 km

Image courtesy of USGS Earthstar Geographics SIO © 2017 Microsoft Corporation © 2010 NAVTEQ © AND

Appendix B3. Thurston County Wetlands Inventory

3/28/2018, 12:30:19 PM

Thurston_Parcels _Query result

Thurston - Wetlands

1:4,514

0 0.035 0.07 0.14 mi

0 0.0425 0.085 0.17 km

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Distribution Airbus DS © 2018 HERE

Appendix B4. Pierce County Streams Inventory

Appendix B4. USFWS NWI Map

Appendix B6. DNR Stream Typing Map

Appendix B7. WDFW PHS Map

3/28/2018, 12:47:32 PM

Thurston_Parcels _Query result **POLY**

PT

LN

AS MAPPED

1:9,028

0 0.075 0.15 0.3 mi

0 0.075 0.15 0.3 km

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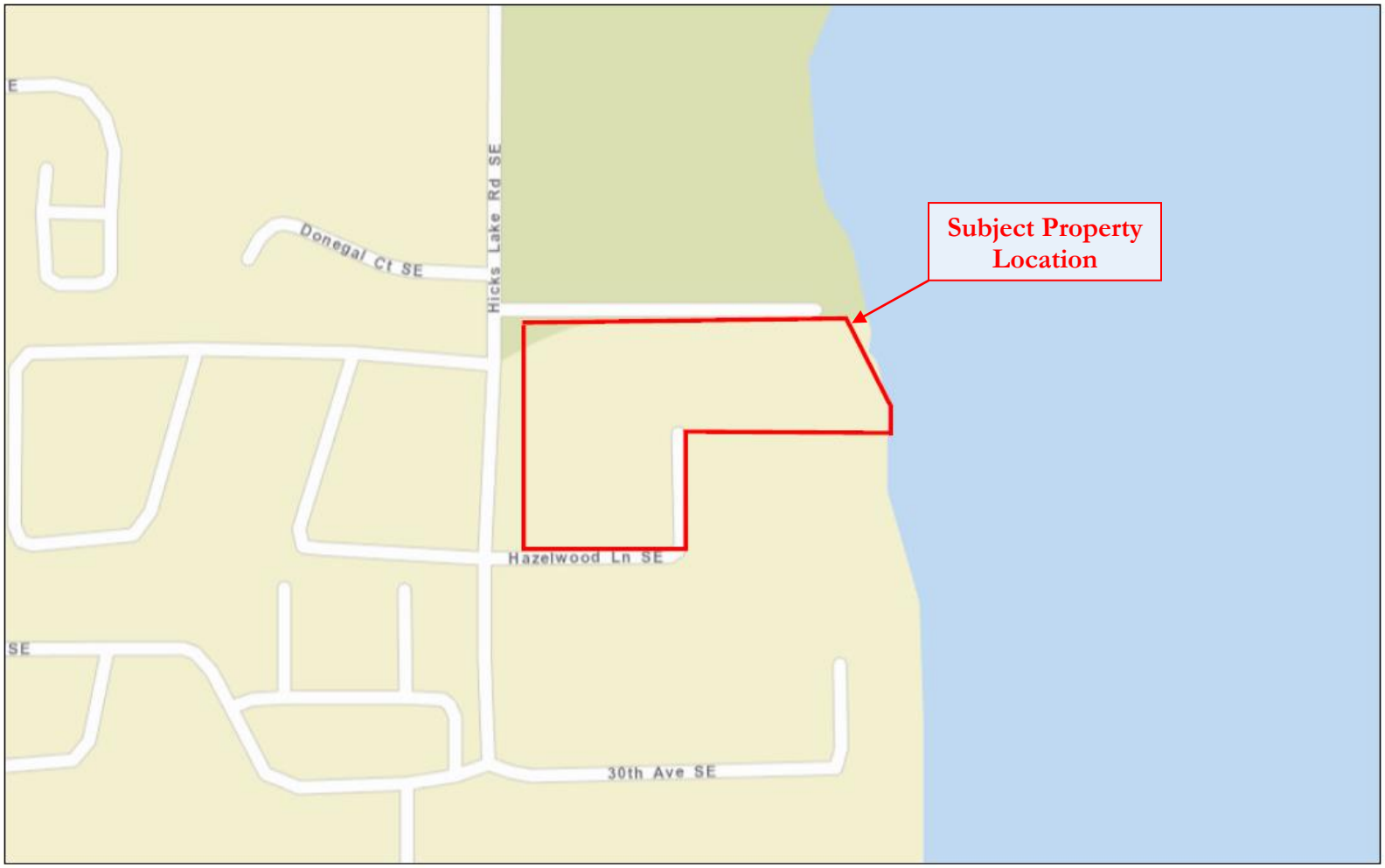
WASHINGTON DEPARTMENT OF FISH AND WILDLIFE
PRIORITY HABITATS AND SPECIES REPORT

SOURCE DATASET: PHSPlusPublic
REPORT DATE: 08/22/2017 4.03

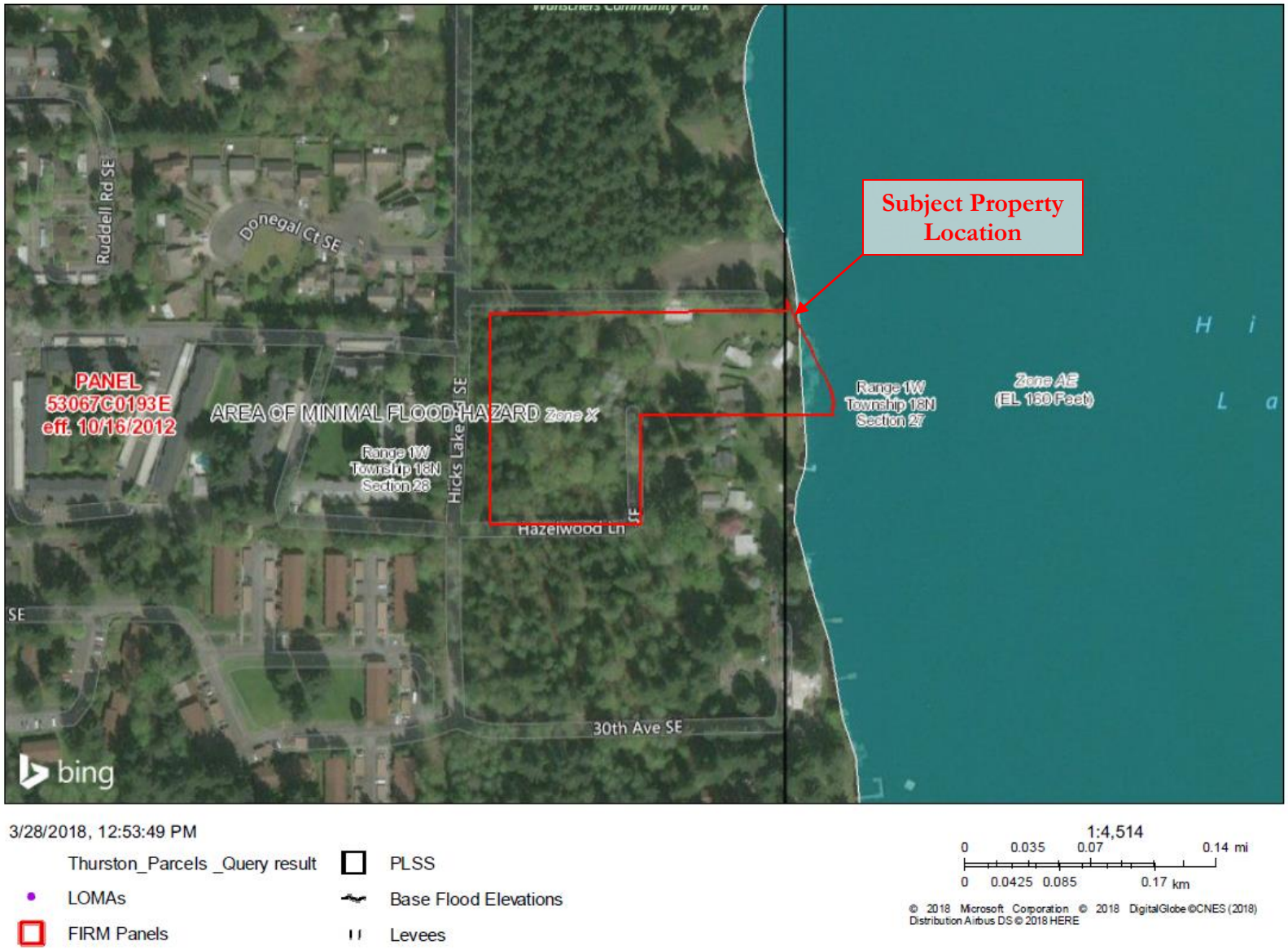
Query ID: P170822160251

Common Name / Scientific Name / Notes	Site Name / Source Dataset / Source Record / Source Date	Priority Area / Occurrence Type / More Information (URL) / Mgmt Recommendations	Accuracy	Federal Status / State Status / PHS Listing Status	Sensitive Data / Resolution	Source Entity / Geometry Type
Big brown bat Eptesicus fuscus	WS_OccurPoint 131083 July 18, 2010	Communal Roost Biotic detection http://wdfw.wa.gov/publications/pub.php?	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Lake	N/A NWIWetlands	Aquatic Habitat Aquatic habitat http://www.ecy.wa.	NA	N/A N/A PHS Listed	N AS MAPPED	US Fish and Wildlife Service Polygons
Little Brown Bat Myotis lucifugus	WS_OccurPoint 131094 May 28, 2013	Communal Roost Biotic detection http://wdfw.wa.gov/publications/pub.php?	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Yuma myotis Myotis yumanensis	WS_OccurPoint 131093 May 28, 2013	Communal Roost Biotic detection http://wdfw.wa.gov/publications/pub.php?	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points

