



**CRITICAL AREA REPORT
&
MITIGATION PLAN**

FOR

MONROE 30
MONROE, WA

Wetland Resources, Inc. Project #24231

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1.0 INTRODUCTION

Monroe 30 is proposed on a 29.8-acre, nine-parcel assemblage located between 175th Avenue SE and Robinhood Lane, in the city limits of Monroe, WA. The tax identification numbers for the parcels are 01038000099900, 28062600400700, 28062600400500, 28062600400100, 28062600401300, 28062600401700, 28062600400900, 28062600401100, 28062600401200. Wetland Resources, Inc. (WRI) performed site investigations on June 14, 2022, July 17, 2023, August 14, 2023, and August 8, 2024, to evaluate the site and surrounding area for the presence of wetlands and streams. The property is located within the French Creek sub-basin of the Snohomish River Watershed, Water Resource Inventory Area 7 and is mapped by the Public Land Survey System within Section 26, Township, 28N, Range 6E, W.M.



Figure 1 – Aerial photo of the subject properties and surrounding area.

1.1 SITE DESCRIPTION

The assemblage includes six parcels that are developed and/or maintained and three undeveloped, forested parcels. The maintained portions of the site include pasture/lawn areas and areas with sporadic canopy coverage. Dominant species in these areas includes various grasses (*Poa* spp. and *Agrostis* spp.), hairy cat's ear (*Hypochaeris radicata*), common dandelion (*Taraxacum officinale*), and creeping buttercup (*Ranunculus repens*). The canopy across the forested portions of the site includes Douglas-fir (*Pseudotsuga menziesii*), western red cedar (*Thuja plicata*), red alder (*Alnus rubra*), and big leaf maple (*Acer macrophyllum*), with a dense understory of Himalayan blackberry (*Rubus armeniacus*), salmonberry (*Rubus spectabilis*), osoberry (*Oemleria cerasiformis*), vine maple (*Acer circinatum*), cut-leaf blackberry (*Rubus laciniatus*), trailing blackberry (*Rubus ursinus*), and swordfern (*Polystichum munitum*).

Topography slopes generally downward to a lower area in the western portion of the site. Most of the area surrounding the site is developed with high-intensity residential uses. A small, undeveloped forested area is present west of the assemblage on the west side of 175th Avenue SE.

One wetland (Wetland A) and an associated stream (Stream A) were identified in the western portion of the site. Wetland A is a Category III wetland with a habitat score of 6 and therefore requires a 110-foot buffer per Monroe Municipal Code (MMC) 22.80.090.D.4. This buffer is increased to 150 feet if the impact minimization measures of MMC Table 22.80.090(D)(2) are not implemented. Stream A is a Type Ns stream and requires a 50-foot buffer per MMC 22.80.100.D.6.

2.0 REVIEW OF EXISTING INFORMATION

Prior to conducting the site investigation, public resource information was reviewed to gather background information on the subject property and the surrounding area regarding wetlands, streams, and other critical areas. These sources included the following:

- USDA/NRCS Web Soil Survey: The Web Soil Survey maps on-site soils as Tokul gravelly medial loam with slopes ranging between 8 and 30 percent.
- United States Fish and Wildlife Service National Wetlands Inventory (NWI): The NWI does not map any wetland or riparian areas on site. A pond is shown approximately 370 feet west of the site along the general flow path of Stream A.
- Snohomish County PDS Map Portal: The PDS Map Portal identifies a stream and an associated linear wetland that crosses the southwestern portion of the site, flowing in a northwesterly direction. The mapped wetland and stream cross through the areas where Wetland A and Stream A are located in the westernmost portion of the assemblage. A second wetland associated with the riparian corridor is mapped along the southern property boundary. Wetland conditions were not observed at or near the southern property boundary where the second wetland is identified. This resource maps a pond and associated wetlands off site to the west, in a similar location to the pond mapped by the NWI. Stream A is identified as a Type Ns water in areas upstream of the off-site pond. The off-site pond and downstream waters are mapped as Type F waters.
- WDFW SalmonScape Interactive Mapping System: SalmonScape maps a salmonid-bearing stream off site to the west, in a similar alignment to the stream shown by Snohomish County PDS. This off-site stream is listed as gradient-accessible habitat for steelhead trout, chum salmon, coho salmon, Chinook salmon, and pink salmon.

- WDFW Priority Habitat and Species (PHS) Interactive Map: The PHS Interactive Map depicts a linear area of Coho habitat that crosses the northern portion of the subject property from east to west, however, no stream is present in this area. This resource also identifies wetland areas in and around the pond located west of the site. The pond and upstream reaches of Stream A are not mapped as fish-habitat by this resource. An area of Coho habitat is depicted beginning 750 feet downstream of the pond and extending away from the pond and subject site.
- Washington Department of Natural Resources Forest Practices Application Mapping Tool (DNR-FPAMT): FPAMT maps Stream A in the southwestern portion of the site. The on-site portion of Stream A is depicted as a Type N water. The break between fish-bearing and non-fish-bearing portions of Stream A is shown 350 feet north of the off-site pond and 370 feet west of the subject property.

3.0 WETLAND AND ORDINARY HIGH WATER MARK DETERMINATION

3.1 WETLAND DETERMINATION AND DELINEATION METHODOLOGY

Wetland conditions were identified using methodologies described in the *Corps of Engineers Wetlands Delineation Manual (Final Report; January 1987)*, except where superseded by the *2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0, referred to as 2010 Regional Supplement)*. Our findings are consistent with these manuals. The following criteria descriptions were used in the wetland boundary determination:

- 1.) Examination of the site for hydrophytic vegetation (species present and percent cover);
- 2.) Examination of the site for hydric soils;
- 3.) Determining the presence of wetland hydrology

The ordinary high water marks (OHWM) of streams and waterbodies, where present, were identified using the methodology described in *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson et al. 2016).

3.1.1 Hydrophytic Vegetation Criteria

The 2010 Regional Supplement defines hydrophytic vegetation as “assemblage of macrophytes that occur in areas where inundation or soil saturation is either permanent or of sufficient frequency and duration to influence plant occurrence.” Field indicators were used to determine whether the vegetation meets the definition for hydrophytic vegetation. Commonly used indicators include the dominance test and the prevalence index, which are based on the wetland indicator status of plant species present.

3.1.2 Soils Criteria and Mapped Description

The 2010 Regional Supplement (per the National Technical Committee for Hydric Soils) defines hydric soils as soils “that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.” Field indicators are used to determine whether a given soil meets the definition for hydric soils. Indicators are numerous and include, but are not limited to, presence of a histosol or histic epipedon, a sandy gleyed matrix, depleted matrix, and redoximorphic depressions.

3.1.3 Hydrology Criteria

The 2010 Regional Supplement defines wetland hydrology as “areas that are inundated (flooded or ponded) or the water table is less than or equal to 12 inches below the soil surface for 14 or more consecutive days during the growing season at a minimum frequency of 5 years in 10.” During the early growing season, wetland hydrology determinations are made based on physical observation of surface water, a high water table, or saturation in the upper 12 inches. Outside of the early growing season, wetland hydrology determinations are made based on physical evidence of recent inundation or saturation (i.e. water marks, surface soil cracks, water-stained leaves).

3.2 BOUNDARY DETERMINATION FINDINGS/RESULTS

Wetland A

HGM Class: Depressional

Wetland Rating Category and Score (Total/Habitat): Category III (19/6)

City of Monroe Standard Buffer: 110 feet

City of Monroe High-Intensity Buffer: 150 feet

Wetland A is a small wetland associated with Stream A located in the western portion of the site, entirely within parcel 01038000099900. The outer edge of the wetland is forested with a dense, shrubby understory. The interior of the wetland is dominated by emergent plants. Species observed within Wetland A include western red cedar (*Thuja plicata*; FAC), Himalayan blackberry (*Rubus armeniacus*; FAC), salmonberry (*Rubus spectabilis*; FAC), vine maple (*Acer circinatum*; FAC), youth-on-age (*Tolmiea menziesii*; FAC), and creeping buttercup (*Ranunculus repens*; FAC). Dominant vegetation within Wetland A is rated as facultative (FAC) and therefore the plant community within the wetland is considered hydrophytic.