Appendix B8. WDFW SalmonScape Map



Appendix B9. FEMA Floodplain Map



Appendix B10. WSDOE SMA Lakes

August 22, 2017

Lines

Override 1

ECY - SMA Lakes

Shorelines

1:4,514

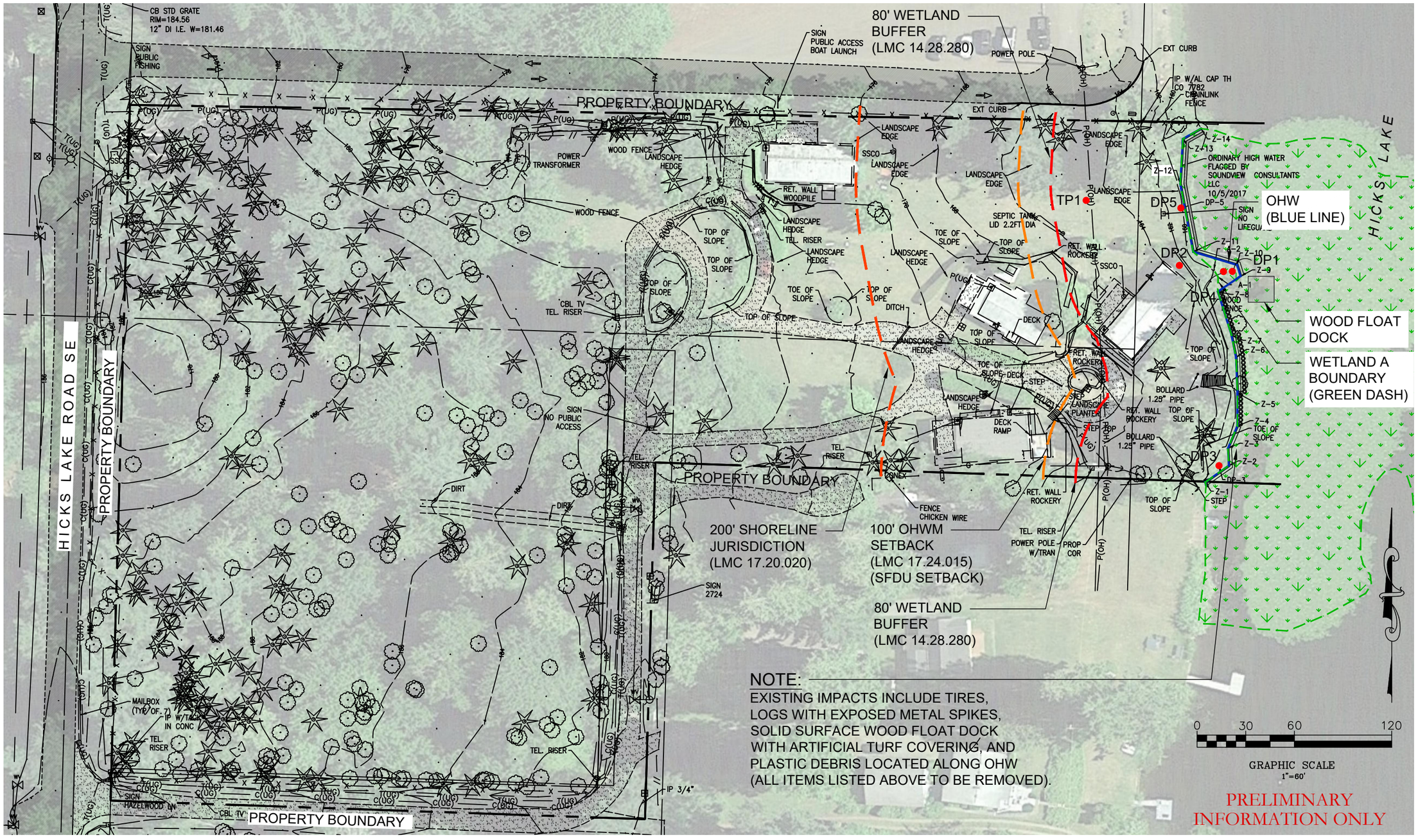
0 0.035 0.07 0.14 mi

0 0.0425 0.085 0.17 km

Image courtesy of USGS Earthstar Geographics SIO © 2017 Microsoft Corporation © 2010 NAVTEQ © AND

Appendix C — Site Plans

SCHNEIDER HOMES - HICKS LAKE APARTMENTS - EXISTING CONDITIONS



NOTE:

EXISTING IMPACTS INCLUDE TIRES, LOGS WITH EXPOSED METAL SPIKES, SOLID SURFACE WOOD FLOAT DOCK WITH ARTIFICIAL TURF COVERING, AND PLASTIC DEBRIS LOCATED ALONG OHW (ALL ITEMS LISTED ABOVE TO BE REMOVED).

PRELIMINARY INFORMATION ONLY

NOT FOR CONSTRUCTION

SOUNDVIEW CONSULTANTS LLC ASSUMES NO LIABILITY OR RESPONSIBILITY FOR CONSTRUCTION, IMPROVEMENTS, OR ESTIMATES BASED ON THIS PLAN SET

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(425)251-8782 FAX
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Soundview Consultants LLC
Environmental Assessment • Planning • Land Use Solutions
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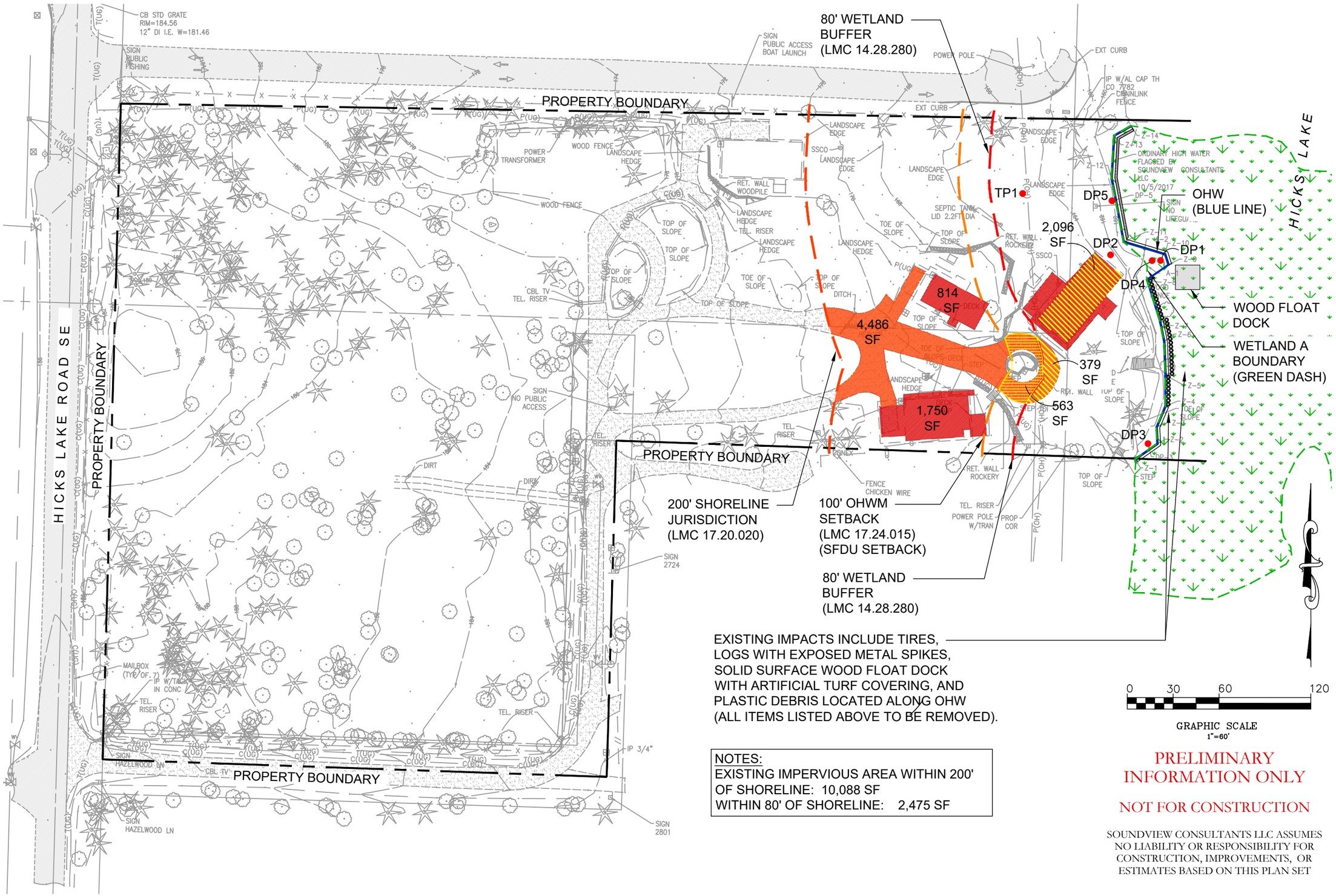
GIG HARBOR, WASHINGTON 98335
P. 253.514.8952
F. 253.514.8954
WWW.SOUNDVIEWCONSULTANTS.COM

SCHNEIDER HOMES
HICKS LAKE APARTMENTS
2712 HAZELWOOD LANE SE
LACEY, WASHINGTON 98503
THE NW & NE ¼ OF SECTIONS 27 & 28, TOWNSHIP 18N, RANGE 1W, W.M.

DATE:	3/04/2020
JOB:	1596.0001
BY:	DS
SCALE:	SEE GRAPHIC
SHEET	1 OF 6

SCHNEIDER HOMES - HICKS LAKE APARTMENTS - EXISTING IMPACTS



NOTES:
EXISTING IMPERVIOUS AREA WITHIN 200' OF SHORELINE: 10,088 SF
WITHIN 80' OF SHORELINE: 2,475 SF

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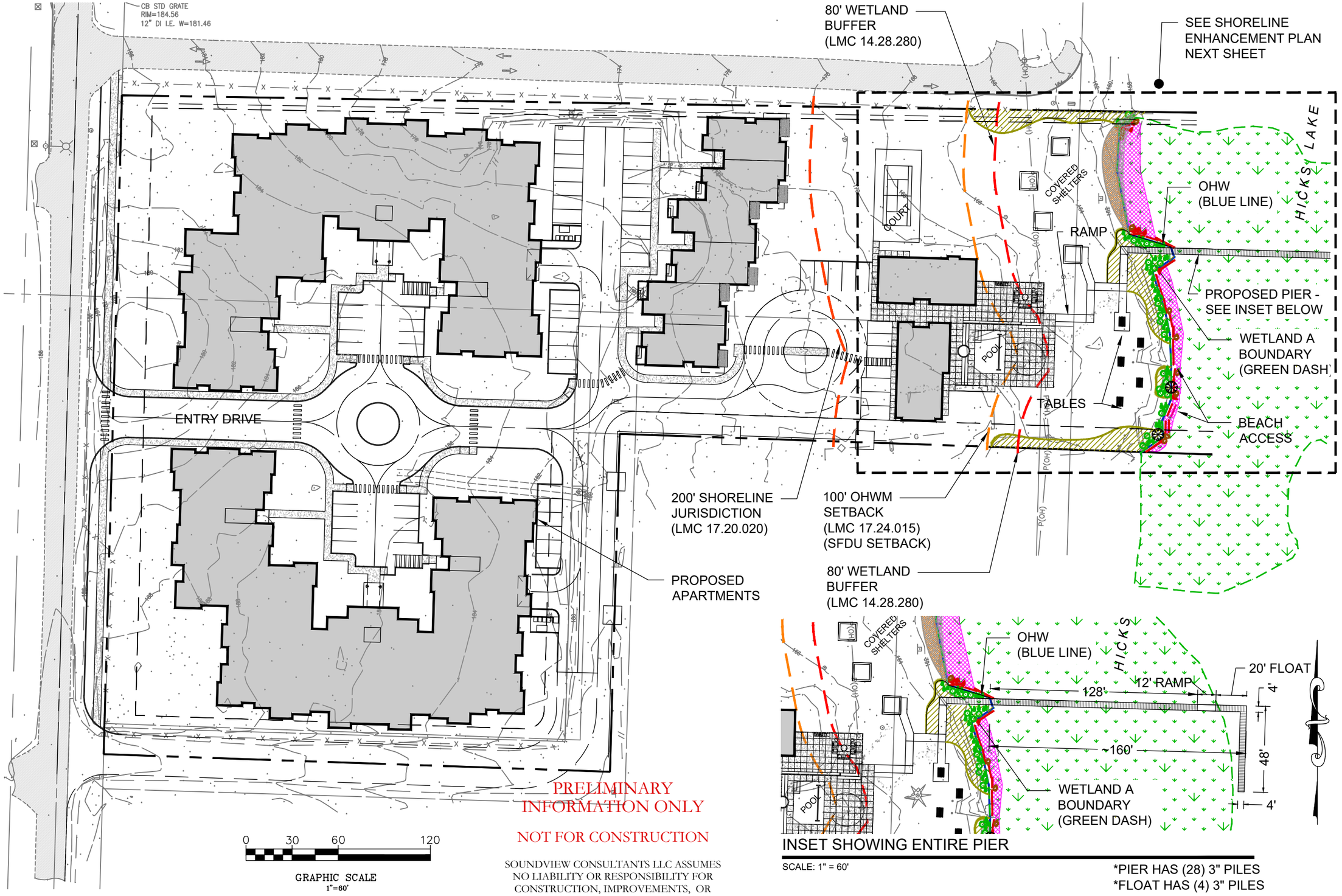
LACEY, WASHINGTON 98503
THE NW & NE ¼ OF SECTIONS 27 & 28, TOWNSHIP 18N, RANGE 1W, W.M.

DATE:	3/04/2020
JOB:	1596.0001
BY:	DS
SCALE:	SEE GRAPHIC
SHEET	2 OF 6

SCHNEIDER HOMES - HICKS LAKE APARTMENTS - PROPOSED PLAN



PRELIMINARY
INFORMATION ONLY

NOT FOR CONSTRUCTION

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INSET SHOWING ENTIRE PIER

SCALE: 1" = 60'

*PIER HAS (28) 3" PILES
*FLOAT HAS (4) 3" PILES

SOURCES:

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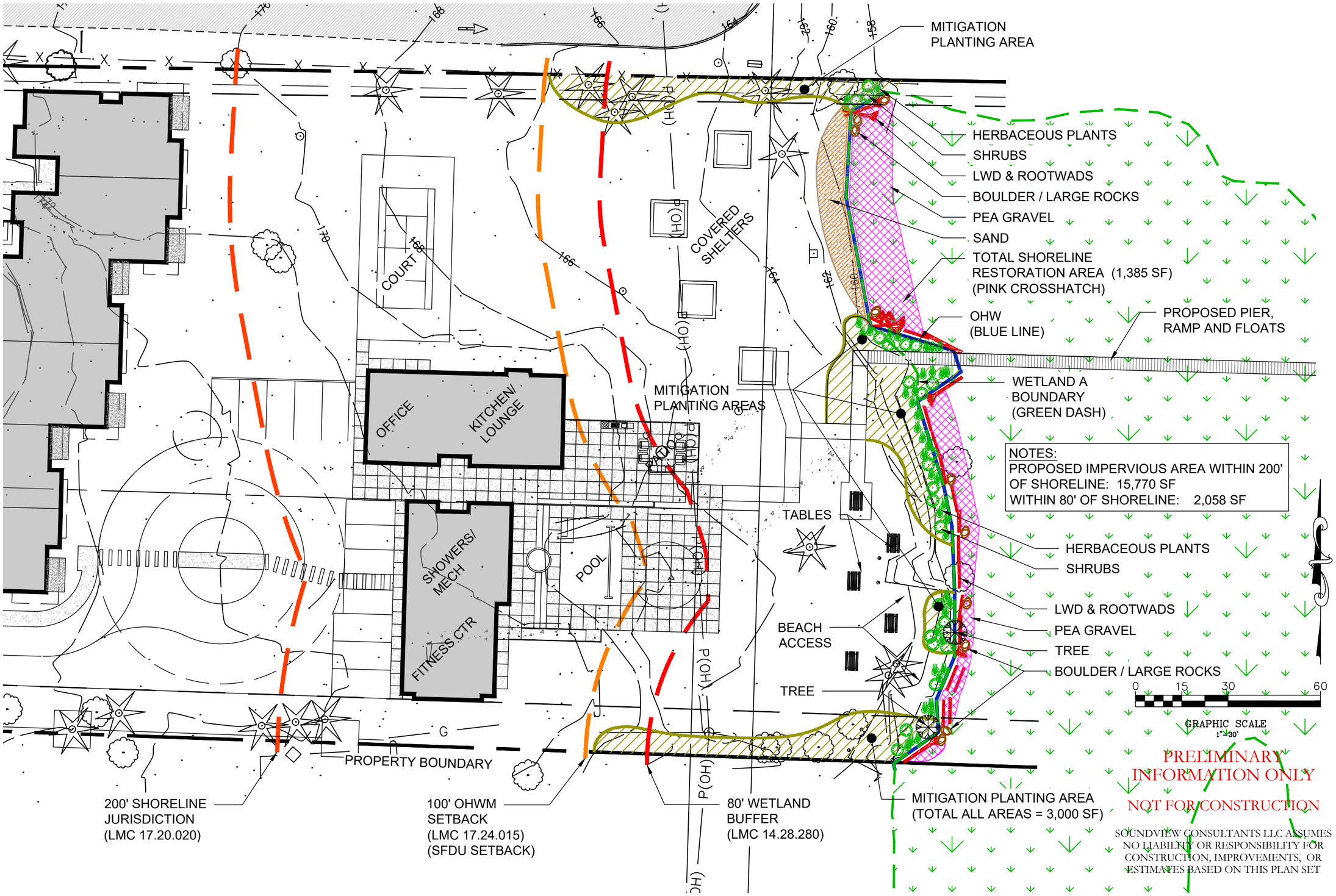
DATE:	3/04/2020
JOB:	1596.0001
BY:	DS
SCALE:	SEE GRAPHIC
SHEET	3 OF 6

SCHNEIDER HOMES - HICKS LAKE APARTMENTS - DETAIL - PROPOSED SHORELINE ENHANCEMENT PLAN



SOURCES:

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DATE:	3/04/2020
JOB:	1596.0001
BY:	DS
SCALE:	SEE GRAPHIC
SHEET	4 OF 6