The top four inches of soil within Wetland A is typically very dark grayish brown (10YR 3/2) sandy loam. Between four and sixteen inches below the soil surface, soils are generally very dark brown (10YR 2/2) sandy loam with dark yellowish brown (10YR 3/6) redoximorphic concentrations present in the matrix. These soils meet the criteria for the hydric soil indicator Redox Dark Surface (F6). Soils within Wetland A were dry at the time of the August 2023 site investigation; however, conditions meeting the criteria for the secondary hydrologic indicators Drainage Patterns (B10) and Geomorphic Position (D2) were observed.



Figure 2 - Looking east through Wetland A.

Stream A

Stream Classification: Type Ns

City of Monroe Buffer: 50 feet

Stream A is a narrow stream that flows from east to west through Wetland A. The stream enters a culvert at the eastern edge of 175th Avenue SE and discharges to the west. On the west side of 175th Avenue SE, the stream turns to the south and drains away from the site. The on-site segment of Stream A was dry during all of our site visits. Several public resources show Stream A extending across the southwestern portion of the site, however, stream conditions are not present beyond the flagged boundary of Stream A. No bed, bank, or evidence of flow was observed southeast of the delineated terminus of Stream A. Due to the width of on-site portions of Stream A, seasonal flow of the stream, and the gradient between on-site portions of the stream and the mapped pond west of the site, Stream A is considered a Type Ns stream. This is supported by DNR and WDFW mapping.

Non-Wetland Areas

Non-wetland portions of the site include areas of unmaintained forest, maintained pastures, and maintained lawns. Vegetation in the forested portions is dense and diverse. Observed species in these areas include red alder (*Alnus rubra*; FAC), western red cedar (*Thuja plicata*; FAC), Douglas-fir (*Pseudotsuga menziesii*; FACU), western hemlock (*Tsuga heterophylla*; FACU), Himalayan blackberry (*Rubus armeniacus*; FAC), English holly (*Ilex aquifolium*; FACU), salmonberry (*Rubus spectabilis*; FAC), red elderberry (*Sambucus racemosa*; FACU), cut-leaf blackberry (*Rubus laciniatus*; FACU), trailing blackberry (*Rubus ursinus*; FACU), and swordfern (*Polystichum munitum*; FACU). Maintained parts of the assemblage are dominated by emergent species such as pasture grasses (*Poa* and *Agrostis* spp.; varies), hairy cat's ear (*Hypochaeris radicata*; FACU), narrowleaf plantain (*Plantago lanceolata*; FACU), common dandelion (*Taraxacum officinale*; FACU), and creeping buttercup (*Ranunculus repens*; FAC).

The dominance of facultative-upland species in non-wetland areas indicates that the plant communities in these areas is not hydrophytic.

The top layer of soil in non-wetland parts of the site is generally very dark brown (10YR 2/2) or very dark grayish brown (10YR 3/2) sandy loam that extends to depths between three and six inches. The sublayer is typically brighter, with commonly observed soil colors including varying shades of dark yellowish brown (10YR 3/4, 10YR 4/4, or 10YR 3/6). Subsoils generally have a sandy loam texture. Soils in non-wetland portions of the site were dry during the site investigations.



Figure 3 – Non-wetland forested area in the northwestern portion of the site.

4.0 PROPOSED PROJECT, IMPACTS, AND MITIGATION

4.1 PROJECT DESCRIPTION

The applicant is proposing to construct a high-density residential development throughout the assemblage. The project includes 179 single-family houses, seven multi-family residential buildings, access roads, utilities, and associated appurtenances. The applicant is proposing to implement the impact minimization measures described in MMC Table 22.80.090(D)(2) to maintain the standard 110-foot buffer for Wetland A. Additionally, historically maintained portions of the on-site buffer will be planted with native species, as required by MMC 22.80.090.D.4.

4.2 WETLAND BUFFER REDUCTION – IMPACT MINIMIZATION MEASURES

MMC Table 22.80.090(D)(2) provides impact minimization standards required to utilize the standard buffer width for identified wetlands. The table below details the examples of disturbance outlined by the referenced table with a description of how those disturbances will be minimized on this project.

Table 1 – Implementation of Optional Mitigation Measure 1

Example of disturbance	Proposed impact minimization measures
Lights	Lights will be directed away from wetland, stream, and buffer areas. Residential structures have been sited as far from wetland areas as feasible.
Noise	Residential uses have been sited as far from wetland, stream, and buffer areas as feasible. Plants will be installed as part of the buffer enhancement mature and, as they mature, they will help to reduce noise within critical areas.
Toxic runoff	Runoff generated by the proposed development will be treated in accordance with the applicable drainage manual. Stormwater will be captured and routed away from Wetland A and Stream A which will prevent pollutants from reaching the critical areas and their associated buffers.
Stormwater runoff	Runoff generated by the proposed use will be treated in accordance with the applicable drainage manual. Stormwater will be captured and routed away from Wetland A and Stream A which will prevent pollutants from reaching the critical areas and their associated buffers.
Change in water regime	A drainage report has been prepared as part of this project. No hydrologic impacts to Wetland A or Stream A are expected to result from this project.
Pets and human disturbance	Dense planting within the buffer will reduce the potential for human intrusion within critical areas. Fencing and signage marking the critical area will be installed along the edge of the buffer, as required by MMC 22.80.080.D.2.
Dust	Best management practices will be applied to prevent dust from reaching the critical areas during construction. Roads and residential uses are being sited as far from the wetland, stream, and buffer areas as feasible to prevent dust from reaching critical areas.

4.3 BUFFER ENHANCEMENT PLAN

The 110-foot standard buffer width for Wetland A assumes that the buffer is vegetated with a native plant community appropriate for the site. The eastern portion of the on-site buffer has been historically maintained and used as a driveway for neighboring residences. Therefore, the existing buffer condition does not meet the vegetation standard. The applicant will enhance all degraded buffer areas by removing existing gravel and structural developments, removing all invasive shrubs, decompacting areas where gravel and development were present, and installing a diverse array of native trees and shrubs. In total, 14,710 square feet of buffer enhancement is proposed. The following plants will be installed across the buffer enhancement area:

Table 1 - Buffer Enhancement Planting Plan (14,710 Sq. Ft.)

<u>Common Name</u>	<u>Latin Name</u>	<u>Size</u>	<u>Spacing</u>	<u>Quantity</u>
Big leaf maple	<i>Acer macrophyllum</i>	1 gallon	10'	65
Douglas-fir	<i>Pseudotsuga menziesii</i>	1 gallon	10'	65
Western red-cedar	<i>Thuja plicata</i>	1 gallon	10'	40
Thimbleberry	<i>Rubus parviflorus</i>	1 gallon	5'	72
Salmonberry	<i>Rubus spectabilis</i>	1 gallon	5'	72
Vine maple	<i>Acer circinatum</i>	1 gallon	5'	72
Ocean spray	<i>Holodiscus discolor</i>	1 gallon	5'	72
Beaked hazelnut	<i>Corylus cornuta</i>	1 gallon	5'	72
Snowberry	<i>Symphoricarpos albus</i>	1 gallon	5'	72
Swordfern	<i>Polystichum munitum</i>	1 gallon	5'	72

4.4 PLANTING NOTES

Plant in the early spring or late fall and obtain all plants from a reputable nursery. Care and handling of all plant materials is extremely important to the overall success of the project. The origin of all plant materials specified in this plan shall be native plants, nursery grown in the Puget Sound region of Washington. Some species substitution may be allowed with the agreement of the consulting wetland professional and/or County staff.

Pre-Planting Meeting

Prior to control of invasive species or installation of mitigation plantings, a site meeting between the contracted landscaper and the consulting wetland professional shall occur to resolve any questions that may arise. During this meeting, a discussion regarding plant spacing and locations of plant species shall occur between the landscape contractor and the consulting wetland professional.

Handling

Plants shall be handled so as to avoid all damage, including: breaking, bruising, root damage, sunburn, drying, freezing or other injury. Plants must be covered during transport. Plants shall not be bound with wire or rope in a manner that could damage branches. Protect plant roots with shade and wet soil in the time period between delivery and installation. Do not lift container stock by trunks, stems, or tops. Do not remove from containers until ready to plant. Water all plants as necessary to keep moisture levels appropriate to the species horticultural requirements. Plants shall not be allowed to dry out. All plants shall be watered thoroughly immediately upon installation. Soak all containerized plants thoroughly prior to installation.

Storage

Plants stored by the Permittee for longer than one month prior to planting shall be planted in nursery rows and treated in a manner suitable to those species' horticultural requirements. Plants must be re-inspected by the wetland biologist and/or landscape designer prior to installation.

Damaged plants

Damaged, dried out, or otherwise mishandled plants will be rejected at installation inspection. All rejected plants shall be immediately removed from the site, and properly replaced.

Plant Names

Plant names shall comply with those generally accepted in the native plant nursery trade. Any question regarding plant species or variety shall be referred to the landscape designer, wetland professional, or County staff. All plant materials shall be true to species and variety and legibly tagged.

Quality and condition

Plants shall be normal in pattern of growth, healthy, well-branched, vigorous, with well-developed root systems, and free of pests and diseases. Damaged, diseased, pest-infested, scraped, bruised, dried out, burned, broken, or defective plants will be rejected. Plants with pruning wounds over 1" in diameter will be rejected.

Roots

All plants shall be balled and burlapped (B&B) or containerized, unless explicitly authorized by the landscape designer and/or wetland professional. Rootbound plants will be rejected. Immediately before installation, plants with minor root damage must be root-pruned. Matted or circling roots of containerized plantings must be pruned or straightened and the sides of the root ball must be roughened from top to bottom to a depth of approximately half an inch in two to four places.

Sizes

Plant sizes shall be the size indicated in the plant schedule in approved plans. Larger stock may be acceptable provided that it has not been cut back to the size specified, and that the root ball is proportionate to the size of the plant. Smaller stock may be acceptable, and preferable under some circumstances, based on site-specific conditions. Measurements, caliper, branching, and balling and burlapping shall conform to the American Standard of Nursery Stock by the American Association of Nurserymen (latest edition).

Form

Evergreen trees shall have single trunks and symmetrical, well-developed form. Deciduous trees shall be single trunked unless specified as multi-stem in the plant schedule. Shrubs shall have multiple stems and be well-branched.

Timing of Planting

Unless otherwise approved by County staff, all planting shall occur between October 1 and March 1. Overall, the earlier the plants go into the ground during the dormant period, the more time they have to adapt to the site and extend their root systems before the water demands of spring and summer.

Weeding

Existing and exotic vegetation in the enhancement areas will be hand-weeded from around all newly installed plants at the time of installation and on a routine basis throughout the monitoring period. No chemical control of vegetation on any portion of the site is recommended without prior approval from the County and wetland specialist.

Site conditions

The contractor shall immediately notify the landscape designer and/or wetland professional of drainage or soil conditions likely to be detrimental to the growth or survival of plants. Planting operations shall not be conducted under the following conditions: freezing weather, when the ground is frozen, excessively wet weather, excessively windy weather, or in excessive heat.

Planting Pits

Planting pits shall be circular or square with vertical sides, and shall be 6” deeper and 12” wider in diameter than the root ball of the plant. Break up the sides of the pit in compacted soils. Set plants upright in pits. Burlap shall be removed from the planting pit. Backfill shall be worked back into holes such that air pockets are removed without adversely compacting soils.

Fertilizer

Slow release fertilizer may be used if pre-approved by County officials. Fertilizers shall be applied only at the base of plantings underneath the required covering of mulch (that does not make contact with stems of the plants). No soil amendment or fertilizers will be placed within planting holes.

Staking

Most shrubs and many trees DO NOT require any staking. If the plant can stand alone without staking in a moderate wind, do not use a stake. If the plant needs support, then strapping or webbing should be used as low as possible on the trunk to loosely brace the tree with two stakes. Do not brace the tree tightly or too high on the trunk. If the tree is unable to sway, it will further lose the ability to support itself. Do not use wire in a rubber hose for strapping as it exerts too much pressure on the bark. As soon as supporting the plant becomes unnecessary, remove the stakes. All stakes must be removed within two (2) years of installation.

Plant Location

Colored surveyors ribbon or other appropriate marking shall be attached to the installed plants to assist in locating the plants while removing the competing non-native vegetation and during monitoring activities. Flagging or ribbon shall not be tied to the plant’s leader, but to smaller branches.

Arrangement and Spacing

The plants shall be arranged in a pattern with the appropriate numbers, sizes, species, and distribution that are required in accordance with the approved plans. The actual placement of individual plants shall mimic natural, asymmetric vegetation patterns found on similar undisturbed

sites in the area. Spacing of the plantings shall be adjusted to maintain existing native vegetation with the agreement of the landscape designer, wetland biologist, and/or County staff.

Inspection(s)

A wetland biologist shall be present on site to inspect the plants prior to planting. Minor adjustments to the original design may be required prior to and during construction.

Mulch

All landscaped areas denuded of vegetation and the soil surface surrounding all planting pit areas shall receive no less than 3 inches (depth) of wood chips after planting. Mulch shall be kept well away (at least 2 inches) from the trunks and stems of woody plants.

Seeding

Seeds must be sown at the recommended seeding rate. Seeds should generally be sown into a relatively clean and weed-free seedbed to a depth of 1/4 to 1/2 inch. Spread seed evenly across the area, and rake lightly to cover. Pack or roll area to ensure seed contact with soil. Seeding should be scheduled in early fall after the first rains have begun, or in early spring. Areas of seeding should be maintained throughout the monitoring period.

4.4.2 Project Notes

Pre-Construction Meeting

Buffer enhancement projects are typically more complex to install than described in plans. Careful monitoring by the wetland professional for applicable portions of this project are strongly recommended. Construction timing and sequencing is important to the success of this type of project. There will be a pre-construction meeting on this site between the Permittee, the wetland professional, engineer(s), equipment operator(s), and County representatives (as necessary). The objective will be to verify the location of erosion control facilities, verify the location of planting areas, and to discuss project sequencing.

Inspections

The wetland professional shall be contracted to periodically inspect the planting installation described in this plan. Minor adjustments to the original design may be necessary prior to and during construction due to unusual or hidden site conditions. A County representative and/or the wetland professional will make these decisions during construction.

4.5 PROJECT MONITORING PROGRAM

Requirements for monitoring project:

1. Initial compliance/as-built report
2. Annual site inspection (once per year) for five years
3. Annual reports including final report (one report submitted in the fall of each monitored year)

Purpose for Monitoring

The purpose for monitoring shall be to evaluate the project's success. Success will be determined if monitoring shows at the end of five years that the definitions of success stated below are being met. Access shall be granted to the planting area for inspection and maintenance to the contracted landscape and/or wetland professional and the County during the period of the bond or until the project is evaluated as successful.

Monitoring

Monitoring shall be conducted annually in the fall for five years.

Vegetation Monitoring

Survivorship shall be determined through a census of installed plants or through establishment and routine monitoring of sample plots or transects. The areal coverage of native and invasive species will be determined by a visual estimate at a site-wide level. Vegetation monitoring shall occur annually between May 15 and September 30 (prior to leaf drop), unless otherwise specified.