PRELIMINARY NATIVE PLANT SCHEDULE

Plant Name			Planting Areas		Total	Spacing	Size	Condition	Planting Area
Scientific	Common	Plant Status	Mitigation Planting Areas	Shoreline Enhance't Planting					
Trees		Sq. Feet:	3,000	-	**3,000**				
		Acres:	0.07	-	**0.07**				
Betula papyrifera	Paperbark birch	FAC	-	-	**-**	**8 - 10 ft**	**3 - 4 ft**	**Bare root**	**Dry/Moist**
Picea sitchensis	Sitka spruce	FAC	-	-	**-**	**12 - 15 ft**	**3 - 4 ft**	**Bare root**	**Moist - wetland edge**
Prunus emarginata	Bitter cherry	FACU	-	-	**-**	**10 - 12 ft**	**3 - 4 ft**	**Bare root**	**Dry**
Rhamnus purshiana	Cascara	FAC	-	-	**-**	**10 - 12 ft**	**3 - 4 ft**	**Bare root**	**Dry**
Thuja plicata	Western Red Cedar	FAC	-	-	**-**	**10 - 12 ft**	**3 - 4 ft**	**Bare root**	**Dry/Moist - buffer**
Total			-	-	-				
Shrubs / Groundcover									
Acer circinatum	Vine maple	FAC	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Moist/Wet**
Arctostaphylos uva-ursi	Kinnikinnick	FACU				**3 - 5 ft**	**1 gal.**	**Cont.**	**Dry**
Gaultheria shallon	Salal	FAC	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Moist/Wet**
Mahonia nervosa	Dwarf Oregon grape	FACU	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Dry/Moist**
Ribes sanguineum	Red flowering currant	FACU	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Dry/Moist**
Rosa gymnocarpa	Bald hip rose	FACU	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Dry/Moist**
Rosa nutkana	Nootka rose	FAC	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Dry**
Rubus parviflorus	Thimbleberry	FACU	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Moist**
Spiraea betulifolia var. lucida	White spirea	FACU	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Dry/Moist**
Symphoricarpos albus	Snowberry	FACU	-	-	**-**	**4 - 5 ft**	**2 - 4 ft**	**Bare root**	**Dry**
Total			-	-	-				
Herbaceous									
Armeria maritima	Sea-thrift	FAC	-	-	**-**	**18 - 24 in**	**1 gal.**	**Cont.**	**Dry**
Dicentra formosa	Bleeding heart	FACU	-	-	**-**	**18 - 24 in**	**1 gal.**	**Cont.**	**Dry**
Fragaria chiloensis	Coast strawberry	FACU				**18 - 24 in**	**1 gal.**	**Cont.**	**Dry**
Linnaea borealis	Twinflower	FACU	-	-	**-**	**18 - 24 in**	**1 gal.**	**Cont.**	**Dry**
Tiarella trifoliata	Threeleaf foamflower	FAC				**18 - 24 in**	**1 gal.**	**Cont.**	**Moist/Shady**
Tolmiea menziesii	Youth-on-age	FAC				**18 - 24 in**	**1 gal.**	**Cont.**	**Dry/Moist**
Total			-	-	-				
Habitat Structures									
Large Woody Debris		**Quan.**	-	-	**Clean**	**12-20 feet long, 8 inch minimum at top, some w/ root wad**			
Large Rocks/Boulders		**Quan.**	-	-	**Clean**	**2' - 3'**			
Buffer Seed Mix - 30 lbs/acre									
Agrostis exerata	Spike bentgrass	FACW	10						
Alopecurus pratensis	Meadow foxtail	FAC	10						
Elymus glaucus	Blue wildrye	FACU	25						
Festuca idahoensis	Idaho fescue	FACU	10						
Festuca rubra	Red fescue	FAC	10						
Hordeum brachyantherum	Meadow barley	FACW	25						
Lupinus polyphyllus	Streamside lupine	FAC	10						
Total			**100**						

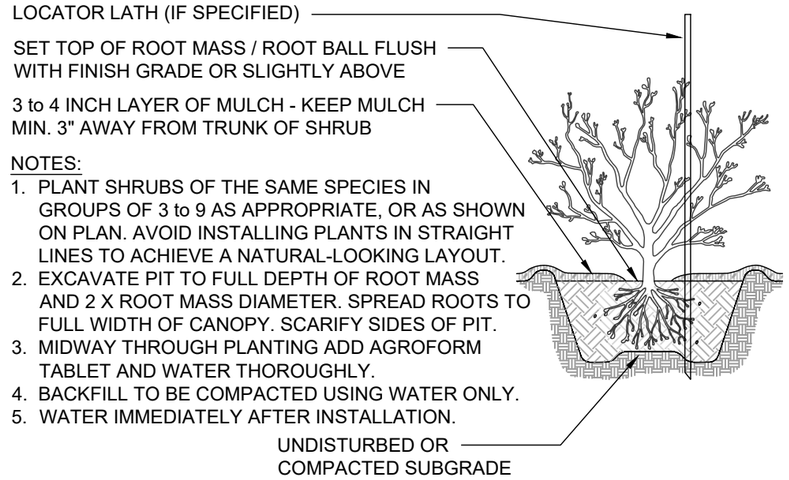
1 - Scientific names and species identification taken from *Flora of the Pacific Northwest (Hitchcock and Cronquist, 1973 and Cooke, 1997).*

2 - Over-sized and/or container plants are suitable for replacement pending project biologist's approval.

3 - All plans and schedules are conceptual for regulatory review and impact analysis. Final plans may be needed for construction, and may be subject to regulatory approval.

TREE AND SHRUB PLANTING DETAIL (TYPICAL)

NOT TO SCALE



NOTES:

1. PLANT SHRUBS OF THE SAME SPECIES IN GROUPS OF 3 to 9 AS APPROPRIATE, OR AS SHOWN ON PLAN. AVOID INSTALLING PLANTS IN STRAIGHT LINES TO ACHIEVE A NATURAL-LOOKING LAYOUT.
2. EXCAVATE PIT TO FULL DEPTH OF ROOT MASS AND 2 X ROOT MASS DIAMETER. SPREAD ROOTS TO FULL WIDTH OF CANOPY. SCARIFY SIDES OF PIT.
3. MIDWAY THROUGH PLANTING ADD AGROFORM TABLET AND WATER THOROUGHLY.
4. BACKFILL TO BE COMPACTED USING WATER ONLY.
5. WATER IMMEDIATELY AFTER INSTALLATION.

PRELIMINARY
INFORMATION ONLY

NOT FOR CONSTRUCTION

SOUNDVIEW CONSULTANTS LLC ASSUMES NO LIABILITY OR RESPONSIBILITY FOR CONSTRUCTION, IMPROVEMENTS, OR ESTIMATES BASED ON THIS PLAN SET

SOURCES:

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KENT, WA 98032
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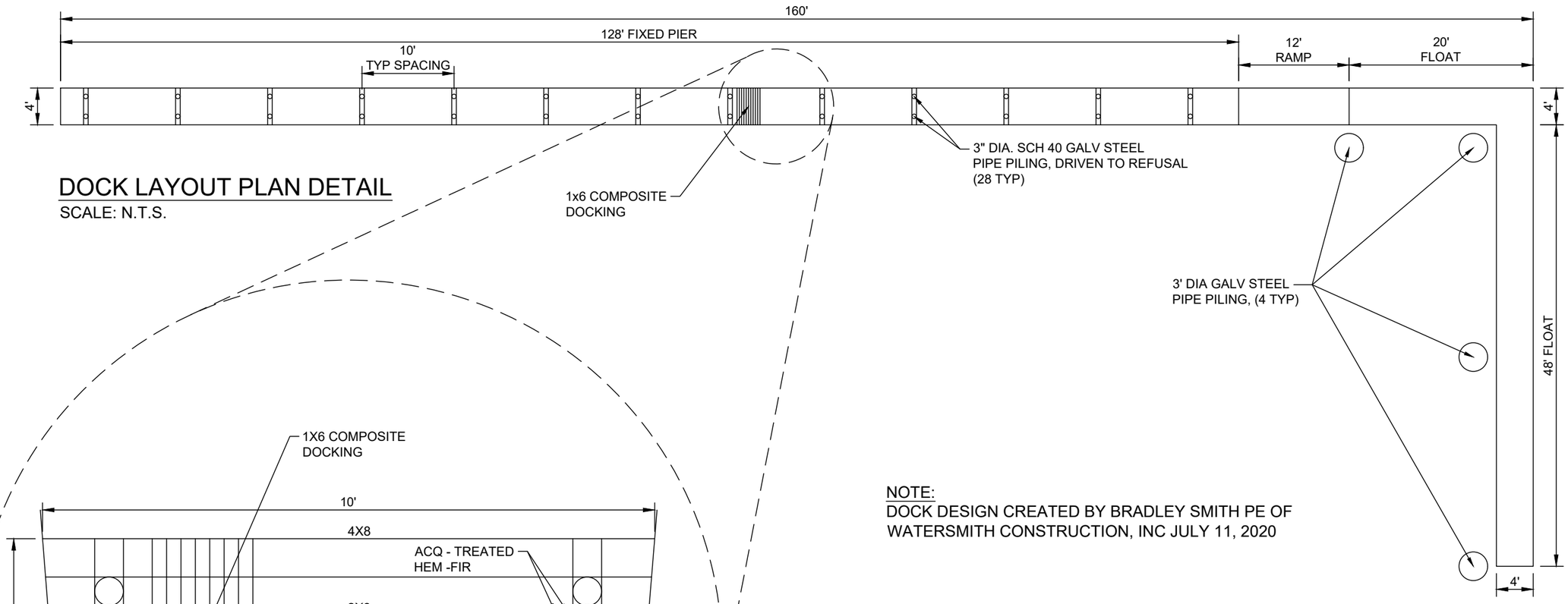
F. 253.514.8954
WWW.SOUNDVIEWCONSULTANTS.COM

SCHNEIDER HOMES
HICKS LAKE APARTMENTS
2712 HAZELWOOD LANE SE
LACEY, WASHINGTON 98503
THE NW & NE ¼ OF SECTIONS 27 & 28, TOWNSHIP 18N, RANGE 1W, W.M.