Photo points

At least two permanent photo points shall be established within the planting area during as-built site visit. Photographs will be taken from these points annually, to visually record the condition of the enhancement area over time. Photos shall be taken annually between May 15 and September 30 (prior to leaf drop), unless otherwise specified.

4.5.1 Monitoring Reports

Report Contents

Monitoring reports shall be submitted by December 31 of each year during the monitoring period. As applicable, monitoring reports must include descriptions/data for:

- (1) Site plan and vicinity map;
- (2) Historic description of project, including date of installation, current year of monitoring, restatement of planting/restoration goals, and performance standards;
- (3) Plant survival and areal coverage estimates, and explanation of monitoring methodology in the context of assessing performance standards;
- (4) Assessment of nuisance/exotic biota and recommendations for management;
- (5) The location of color photographs taken from permanent photo-points shall be depicted on monitoring report maps.

4.5.2 Project Success and Compliance

Criteria for Success

Upon completion of the proposed planting plan, an inspection by a qualified biologist will be made to determine plan compliance. A compliance report will be supplied to Snohomish County within 30 days of the completion of planting. A wetland professional will perform condition monitoring of the plantings before September of each year for five years. A written report describing the monitoring results will be submitted to the County after each site inspection of each monitored year. Final inspection will occur five years after completion of this project. The contracted consultant will prepare a report on the success of the project.

Performance Standards

The planting areas shall meet the following performance standards:

Year 1: 100 percent survival of newly planted species;

Year 1: Less than 5 percent invasive tree/shrub cover**;

Year 3: 90 percent survival of newly planted species;

Year 3: Less than 5 percent invasive tree/shrub cover**;

Year 3: At least 40 percent native tree/shrub cover*;

Year 5: Less than 5 percent invasive tree/shrub cover**;

Year 5: At least 60 percent native tree/shrub cover*.

*Native volunteer species may be used in percent cover calculation for all years.

**Maintenance shall occur immediately after any site visit that documents an increase in invasive species coverage, regardless of established thresholds.

4.6 MAINTENANCE

The planting areas will require periodic maintenance to remove undesirable species, cut back reed canarygrass, and replace vegetation mortality. Maintenance of trees and shrubs shall occur at least twice a year for the 5-year monitoring period in accordance with the approved plan. Reed canarygrass shall be cut at least four times a year for the 5-year monitoring period. Maintenance may include, but will not be limited to, removal of competing grasses, irrigation, replacement of plant mortality, and the replacement of mulch for each maintenance period. Mulch should be replenished during each maintenance visit. The contracted landscape professional or property owner is responsible for maintenance during all monitoring years.

Duration and Extent

In order to achieve aforementioned Performance Standards, the Permittee shall have the planting area maintained for the duration of the five-year monitoring period. Maintenance will include: watering, weeding around the base of installed plants, pruning, replacement, re-staking, removal of all classes of noxious weeds (see Washington State Noxious Weeds List), and any other measures needed to insure plant survival.

Survival

The Permittee shall be responsible for the health of 100 percent of all newly installed plants for *one growing season* after installation has been accepted by the County. A growing season for these purposes is defined as occurring from spring to spring (March 15 to March 15 of the following year). For fall installation (often required), the growing season will begin the following spring. The Permittee shall replace any plants that are failing, weak, defective in manner of growth, or dead during this growing season, as directed by the landscape designer, wetland professional, and/or County staff.

Installation Timing for Replacement Plants

Replacement plants shall be installed between October 1 and March 1, unless otherwise determined by the wetland professional and/or County staff.

Standards for Replacement Plants

Replacement plants shall meet the same standards for size and type as those specified for the original installation unless otherwise directed by the landscape designer, wetland professional, and/or County staff.

Replanting

Plants that have settled in their planting pits too deep, too shallow, loose, or crooked shall be replanted as directed by the wetland professional and/or County staff.

Mulch

All plantings will have mulch reapplied at their bases every year of the monitoring period. Plants shall receive no less than 3 inches of wood chips every spring. Mulch shall be kept well away (at least 2 inches) from the trunks and stems of woody plants.

Herbicides/Pesticides

Chemical controls shall not be used in the planting area, sensitive areas, or their buffers. However, limited use of herbicides may be approved depending on site-specific conditions, only if approved by County staff.

Watering

Water should be provided during the dry season (July 1 through September 15) for at least the first year after installation to insure plant survival and establishment. Water should be applied at a rate of one inch of water once per week during Year 1.

4.7 PERFORMANCE AND/OR MAINTENANCE ASSURANCE

The City of Monroe may require performance and/or maintenance assurances if it is determined to be necessary. If required, the City will determine the type and amount of assurance device required. The performance or maintenance assurance device amount is typically based on the estimated cost of work. An estimate of the cost of project installation is provided below.

Cost of Plants and Labor (674 1-gal plants @ \$12/plant, installed)	\$8,088.00
Cost of Mulch (\$3.25/sq. yd.)	\$800.00
Cost of Maintenance (5 years @ \$1,000/year)	\$5,000.00
TOTAL ESTIMATED COST	\$13,888.00

5.0 FUNCTIONS AND VALUES ASSESSMENT

SCC 30.62A.140 requires a comparative analysis of ecological functions and values in pre- and post-development conditions. The following section demonstrates the expected benefit of the proposed mitigation plan relative to the existing condition of the site.

5.1 ASSESSMENT METHODOLOGY

The methodology for this functions and values assessment is based on professional opinion developed through past field analyses and interpretation. This assessment pertains specifically to on-site wetlands and buffers, but is typical for assessments of similar systems common to western Washington.

5.2 EXISTING BUFFER CONDITIONS

On-site buffer conditions include forested areas, historically maintained pasture areas, areas used as driveway for the existing on-site land uses. Natively forested areas are densely vegetated and perform buffer functions and values at a high level. Dense vegetation reduces hydrologic flow rates as water moves through the buffer. This, in turn, allows for pollutants within the water column to fall out of suspension or be filtered from the water as it is absorbed by plants. Additionally, dense and diverse plant life provides opportunities to wildlife for activities such as foraging, resting, nesting, shading, and hiding. By contrast, maintained and developed portions of the buffer provide little-to-no value to hydrologic, water quality, or wildlife functions. Water moves quickly through these areas and routine maintenance and usage releases toxins into the buffer. The absence of dense vegetation also restricts the opportunities for wildlife within maintained areas.

5.3 POST-DEVELOPMENT FUNCTIONS AND VALUES

The proposed buffer enhancement plan is expected to increase the functions and values provided by on-site buffer areas. Water quality functions will improve as development is removed from the buffer and restored with native vegetation. Hydrologic discharges from the proposed development will be treated and regulated, which will reduce the pollutants discharging to critical areas on and

near the site. The hydrologic functions provided by the buffer will be maintained or improved. Dense plantings will help regulate hydrologic flows during peak precipitation events and discharges from the development will be regulated through the stormwater control plan. Finally, the wildlife functions and values of the buffer will increase. Historically maintained and developed areas will be planted with a diverse array of native trees and shrubs. These plantings will increase species richness and structural diversity in the buffer which will in turn provide additional opportunities to wildlife that use the site.

6.0 WILDLIFE ASSESSMENT

Wetlands, streams, and their associated buffers contain resources for wildlife such as food, water, thermal cover, and refuge in close proximity. Given the habitat available, the following mammalian species may use the area: Columbian black-tailed deer (*Odocoileus hemionus columbianus*), eastern cottontail rabbit (*Sylvilagus floridanus*), shrews (*Sorex spp.*), moles (*Scapanus spp.*), skunks (*Mephitis spp.*), eastern gray squirrel (*Sciurus carolinensis*), deer mice (*Peromyscus maniculatus*), and Virginia opossum (*Didelphis virginiana*). The following avian species are expected to use the area: American Robin (*Turdus migratorius*), American Crow (*Corvus brachyrhynchos*), Stellar's Jay (*Cyanocitta stelleri*), Black-capped Chickadee (*Poecile atricapillus*), Dark-eyed Junco (*Junco hyemalis*), Spotted Towhee (*Pipilo maculatus*), Bushtit (*Psaltriparus minimus*), Northern Flicker (*Colaptes auratus*), Hairy Woodpecker (*Picoides villosus*), Downy Woodpecker (*Dendrocopus villosus*), Red-breasted Nuthatch (*Sitta canadensis*), Brown Creeper (*Certhia americana*), and Red-tailed Hawk (*Buteo jamaicensis*). Other wildlife expected to use this site include: pacific tree frog (*Hyla regilla*), northwestern salamander (*Ambystoma gracile*), and rough-skinned newt (*Taricha granulosa*). These lists are not meant to be all-inclusive and may omit species that currently utilize or could utilize the site.

7.0 USE OF THIS REPORT

This Critical Area Report and Mitigation Plan is supplied to South Lake Ridge, LLC, as a means of identifying on-site and nearby critical areas and demonstrating that the proposed mitigation plan is compliant with Snohomish County Code. This report is based largely on readily observable conditions and, to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions.

The laws applicable to critical areas are subject to varying interpretations and may be changed at any time by the courts or legislative bodies. This report is intended to provide information deemed relevant in the applicant's attempt to comply with the laws now in effect.

This report conforms to the standard of care employed by wetland ecologists. No other representation or warranty is made concerning the work or this report and any implied representation or warranty is disclaimed.

Wetland Resources, Inc.

A handwritten signature in black ink, appearing to read 'Eamonn Collins', written over a light grey rectangular background.

Eamonn Collins, PWS
Senior Ecologist

8.0 REFERENCES

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**APPENDIX A:
CORPS WETLAND DETERMINATION DATA FORMS**

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

Project/Site: 24231 - Monroe 30 City/County: Snohomish County Sampling Date: 8/14/23
 Applicant/Owner: South Lake Ridge, LLC State: WA Sampling Point: S1
 Investigator(s): EC Section, Township, Range: S26, T28N, R6E, W.M.
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): <2%
 Subregion (LRR): LRR-A Lat: 47.883651 Long: -121.996604 Datum: NAD83
 Soil Map Unit Name: Tokul gravelly medial loam (8 to 15 percent slopes) NWI classification: R4SBC

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Climate in preceding months was drier than normal per WETS table. Data taken in Wetland A near WRA3.	

VEGETATION – Use scientific names of plants.

Stratum	Plot size	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: 5m radius)					
1. <u>Thuja plicata</u>		10	Y	FAC	
2. <u>Pseudotsuga menziesii*</u>		35	N	FACU	
3. _____					
4. _____					
		45	= Total Cover		
Sapling/Shrub Stratum (Plot size: 3m radius)					
1. <u>Rubus armeniacus</u>		40	Y	FAC	
2. <u>Rubus spectabilis</u>		5	Y	FAC	
3. _____					
4. _____					
5. _____					
		45	= Total Cover		
Herb Stratum (Plot size: 1m radius)					
1. <u>Ranunculus repens</u>		70	Y	FAC	
2. <u>Tolmiea menziesii</u>		35	Y	FAC	
3. <u>Athyrium filix-femina</u>		5	N	FAC	
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
		110	= Total Cover		
Woody Vine Stratum (Plot size: 3m ²)					
1. _____					
2. _____					
		0	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>					

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
 Total Number of Dominant Species Across All Strata: 5 (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 = 0
 FACW species _____ x 2 = 0
 FAC species _____ x 3 = 0
 FACU species _____ x 4 = 0
 UPL species _____ x 5 = 0
 Column Totals: 0 (A) 0 (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 Rapid Test for Hydrophytic Vegetation
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:
 *Pseudotsuga menziesii rooted outside of wetland

SOIL

Sampling Point: S1

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-4	10YR 3/2	100					Sandy Loam	
4-16	10YR 2/2	92	10YR 3/6	8	C	M	Sandy Loam	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

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

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

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

Remarks:

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

Project/Site: 24231 - Monroe 30 City/County: Snohomish County Sampling Date: 8/14/23
 Applicant/Owner: South Lake Ridge, LLC State: WA Sampling Point: S2
 Investigator(s): EC Section, Township, Range: S26, T28N, R6E, W.M.
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): <2%
 Subregion (LRR): LRR-A Lat: 47.883651 Long: -121.996604 Datum: NAD83
 Soil Map Unit Name: Tokul gravelly medial loam (8 to 15 percent slopes) NWI classification: R4SBC

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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Climate in preceding months was drier than normal per WETS table. Data taken outside of Wetland A near WRA3.	

VEGETATION – Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: 5m radius)					
1. <u>Pseudotsuga menziesii</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)	
2. <u>Thuja plicata</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC species _____ x 3 = <u>0</u> FACU species _____ x 4 = <u>0</u> UPL species _____ x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____	
<u>35</u> = Total Cover					
Sapling/Shrub Stratum (Plot size: 3m radius)					
1. <u>Rubus armeniacus</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Oemleria cerasiformis</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>		
3. <u>Rubus spectabilis</u>	<u>10</u>	<u>N</u>	<u>FAC</u>		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
<u>70</u> = Total Cover					
Herb Stratum (Plot size: 1m radius)					
1. <u>Rubus ursinus</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>		
2. <u>Ranunculus repens</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>		
3. <u>Agrostis sp.*</u>	<u>5</u>	<u>N</u>	<u>FAC</u>		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
<u>60</u> = Total Cover					
Woody Vine Stratum (Plot size: 3m ²)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
<u>0</u> = Total Cover					
% Bare Ground in Herb Stratum <u>40</u>					

Remarks:
 *unidentified grass conservatively assumed to be FAC

SOIL

Sampling Point: S2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-2	10YR 2/2	100					Sandy Loam	
2-16	10YR 3/3	100					Sandy Loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

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

Project/Site: 24231 - Monroe 30 City/County: Monroe/Snohomish Sampling Date: 7/13/2023
 Applicant/Owner: South Lake Ridge, LLC State: WA Sampling Point: S3
 Investigator(s): EC Section, Township, Range: S26 T28 R06E
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 8 - 15
 Subregion (LRR): A Lat: 47.882637 Long: -121.99426 Datum: WGS84
 Soil Map Unit Name: Tokul gravelly medial loam, 8 to 15 percent slopes NWI classification: None

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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Data taken in forested area near southern property boundary in the center of the site.	

VEGETATION – Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Notes
Tree Stratum (Plot size: 5 sm)				
1. <u>Thuja plicata</u>	65	Y	FAC	
2. <u>Tsuga heterophylla</u>	15	N	FACU	
3. <u>Frangula purshiana</u>	5	N	FAC	
4. _____				
	85	= Total Cover		
Sapling/Shrub Stratum (Plot size: 3 sm)				
1. <u>Rubus spectabilis</u>	20	Y	FAC	
2. <u>Rubus armeniacus</u>	10	Y	FAC	
3. <u>Gaultheria shallon</u>	10	Y	FACU	
4. <u>Acer circinatum</u>	5	N	FAC	
5. _____				
	45	= Total Cover		
Herb Stratum (Plot size: 1 sm)				
1. <u>Ranunculus repens</u>	40	Y	FAC	
2. <u>Dicentra formosa</u>	10	Y	FACU	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
	50	= Total Cover		
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
		= Total Cover		
% Bare Ground in Herb Stratum <u>50</u>				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
 Total Number of Dominant Species Across All Strata: 6 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:
 Total % Cover of: _____ Multiply by:
 OBL species _____ x 1 = 0
 FACW species _____ x 2 = 0
 FAC species _____ x 3 = 0
 FACU species _____ x 4 = 0
 UPL species _____ x 5 = 0
 Column Totals: 0 (A) 0 (B)
 Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
 Rapid Test for Hydrophytic Vegetation
 Dominance Test is >50%
 Prevalence Index is ≤3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Wetland Non-Vascular Plants¹
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No

Remarks:

SOIL

Sampling Point: S3

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0 - 14	10YR 5/4	100					SaLo	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

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

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

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

Remarks:
 Dry

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

Project/Site: 24231 - Monroe 30 City/County: Monroe/Snohomish Sampling Date: 7/13/2023
 Applicant/Owner: South Lake Ridge, LLC State: WA Sampling Point: S4
 Investigator(s): EC Section, Township, Range: S26 T28 R06E
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 8 - 15
 Subregion (LRR): A Lat: 47.88358 Long: -121.99256 Datum: WGS84
 Soil Map Unit Name: Tokol gravelly medial loam, 8 to 15 percent slopes NWI classification: None

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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Data taken in forested area in the east portion of the site.	