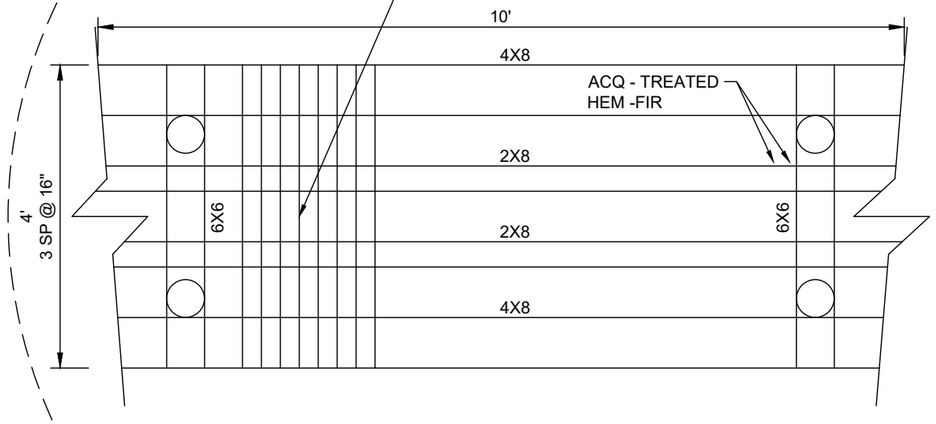
DATE: 3/04/2020
JOB: 1596.0001
BY: DS
SCALE: SEE GRAPHIC
SHEET 5 OF 6

SCHNEIDER HOMES - HICKS LAKE APARTMENTS - DOCK LAYOUT PLAN DETAIL



DOCK LAYOUT PLAN DETAIL

SCALE: N.T.S.



PIER DETAIL

SCALE: N.T.S.

NOTE:
DOCK DESIGN CREATED BY BRADLEY SMITH PE OF WATERSMITH CONSTRUCTION, INC JULY 11, 2020

PRELIMINARY
INFORMATION ONLY

NOT FOR CONSTRUCTION

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THE NW & NE ¼ OF SECTIONS 27 & 28, TOWNSHIP 18N, RANGE 1W, W.M.

DATE:	3/04/2020
JOB:	1596.0001
BY:	DS
SCALE:	SEE GRAPHIC
SHEET	6 OF 6

Appendix D – Data Forms

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 1596.0001 - Hicks Lake Apartments City/County: Lacey / Thurston Sampling Date: 8/28/2017

Applicant/Owner: Schneider Homes - Harry Schneider State: WA Sampling Point: DP-1

Investigator(s): Racheal Villa Section, Township, Range: 27 & 28, 18N, 01W

Landform (hillslope, terrace, etc.): Peninsula Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR): A2 Lat: 47.02 Long: -122.80 Datum: WGS 84

Soil Map Unit Name: Indianola Loamy Sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes ☒ No ☐

Remarks:
All three wetland criteria met. Data collected on small saturated peninsula along lakeshore, approximately 150 feet north of the existing boat launch, in Wetland A.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. Ranunculus repens	80	Yes	FAC
2. Agrostis capillaris	10	No	FAC
3. Lotus corniculatus	5	No	FAC
4. Iris pseudacorus	1	No	OBL
5. Phalaris arundinacea	1	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	97	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 3

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☒ No ☐**

Remarks:
Hydrophytic vegetation criteria met through the Dominance Test.

SOIL

Sampling Point: DP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 9	10YR 2/2	98	2.5YR 3/6	2	C	M	LoSa	Loamy sand
9 - 16	10YR 4/2	95	2.5YR 5/8	5	C	M	LoSa	Loamy sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): 0

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicator S5.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): None

Water Table Present? Yes ☐ No ☒ Depth (inches): None

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): None

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

None

Remarks:

Wetland hydrology observed directly through primary indicator C3.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 1596.0001 - Hicks Lake Apartments City/County: Lacey / Thurston Sampling Date: 8/28/17

Applicant/Owner: Schneider Homes - Harry Schneider State: WA Sampling Point: DP-2

Investigator(s): Racheal Villa Section, Township, Range: 27 & 28, 18N, 01W

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Convex Slope (%): 1

Subregion (LRR): A2 Lat: 47.021709 Long: -122.802157 Datum: WGS 84

Soil Map Unit Name: Indianola Loamy Sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒

Remarks:
Not all three wetland criteria met. Data collected on edge of mowed lawn and lake fringe vegetation, upland of Wetland A.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. Mowed grasses (FAC assumed)	45	Yes	FAC
2. Polypogon monspeliensis	45	Yes	FACW
3. Ipomoea purpurea	8	No	FACU
4. Pteridium aquifolium	2	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:
Hydrophytic vegetation criteria met through the Dominance Test.

SOIL

Sampling Point: DP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 12	10YR 3/2	100	-	-	-	-	SiLo	Silt loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil indicators met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): None

Water Table Present? Yes ☐ No ☒ Depth (inches): None

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): None

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

None

Remarks:

No wetland hydrology indicators met.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 1596.0001 - Hicks Lake Apartments City/County: Lacey / Thurston Sampling Date: 8/28/17

Applicant/Owner: Schneider Homes - Harry Schneider State: WA Sampling Point: DP-3

Investigator(s): Racheal Villa Section, Township, Range: 27 & 28, 18N, 01W

Landform (hillslope, terrace, etc.): Lakeshore Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR): A2 Lat: 47.021332 Long: -122.802015 Datum: WGS 84

Soil Map Unit Name: Indianola Loamy Sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒

Remarks:
Not all three wetland criteria met. Data collected on lakeshore south of Wetland A.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. Corylus cornuta	30	Yes	FACU
2.			
3.			
4.			
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. Rubus armeniacus	10	Yes	FAC
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. Phalaris arundinacea	40	Yes	FACW
2. Ranunculus repens	30	Yes	FAC
3. Persicaria maculosa	20	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:
Hydrophytic vegetation criteria met through the Dominance Test.

SOIL

Sampling Point: DP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 7	10YR 3/3	98	7.5YR 4/6	2	C/CS	M	SaLo	Sandy loam
7 - 13	10YR 2/2	100	-	-	-	-	SaLo	Sandy loam
13 - 18	10YR 3/3	97	10YR 3/6	3	C/CS	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): 0

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil indicators met. The observed soil matrix was too bright to meet the criteria for hydric soil indicator S5.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): None

Water Table Present? Yes ☐ No ☒ Depth (inches): None

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 16

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

None

Remarks:

No wetland hydrology indicators met.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 1596.0001 - Hicks Lake Apartments City/County: Lacey / Thurston Sampling Date: 10/5/2017

Applicant/Owner: Schneider Homes - Harry Schneider State: WA Sampling Point: DP-4

Investigator(s): Racheal Villa Section, Township, Range: 27 & 28, 18N, 01W

Landform (hillslope, terrace, etc.): Peninsula Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): A2 Lat: 47.021647 Long: -122.802022 Datum: WGS 84

Soil Map Unit Name: Indianola Loamy Sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☐ No ☒	**Is the Sampled Area within a Wetland?** Yes ☒ No ☐

Remarks:
All three wetland criteria met. Data collected on small, saturated peninsula along lakeshore, in Wetland A.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Ranunculus repens	50	Yes	FAC
2. Persicaria maculosa	20	Yes	FACW
3. Holcus lanatus	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 20

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐

Remarks:
Hydrophytic vegetation criteria met through the Dominance Test.

SOIL

Sampling Point: DP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR 3/2	98	7.5YR 4/6	2	C	PL	SaLo	Sandy loam, relic rhizospheres observed
8 - 16	10YR 3/2	93	10YR 3/6	7	CS	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☒ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): --

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicator S5.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): 0

Water Table Present? Yes ☐ No ☒ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 16

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

None

Remarks:

No wetland hydrology criteria met, however wetland hydrology is presumed due to the presence of relic oxidized rhizospheres and saturations within 16 inches of the soil surface which would likely rise with the level of the lake.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: 1596.0001 - Hicks Lake Apartments City/County: Lacey / Thurston Sampling Date: 8/28/17

Applicant/Owner: Schneider Homes - Harry Schneider State: WA Sampling Point: DP-5

Investigator(s): Racheal Villa Section, Township, Range: 27 & 28, 18N, 01W

Landform (hillslope, terrace, etc.): Peninsula Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): A2 Lat: 47.021755 Long: -122.802148 Datum: WGS 84

Soil Map Unit Name: Indianola Loamy Sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒

Remarks: **Not all three wetland criteria met. Data collected adjacent to and upland of Hicks Lake within small peninsula projecting into Hicks Lake, north of Wetland A.**

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. Ranunculus repens	80	Yes	FAC
2. Agrostis capillaris	10	No	FAC
3. Phalaris arundinacea	1	No	FACW
4. Iris pseudacorus	1	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	92	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 8

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☒ No ☐**

Remarks: Hydrophytic vegetation observed through dominance test.

SOIL

Sampling Point: DP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 10	10YR 3/4	100	-	-	-	-	SaLo	Sandy loam
10 - 16	10YR 4/4	100	-	-	-	-	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil indicators met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): None

Water Table Present? Yes ☐ No ☒ Depth (inches): None

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): None

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

None

Remarks:

No wetland hydrology indicators met.