VEGETATION – Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Notes
Tree Stratum (Plot size: 5 sm)				
1. <u>Populus balsamifera</u>	45	Y	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
2. <u>Alnus rubra</u>	30	Y	FAC	
3. <u>Tsuga heterophylla</u>	20	Y	FACU	
4. _____				
80 = Total Cover				
Sapling/Shrub Stratum (Plot size: 3 sm)				
1. <u>Rubus spectabilis</u>	75	Y	FAC	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = 0 FACW species _____ x 2 = 0 FAC species _____ x 3 = 0 FACU species _____ x 4 = 0 UPL species _____ x 5 = 0 Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____
2. <u>Corylus cornuta</u>	15	N	FACU	
3. <u>Acer circinatum</u>	10	N	FAC	
4. _____				
5. _____				
100 = Total Cover				
Herb Stratum (Plot size: 1 sm)				
1. <u>Polystichum munitum</u>	30	Y	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Rubus ursinus</u>	10	Y	FACU	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
40 = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>60</u>				

Remarks:

SOIL

Sampling Point: S4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0 - 8	10YR 3/3	100					SaLo	
8-18	10YR 3/6	100					SaLo	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <table style="width:100%;"> <tr> <td><input type="checkbox"/> Histosol (A1)</td> <td><input type="checkbox"/> Sandy Redox (S5)</td> </tr> <tr> <td><input type="checkbox"/> Histic Epipedon (A2)</td> <td><input type="checkbox"/> Stripped Matrix (S6)</td> </tr> <tr> <td><input type="checkbox"/> Black Histic (A3)</td> <td><input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)</td> </tr> <tr> <td><input type="checkbox"/> Hydrogen Sulfide (A4)</td> <td><input type="checkbox"/> Loamy Gleyed Matrix (F2)</td> </tr> <tr> <td><input type="checkbox"/> Depleted Below Dark Surface (A11)</td> <td><input type="checkbox"/> Depleted Matrix (F3)</td> </tr> <tr> <td><input type="checkbox"/> Thick Dark Surface (A12)</td> <td><input type="checkbox"/> Redox Dark Surface (F6)</td> </tr> <tr> <td><input type="checkbox"/> Sandy Mucky Mineral (S1)</td> <td><input type="checkbox"/> Depleted Dark Surface (F7)</td> </tr> <tr> <td><input type="checkbox"/> Sandy Gleyed Matrix (S4)</td> <td><input type="checkbox"/> Redox Depressions (F8)</td> </tr> </table>	<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	<p>Indicators for Problematic Hydric Soils³:</p> <table style="width:100%;"> <tr> <td><input type="checkbox"/> 2 cm Muck (A10)</td> </tr> <tr> <td><input type="checkbox"/> Red Parent Material (TF2)</td> </tr> <tr> <td><input type="checkbox"/> Very Shallow Dark Surface (TF12)</td> </tr> <tr> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> </table> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>	<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Red Parent Material (TF2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)																				
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<input type="checkbox"/> Very Shallow Dark Surface (TF12)																					
<input type="checkbox"/> Other (Explain in Remarks)																					

<p>Restrictive Layer (if present):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:																															
<p>Primary Indicators (minimum of one required; check all that apply)</p> <table style="width:100%;"> <tr><td><input type="checkbox"/> Surface Water (A1)</td></tr> <tr><td><input type="checkbox"/> High Water Table (A2)</td></tr> <tr><td><input type="checkbox"/> Saturation (A3)</td></tr> <tr><td><input type="checkbox"/> Water Marks (B1)</td></tr> <tr><td><input type="checkbox"/> Sediment Deposits (B2)</td></tr> <tr><td><input type="checkbox"/> Drift Deposits (B3)</td></tr> <tr><td><input type="checkbox"/> Algal Mat or Crust (B4)</td></tr> <tr><td><input type="checkbox"/> Iron Deposits (B5)</td></tr> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td></tr> <tr><td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<p>Secondary Indicators (2 or more required)</p> <table style="width:100%;"> <tr> <td><input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)</td> </tr> <tr> <td><input type="checkbox"/> Salt Crust (B11)</td> <td><input type="checkbox"/> Drainage Patterns (B10)</td> </tr> <tr> <td><input type="checkbox"/> Aquatic Invertebrates (B13)</td> <td><input type="checkbox"/> Dry-Season Water Table (C2)</td> </tr> <tr> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> <td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td> </tr> <tr> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> <td><input type="checkbox"/> Geomorphic Position (D2)</td> </tr> <tr> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> <td><input type="checkbox"/> Shallow Aquitard (D3)</td> </tr> <tr> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> <td><input type="checkbox"/> FAC-Neutral Test (D5)</td> </tr> <tr> <td><input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)</td> <td><input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)</td> </tr> <tr> <td><input type="checkbox"/> Other (Explain in Remarks)</td> <td><input type="checkbox"/> Frost-Heave Hummocks (D7)</td> </tr> </table>	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)	
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<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)																														
<p>Field Observations:</p> <p>Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____</p> <p>Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____</p> <p>Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)</p>		<p>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>																													
<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:</p>																															
<p>Remarks:</p>																															

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

Project/Site: 24231 - Monroe 30 City/County: Monroe/Snohomish Sampling Date: 7/13/2023
 Applicant/Owner: South Lake Ridge, LLC State: WA Sampling Point: S5
 Investigator(s): EC Section, Township, Range: S26 T28 R06E
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 8 - 15
 Subregion (LRR): A Lat: 47.88262 Long: -121.99233 Datum: WGS84
 Soil Map Unit Name: Tokul gravelly medial loam, 8 to 15 percent slopes NWI classification: None

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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Data taken in southeast portion of the site.	

VEGETATION – Use scientific names of plants.

Stratum	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: <u>5 sm</u>)				Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
1. <u>Acer macrophyllum</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
2. <u>Prunus emarinata</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)
3. <u>Alnus rubra</u>	<u>Trace</u>	<u>N</u>	<u>FAC</u>	
4. <u>Betula papyrifera</u>	<u>Trace</u>	<u>N</u>	<u>FAC</u>	
	<u>25</u>	= Total Cover		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>3 sm</u>)				Prevalence Index worksheet:
1. <u>Rubus armeniacus</u>	<u>65</u>	<u>Y</u>	<u>FAC</u>	Total % Cover of: _____ Multiply by:
2. <u>Rubus spectabilis</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	OBL species _____ x 1 = <u>0</u>
3. <u>Spiraea douglasii</u>	<u>20</u>	<u>N</u>	<u>FACW</u>	FACW species _____ x 2 = <u>0</u>
4. <u>Prunus emarginata</u>	<u>20</u>	<u>N</u>	<u>FACU</u>	FAC species _____ x 3 = <u>0</u>
5. <u>Rubus parviflorus</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	FACU species _____ x 4 = <u>0</u>
	<u>140</u>	= Total Cover		UPL species _____ x 5 = <u>0</u>
<u>Herb Stratum</u> (Plot size: <u>1 sm</u>)				Column Totals: <u>0</u> (A) <u>0</u> (B)
1. <u>Vaccinium parvifolium</u>	<u>Trace</u>	<u>N</u>	<u>FACU</u>	Prevalence Index = B/A = _____
2. _____				Hydrophytic Vegetation Indicators:
3. <u>BEGIN HERB STRATUM</u>				<input type="checkbox"/> Rapid Test for Hydrophytic Vegetation
4. <u>Rubus ursinus</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	<input type="checkbox"/> Dominance Test is >50%
5. <u>Polystichum munitum</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
6. _____				<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
7. _____				<input type="checkbox"/> Wetland Non-Vascular Plants ¹
8. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
9. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
10. _____				
11. _____				
	<u>70</u>	= Total Cover		Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<u>Woody Vine Stratum</u> (Plot size: _____)				
1. _____				
2. _____				
		= Total Cover		
% Bare Ground in Herb Stratum <u>30</u>				
Remarks:				

SOIL

Sampling Point: S5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-4	10YR 3/4	100					SaLo	
4-14	7.5YR 4/6	100					SaLo	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
--	---

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

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

SOIL

Sampling Point: S6

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-3	10YR 3/3	100					SaLo	
3-16	7.5YR 4/6	100					SaLo	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

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

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) <input type="checkbox"/> Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

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

Remarks:

**APPENDIX B:
DEPARTMENT OF ECOLOGY
WETLAND RATING FORMS AND FIGURES**

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): 23163 - Wetland A Date of site visit: 8/14/2023

Rated by EC Trained by Ecology? Yes No Date of training 10/18

HGM Class used for rating DEPRESSIONAL Wetland has multiple HGM classes? Y N

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

Source of base aerial photo/map Snohomish County GIS

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

Category III – Total score = 16 - 19

 Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H M <input type="checkbox"/> L	H M <input type="checkbox"/> L	H M <input type="checkbox"/> L	
Landscape Potential	<input type="checkbox"/> H M L	H <input type="checkbox"/> M L	H <input type="checkbox"/> M L	
Value	<input type="checkbox"/> H M L	H <input type="checkbox"/> M L	<input type="checkbox"/> H M L	TOTAL
Score Based on Ratings	7	5	6	18

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	<input checked="" type="checkbox"/>

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	1
Hydroperiods	D 1.4, H 1.2	1
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	1
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	1
Map of the contributing basin	D 4.3, D 5.3	2
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and total habitat	H 2.1, H 2.2, H 2.3	2
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	4

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 (<i>can be added to another figure</i>)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (<i>can be added to another figure</i>)	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 total 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 (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and total 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 (<i>can be added to figure above</i>)	S 4.1	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and total 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	

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 sheet flow, 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).

Wetland name or number A

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.

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.

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	<input type="checkbox"/>	Riverine
Slope + Depressional	<input type="checkbox"/>	Depressional
Slope + Lake Fringe	<input type="checkbox"/>	Lake Fringe
Depressional + Riverine along stream within boundary of depression	<input type="checkbox"/>	Depressional
Depressional + Lake Fringe	<input type="checkbox"/>	Depressional
Riverine + Lake Fringe	<input type="checkbox"/>	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	<input type="checkbox"/>	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

DEPRESSIONAL AND FLATS WETLANDS

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

D 1.0. Does the site have the potential to improve water quality?		
D 1.1. Characteristics of surface water outflows from the wetland:		
<input type="checkbox"/> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3		2
<input checked="" type="checkbox"/> Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2		
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1		
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1		
D 1.2. The soil 2 in. below the surface (or duff layer) is true clay or true organic (use NRCS definitions). <input type="checkbox"/> Yes = 4 <input checked="" type="checkbox"/> No = 0		0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):		
<input type="checkbox"/> Wetland has persistent, ungrazed plants > 95% of area points = 5		3
<input checked="" type="checkbox"/> Wetland has persistent, ungrazed plants > 1/2 of area points = 3		
<input type="checkbox"/> Wetland has persistent, ungrazed plants ≥ 1/10 of area points = 1		
<input type="checkbox"/> Wetland has persistent, ungrazed plants < 1/10 of area points = 0		
D 1.4. Characteristics of seasonal ponding or inundation: <i>This is the area that is ponded for at least 2 months. See description in manual.</i>		
<input type="checkbox"/> Area seasonally ponded is > 1/2 total area of wetland points = 4		0
<input type="checkbox"/> Area seasonally ponded is ≥ 1/4 total area of wetland points = 2		
<input checked="" type="checkbox"/> Area seasonally ponded is < 1/4 total area of wetland points = 0		
Total for D 1 Add the points in the boxes above		5

Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L *Record the rating on the first page*

D 2.0. Does the landscape have the potential to support the water quality function of the site?		
D 2.1. Does the wetland unit receive stormwater discharges?	<input checked="" type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	<input checked="" type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland?	<input checked="" type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	1
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source _____	<input type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0 <input checked="" type="checkbox"/>	0
Total for D 2 Add the points in the boxes above		3

Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M 0 = L *Record the rating on the first page*

D 3.0. Is the water quality improvement provided by the site valuable to society?		
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	<input checked="" type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	<input checked="" type="checkbox"/> Yes = 1 <input type="checkbox"/> No = 0	1
D 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 in development or in effect for the basin in which the unit is found.)	<input checked="" type="checkbox"/> Yes = 2 <input type="checkbox"/> No = 0	2
Total for D 3 Add the points in the boxes above		4

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

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. Characteristics of surface water outflows from the wetland:		
<input type="checkbox"/> Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4		2
<input checked="" type="checkbox"/> Wetland has an intermittently flowing stream/ditch, OR highly constricted permanently flowing outlet points = 2		
<input type="checkbox"/> Wetland is a flat depression (question 7 on key), whose outlet is a permanently flowing ditch points = 1		
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0		
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.		
<input type="checkbox"/> Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7		3
<input type="checkbox"/> Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5		
<input checked="" type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3		
<input type="checkbox"/> The wetland is a "headwater" wetland points = 3		
<input type="checkbox"/> Wetland is flat but has small depressions on the surface that trap water points = 1		
<input type="checkbox"/> Marks of ponding less than 0.5 ft (6 in) points = 0		
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the area of the wetland unit itself.		
<input type="checkbox"/> The area of the basin is less than 10 times the area of the unit points = 5		0
<input type="checkbox"/> The area of the basin is 10 to 100 times the area of the unit points = 3		
<input checked="" type="checkbox"/> The area of the basin is more than 100 times the area of the unit points = 0		
<input type="checkbox"/> Entire wetland is in the Flats class points = 5		
Total for D 4		5

Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges?	<input checked="" type="checkbox"/> Yes = 1 No = 0 <input type="checkbox"/>	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	<input checked="" type="checkbox"/> Yes = 1 No = 0 <input type="checkbox"/>	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	<input type="checkbox"/> Yes = 1 <input checked="" type="checkbox"/> No = 0 <input type="checkbox"/>	0
Total for D 5		2

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

D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. Is the unit in a landscape that has flooding problems? Choose the description that best matches conditions around the wetland unit being rated. Do not add points. <u>Choose the highest score if more than one condition is met.</u> The wetland captures surface water that would otherwise flow downgradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):		
<input type="checkbox"/> • Flooding occurs in a sub-basin that is immediately downgradient of unit. points = 2		1
<input checked="" type="checkbox"/> • Surface flooding problems are in a sub-basin farther downgradient. points = 1		
<input type="checkbox"/> • Flooding from groundwater is an issue in the sub-basin. points = 1		
<input type="checkbox"/> • The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. <i>Explain why</i> _____ points = 0		
<input type="checkbox"/> • There are no problems with flooding downstream of the wetland. points = 0		
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?		
<input type="checkbox"/> Yes = 2 <input checked="" type="checkbox"/> No = 0 <input type="checkbox"/>		0
Total for D 6		1

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

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 if the unit is at least 2.5 ac, or more than 10% of the unit if it is smaller than 2.5 ac.