Appendix E – Wetland Rating Forms

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): A Date of site visit: 10/5/2017

Rated by Racheal Villa Trained by Ecology? ✔ Yes ___No Date of training Oct 2010

HGM Class used for rating Lake Fringe Wetland has multiple HGM classes? ___Y ✔ N

NOTE: **Form is not complete without the figures requested** *(figures can be combined)*.

Source of base aerial photo/map ESRI ArcGIS

OVERALL WETLAND CATEGORY III (based on functions ✔ or special characteristics___)

1. Category of wetland based on FUNCTIONS

_____**Category I** – Total score = 23 - 27

_____**Category II** – Total score = 20 - 22

__X__**Category III** – Total score = 16 - 19

_____**Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		Circle the appropriate ratings		
Site Potential	L	L	L	
Landscape Potential	H	M	L	
Value	H	H	L	**TOTAL**
Score Based on Ratings	7	6	3	16

Score for each function based on three ratings *(order of ratings is not important)*

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	**I II**
Wetland of High Conservation Value	**I**
Bog	**I**
Mature Forest	**I**
Old Growth Forest	**I**
Coastal Lagoon	**I II**
Interdunal	**I II III IV**
None of the above	N/A

Wetland name or number A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (*can be added to map of hydroperiods)*	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream *(can be added to another figure)*	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland *(can be added to another figure)*	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to figure above)*	S 4.1	
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number A

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

☒ NO – go to 2 ☐ **YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☐ **NO – Saltwater Tidal Fringe (Estuarine)** ☐ **YES – Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

☒ NO – go to 3 ☐ **YES** – The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?

☒ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

☒ At least 30% of the open water area is deeper than 6.6 ft (2 m).

☐ NO – go to 4 ☒ **YES –** The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?

☐ The wetland is on a slope (*slope can be very gradual*),

☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

☐ The water leaves the wetland **without being impounded**.

☒ NO – go to 5 ☐ **YES –** The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?

☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

☐ The overbank flooding occurs at least once every 2 years.

Wetland name or number A

☒ NO – go to 6 ☐ **YES** – The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☒ NO – go to 7 ☐ **YES** – The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

A

☒ NO – go to 8 ☐ **YES** – The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

   NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

*If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.*

Wetland name or number A

LAKE FRINGE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

L 1.0. Does the site have the potential to improve water quality?	
L 1.1. Average width of plants along the lakeshore *(use polygons of Cowardin classes)*: Plants are more than 33 ft (10 m) wide points = 6 Plants are more than 16 ft (5 m) wide and <33 ft points = 3 Plants are more than 6 ft (2 m) wide and <16 ft points = 1 Plants are less than 6 ft wide points = 0	3
L 1.2. Characteristics of the plants in the wetland: Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. *These are not Cowardin classes. Area of cover is total cover in the unit, but it can be in patches. Herbaceous does not include aquatic bed.* Cover of herbaceous plants is >90% of the vegetated area points = 6 Cover of herbaceous plants is >$^{2}/_{3}$ of the vegetated area points = 4 Cover of herbaceous plants is >$^{1}/_{3}$ of the vegetated area points = 3 Other plants that are not aquatic bed > $^{2}/_{3}$ unit points = 3 Other plants that are not aquatic bed in > $^{1}/_{3}$ vegetated area points = 1 Aquatic bed plants and open water cover > $^{2}/_{3}$ of the unit points = 0	0
Total for L 1 Add the points in the boxes above	3

Rating of Site Potential If score is: ___ **8-12 = H** ___ **4-7 = M** X **0-3 = L** *Record the rating on the first page*

L 2.0. Does the landscape have the potential to support the water quality function of the site?	
L 2.1. Is the lake used by power boats? Yes = 1 No = 0	1
L 2.2. Is > 10% of the area within 150 ft of wetland unit on the upland side in land uses that generate pollutants? Yes = 1 No = 0	1
L 2.3. Does the lake have problems with algal blooms or excessive plant growth such as milfoil? Yes = 1 No = 0	0
Total for L 2 Add the points in the boxes above	2

Rating of Landscape Potential: If score is: X **2 or 3 = H** ___ **1 = M** ___ **0 = L** *Record the rating on the first page*

L 3.0. Is the water quality improvement provided by the site valuable to society?	
L 3.1. Is the lake on the 303(d) list of degraded aquatic resources? Yes = 1 No = 0	0
L 3.2. Is the lake in a sub-basin where water quality is an issue (at least one aquatic resource in the basin is on the 303(d) list)? Yes = 1 No = 0	1
L 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? *Answer YES if there is a TMDL for the lake or basin in which the unit is found.* Yes = 2 No = 0	2
Total for L 3 Add the points in the boxes above	3

Rating of Value If score is: X **2-4 = H** ___ **1 = M** ___ **0 = L** *Record the rating on the first page*

Wetland name or number A

LAKE FRINGE WETLANDS

Hydrologic Functions - Indicators that the wetland unit functions to reduce shoreline erosion

L 4.0. Does the site have the potential to reduce shoreline erosion?	
L 4.1. Distance along shore and average width of Cowardin classes along the lakeshore (**do not** include Aquatic bed): *Choose the highest scoring description that matches conditions in the wetland.* > ¾ of distance is Scrub-shrub or Forested at least 33 ft (10 m) wide — points = 6 > ¾ of distance is Scrub-shrub or Forested at least 6 ft (2 m) wide — points = 4 > ¼ distance is Scrub-shrub or Forested at least 33 ft (10 m) wide — points = 4 Plants are at least 6 ft (2 m) wide (any type except Aquatic bed) — points = 2 Plants are less than 6 ft (2 m) wide (any type except Aquatic bed) — points = 0	2

Rating of Site Potential: If score is: ___ **6 = M** X **0-5 = L** *Record the rating on the first page*

L 5.0. Does the landscape have the potential to support the hydrologic functions of the site?		
L 5.1. Is the lake used by power boats with more than 10 hp?	Yes = 1 No = 0	1
L 5.2. Is the fetch on the lake side of the unit at least 1 mile in distance?	Yes = 1 No = 0	0
Total for L 5	Add the points in the boxes above	1

Rating of Landscape Potential If score is: ___ **2 = H** X **1 = M** ___ **0 = L** *Record the rating on the first page*

L 6.0. Are the hydrologic functions provided by the site valuable to society?	
L 6.1. Are there resources along the shore that can be impacted by erosion? If more than one resource is present, choose the one with the highest score. There are human structures or old growth/mature forests within 25 ft of OHWM of the shore in the unit — points = 2 There are nature trails or other paths and recreational activities within 25 ft of OHWM — points = 1 Other resources that could be impacted by erosion — points = 1 There are no resources that can be impacted by erosion along the shores of the unit — points = 0	2

Rating of Value: If score is: X **2 = H** ___ **1 = M** ___ **0 = L** *Record the rating on the first page*

NOTES and FIELD OBSERVATIONS:

Wetland name or number A

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class.* Check the Cowardin plant classes in the wetland. *Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

_×_ Aquatic bed	4 structures or more: points = 4
____ Emergent	3 structures: points = 2
____ Scrub-shrub (areas where shrubs have > 30% cover)	2 structures: points = 1
____ Forested (areas where trees have > 30% cover)	1 structure: points = 0

If the unit has a Forested class, check if:

____ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

0

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

____ Permanently flooded or inundated	4 or more types present: points = 3
____ Seasonally flooded or inundated	3 types present: points = 2
____ Occasionally flooded or inundated	2 types present: points = 1
____ Saturated only	1 type present: points = 0
____ Permanently flowing stream or river in, or adjacent to, the wetland	
____ Seasonally flowing stream in, or adjacent to, the wetland	
_×_ **Lake Fringe wetland**	**2 points**
____ **Freshwater tidal wetland**	**2 points**

2

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft^2.

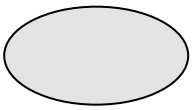
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. ***Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

If you counted: > 19 species	points = 2
5 - 19 species	points = 1
< 5 species	points = 0

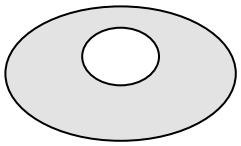
0

H 1.4. Interspersion of habitats

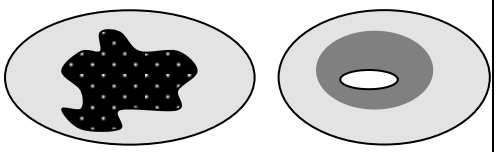
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



None = 0 points

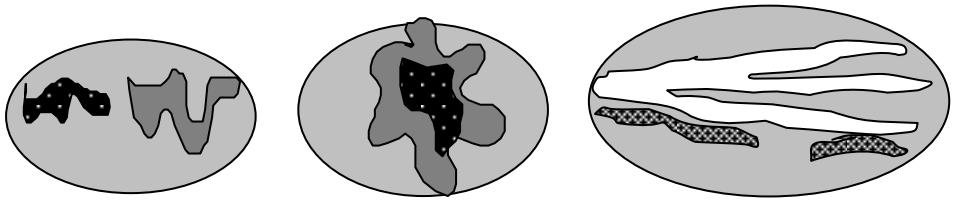


Low = 1 point



Moderate = 2 points

All three diagrams in this row are **HIGH** = 3points



0

Wetland name or number A

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ____Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). ____Standing snags (dbh > 4 in) within the wetland __x__Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ____Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present *(cut shrubs or trees that have not yet weathered where wood is exposed)* ____At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated *(structures for egg-laying by amphibians)* ____Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	1
Total for H 1 Add the points in the boxes above	3

Rating of Site Potential If score is:___**15-18 = H** ___**7-14 = M** _X_**0-6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* [0] % undisturbed habitat **+** [(% moderate and low intensity land uses) [1.12] /2] **=** 0.56 % If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 2 10-19% of 1 km Polygon points = 1 < 10% of 1 km Polygon points = 0	0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* [15.56] % undisturbed habitat **+** [(% moderate and low intensity land uses) [12.98] /2] **=** 22.05 % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0	1
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (- 2) ≤ 50% of 1 km Polygon is high intensity points = 0	-2
Total for H 2 Add the points in the boxes above	-1

Rating of Landscape Potential If score is:___**4-6 = H** ___**1-3 = M** _X_**< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated.* Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 × Site does not meet any of the criteria above points = 0	0

Rating of Value If score is:___**2 = H** ___**1 = M** _X_**0 = L** *Record the rating on the first page*

Wetland name or number A

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. http://wdfw.wa.gov/publications/00165/wdfw00165.pdf or access the list from here: http://wdfw.wa.gov/conservation/phs/list/)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: ***NOTE:*** *This question is independent of the land use between the wetland unit and the priority habitat.*

— **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).

— **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).

— **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.

— **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.

— **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).

— **Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

— **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

— **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

— **Nearshore**: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).*

— **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

— **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

— **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

— **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☐ The dominant water regime is tidal, ☐ Vegetated, and ☐ With a salinity greater than 0.5 ppt ☐ Yes –Go to **SC 1.1** ☒ No= **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = **Category I** ☐ No - Go to **SC 1.2**	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = **Category I** ☐ No = **Category II**	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐ Yes **– Go to SC 2.2** ☒ No **– Go to SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes **= Category I** ☒ No **= Not a WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes **– Contact WNHP/WDNR and go to SC 2.4** ☒ No **= Not a WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes **= Category I** ☒ No **= Not a WHCV**	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions.*** SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes – Go to **SC 3.3** ☒ No – Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes – Go to **SC 3.3** ☒ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No – Go to **SC 3.4** **NOTE:** If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No **= Is not a bog**	

Wetland name or number A

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

- **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.
- **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐Yes **= Category I** ☒No **= Not a forested wetland for this section**

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks
- The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon *(needs to be measured near the bottom)*

☐Yes – Go to **SC 5.1** ☒No = **Not a wetland in a coastal lagoon**

SC 5.1. Does the wetland meet all of the following three conditions?

- The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).
- At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.
- The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2)

☐Yes = **Category I** ☐No = **Category II**

SC 6.0. Interdunal Wetlands

Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.***

In practical terms that means the following geographic areas:

- Long Beach Peninsula: Lands west of SR 103
- Grayland-Westport: Lands west of SR 105
- Ocean Shores-Copalis: Lands west of SR 115 and SR 109

☐Yes – Go to **SC 6.1** ☒No = **not an interdunal wetland for rating**

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? ☐Yes = **Category I** ☐No – Go to **SC 6.2**

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?

☐Yes = **Category II** ☐No – Go to **SC 6.3**

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?

☐Yes = **Category III** ☐No = **Category IV**

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

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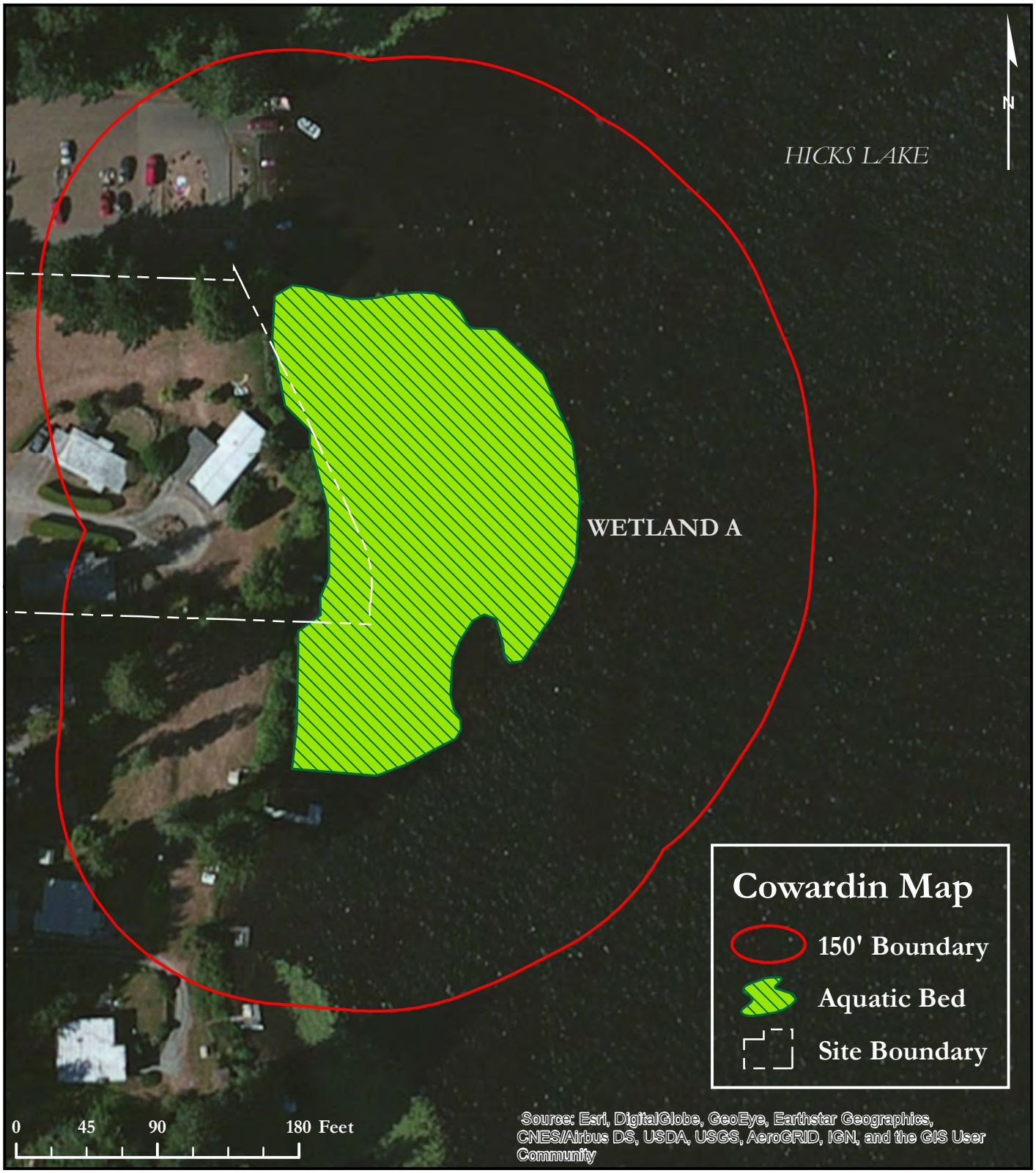
Appendix F – Wetland Rating Maps

HICKS LAKE APARTMENTS - WETLAND RATING MAP



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2907 Harborview Dr., Suite D, Gig Harbor, WA 98335
Phone: (253) 514-8952 Fax: (253) 514-8954
www.soundviewconsultants.com

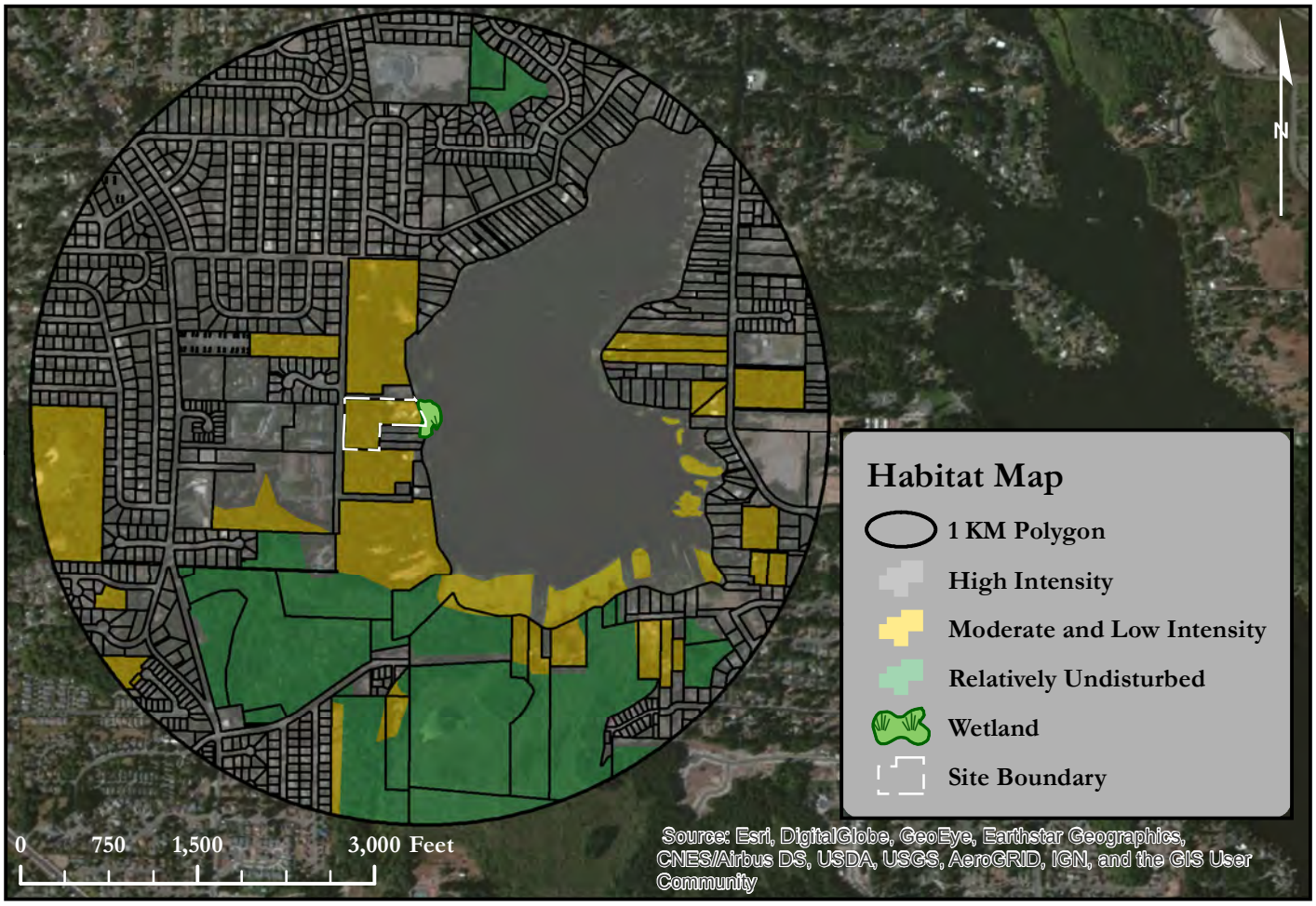
HICKS LAKE APARTMENTS

2712 HAZELWOOD LANE SE
LACEY, WA 98503

THURSTON COUNTY PARCEL NUMBER:
11828111100

DATE:	11/14/2018
JOB:	1596.0001
BY:	DLS
SCALE:	1 " = 90 '
FIGURE NO.	1 of 3

HICKS LAKE APARTMENTS - WETLAND RATING MAP



H.2.0 Wetland A		
H.2.1		
	Abutting Undisturbed Habitat	0.00%
	Abutting Moderate & Low Intensity Land Uses	1.12%
	Accessible Habitat	**0.56%**
H.2.2		
	Undisturbed Habitat	15.56%
	Moderate & Low Intensity Land Uses	12.98%
	Undisturbed Habitat in 1 KM Polygon	**22.05%**
H.2.3		
	High Intensity Land Use in 1 KM Polygon	**71.45%**

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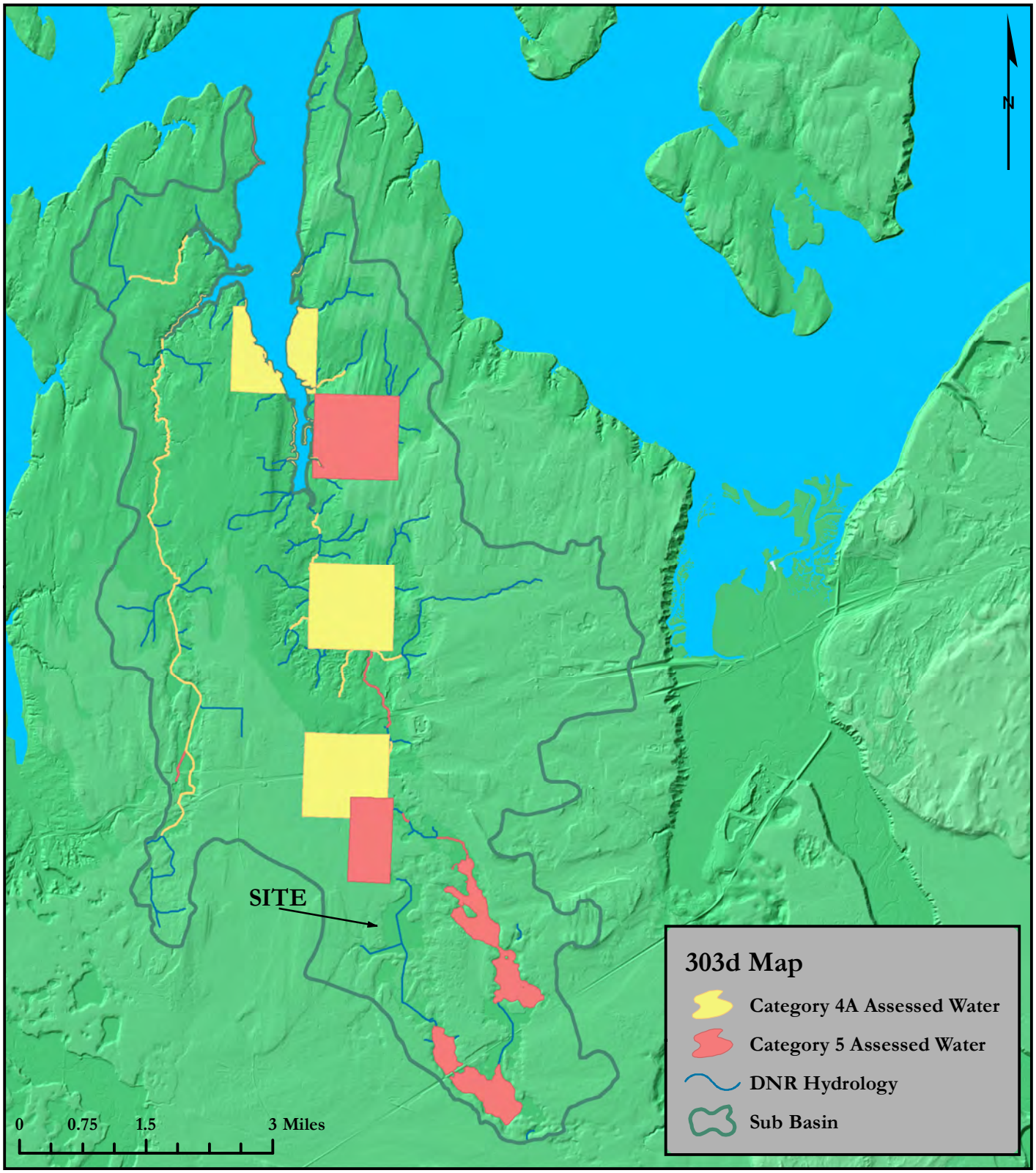
HICKS LAKE APARTMENTS

2712 HAZELWOOD LANE SE
LACEY, WA 98503

THURSTON COUNTY PARCEL NUMBER:
11828111100

DATE:	11/14/2018
JOB:	1596.0001
BY:	DLS
SCALE:	1 " = 1,500 '
FIGURE NO.	2 of 3

HICKS LAKE APARTMENTS - WETLAND RATING MAP



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HICKS LAKE APARTMENTS

2712 HAZELWOOD LANE SE
LACEY, WA 98503

THURSTON COUNTY PARCEL NUMBER:
11828111100

DATE:	11/14/2018
JOB:	1596.0001
BY:	DLS
SCALE:	1 " = 2 mi
FIGURE NO.	3 of 3

Appendix G — Qualifications

All field inspections, habitat assessments, and supporting documentation, including this ***Wetland, Shoreline, and Fish and Wildlife Habitat Assessment Assessment and Conceptual Mitigation Plan*** for the ***Hazelwood Lane Redevelopment Project*** were prepared by, or under the direction of Racheal Villa of SVC. In addition, field investigations or report preparation were performed by Racheal Villa, Richard Peel, and Erin Harker.

Racheal Villa

Senior Scientist and Fisheries Biologist
Professional Experience: 15 years

Racheal Villa is a professional fisheries biologist with a diverse background in both freshwater and marine ecology with emphasis in salmonid life histories and habitat. She has experience in assessing marine, shoreline, stream, and wetland systems, reporting on biological evaluations, permitting, and site assessments.

Racheal earned a Bachelor's of Science degree in Fisheries Biology from the University of Washington, Seattle, with additional graduate level training in salmonid behavior and life history; restoration of fish communities and habitats in river ecosystems; biological problems with water pollution; and biomonitoring and assessment.

In addition, she has received formal training from the Washington State Department of Ecology in Compensatory Mitigation and Restoration Projects, Determining the Ordinary High Water Mark, the revised Washington State Wetland Rating System, Selecting Wetland Mitigation Sites Using a Watershed Approach, and Biological Assessment Preparation for Transportation Projects from the Washington State Department of Transportation. She is also a Pierce County qualified Fisheries Biologist.

Richard Peel

Wetland Scientist
Professional Experience: 6 years (at the time of the assessment)

Richard Peel is a Wetland Scientist with diverse professional experience in wetland ecology, monitoring, and delineation throughout Washington and Oregon. Richard is Washington State trained in conducting wetland delineations, assessing wetland systems, mitigation planning and design, implementation of monitoring programs, mitigation monitoring and reporting. He also has extensive experience in an analytical laboratory using state-of-the-art equipment in bacteriological and chemical analysis of soil and water samples.
Richard is a graduate of The Evergreen State College, with dual degrees in Ecology and Economics. He has focused his academic career on ecology, disturbance ecology, chemistry, and the economic impacts of current environmental management. Richard has extensive training and field experience in wetland related disciplines, and has experience in wetland both east and west of The Cascades. He has been trained by The Washington State Department of Transportation's (WSDOT) Wetland Ecology and Monitoring team in the use of the wetland delineation, mitigation, monitoring, and restoration techniques. In addition, he was directed by WSDOT's Wetland Protection and Preservation Policy to ensure wetlands are preserved and protected whenever possible. This direction ensures no net loss in

the quantity or quality of wetlands in the future and minimization of impacts to wetlands in the present.

Richard is a certified Professional Wetland Scientist (#2858). He has been formally trained in the use of the Washington State Wetland Rating System, Shoreline Stabilization, Eelgrass Delineation, and several other critical area assessment and restoration projects from the Washington Department of Fish and Wildlife, and Washington State Department of Ecology. He is also a Pierce County Qualified Wetland Specialist, and he holds similar qualifications from other jurisdictions.