- 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/groundcover) that each cover 20% within the Forested polygon

1

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 if the unit is < 2.5 ac, or ¼ ac if the unit is at least 2.5 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
- Intermittently or seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland** 2 points
- Freshwater tidal wetland** 2 points

1

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft².

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, Canada thistle**

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

1

H 1.4. Interspersion of habitats

Decide from the diagrams below whether interspersions 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.



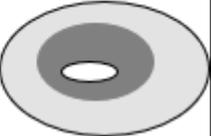
None = 0 points



Low = 1 point

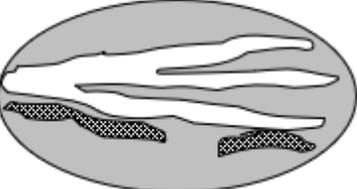


Moderate = 2 points



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





1

Wetland name or number A

<p>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. <input type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft long). <input type="checkbox"/> Standing snags (dbh > 4 in.) within the wetland <input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extend at least 3.3 ft (1 m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) <input type="checkbox"/> 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) <input type="checkbox"/> 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) <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 above for the list of strata and H 1.5 in the manual for the list of aggressive plant species)</p>		0
Total for H 1	Add the points in the boxes above	4

Rating of Site Potential If score is: 15-18 = H 7-14 = M 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?		
<p>H 2.1. Accessible habitat (include only habitat polygons accessible from the wetland). <i>Calculate:</i> % relatively undisturbed habitat <u>2</u> + [(% moderate and low intensity land uses)/2] <u>2</u> = <u>4</u> % Total accessible habitat is: <input type="checkbox"/> > 1/3 (33.3%) of 1 km Polygon points = 3 <input type="checkbox"/> 20-33% of 1 km Polygon points = 2 <input type="checkbox"/> 10-19% of 1 km Polygon points = 1 <input checked="" type="checkbox"/> < 10% of 1 km Polygon points = 0</p>		0
<p>H 2.2. Total habitat in 1 km Polygon around the wetland. <i>Calculate:</i> % relatively undisturbed habitat <u>30</u> + [(% moderate and low intensity land uses)/2] <u>15</u> = <u>45</u> % <input type="checkbox"/> Total habitat > 50% of Polygon points = 3 <input type="checkbox"/> Total habitat 10-50% and in 1-3 patches points = 2 <input checked="" type="checkbox"/> Total habitat 10-50% and > 3 patches points = 1 <input type="checkbox"/> Total habitat < 10% of 1 km Polygon points = 0</p>		1
<p>H 2.3. Land use intensity in 1 km Polygon: <input type="checkbox"/> > 50% of 1 km Polygon is high intensity land use points = (- 2) <input checked="" type="checkbox"/> ≤ 50% of 1 km Polygon is high intensity points = 0</p>		0
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 < 1 = L *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i> Site meets ANY of the following criteria: points = 2 <input checked="" type="checkbox"/> It has 3 or more Priority Habitats within 100 m (see next page) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) <input type="checkbox"/> It is mapped as a location for an individual WDFW Priority Species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources data <input type="checkbox"/> 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 <input type="checkbox"/> Site has 1 or 2 Priority Habitats (listed on next page) within 100 m points = 1 <input type="checkbox"/> Site does not meet any of the criteria above points = 0</p>		2

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

WDFW Priority Habitats

See complete descriptions of Priority Habitats listed by WDFW, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008 (current year, as revised). [Priority Habitat and Species List](#).¹³³ This list was updated for consistency with guidance from WDFW.

This question is independent of the land use between the wetland unit and the Priority Habitat. All vegetated wetlands are by definition a Priority Habitat but are not included in this list because they are addressed by this rating system.

Count how many of the following Priority Habitats are within 330 ft (100 m) of the wetland unit:

- 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. This habitat automatically counts if mapped on the PHS online map within 100m of the wetland. If not mapped, a determination can be made in the field.
- 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.
- Fresh Deepwater:** Lands permanently flooded with freshwater, including environments where surface water is permanent and often deep, so that water, rather than air, is the principal medium within which the dominant organisms live. Substrate does not support emergent vegetation. Do not select if Instream habitat is also present, or if the entire Deepwater feature is included in the wetland unit being rated (such as a pond with a vegetated fringe).
- Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- 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. Do not select if Fresh Deepwater habitat is also present.
- Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore.
- 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) diameter at breast height (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.

Wetland name or number A

- Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important. For single oaks or oak stands <0.4 ha in urban areas, [WDFW's Management Recommendations for Oregon White Oak](#)¹³⁴ provides more detail for determining if they are Priority Habitats
- Riparian:** The area adjacent to freshwater aquatic systems with flowing or standing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- 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.
- 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.
- Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie.

¹³⁴ <https://wdfw.wa.gov/publications/00030/wdfw00030.pdf>
Wetland Rating System for Western WA: 2014 Update
Rating Form – Version 2, July 2023

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<p>SC 1.0. Estuarine wetlands</p> <p>Does the wetland meet the following criteria for Estuarine wetlands?</p> <p><input type="checkbox"/> The dominant water regime is tidal,</p> <p><input type="checkbox"/> Vegetated, and</p> <p><input type="checkbox"/> With a salinity greater than 0.5 ppt <input type="checkbox"/> Yes – Go to SC 1.1 <input checked="" type="checkbox"/> No = Not an estuarine wetland</p>	
<p>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?</p> <p style="text-align: right;"><input type="checkbox"/> <input type="checkbox"/> Yes = Category I <input type="checkbox"/> No – Go to SC 1.2</p>	Cat. I
<p>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?</p> <p><input type="checkbox"/> 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 <i>Spartina</i>, see chapter 4.8 in the manual.</p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. <input type="checkbox"/> <input type="checkbox"/> Yes = Category I <input type="checkbox"/> No = Category II</p>	Cat. I Cat. II
<p>SC 2.0. Wetlands of High Conservation Value (WHCV)</p> <p>SC 2.1. Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer?¹³⁵ <input type="checkbox"/> Yes = Category I <input checked="" type="checkbox"/> No – Go to SC 2.2</p> <p>SC 2.2. Does the wetland have a rare plant species, rare ecosystem (e.g., plant community), or high-quality common ecosystem that may qualify the site as a WHCV? Contact WNHP for resources to help determine the presence of these elements.</p> <p><input type="checkbox"/> <input type="checkbox"/> Yes – Submit data to WA Natural Heritage Program for determination,¹³⁶ Go to SC 2.3 <input checked="" type="checkbox"/> No = Not a WHCV</p> <p>SC 2.3. Did WNHP review the site within 30 days and determine that it has a rare plant or ecosystem that meets their criteria? <input type="checkbox"/> <input type="checkbox"/> Yes = Category I <input type="checkbox"/> No = Not a WHCV</p>	Cat. I
<p>SC 3.0. Bogs</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES, you will still need to rate the wetland based on its functions.</i></p> <p>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? <input type="checkbox"/> Yes – Go to SC 3.3 <input checked="" type="checkbox"/> No – Go to SC 3.2</p> <p>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? <input type="checkbox"/> <input type="checkbox"/> Yes – Go to SC 3.3 <input checked="" type="checkbox"/> No = Not a bog</p> <p>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? <input type="checkbox"/> <input type="checkbox"/> Yes = Category I bog <input type="checkbox"/> No – Go to SC 3.4</p> <p>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.</p> <p>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? <input type="checkbox"/> <input type="checkbox"/> Yes = Category I bog <input type="checkbox"/> No = Not a bog</p>	Cat. I

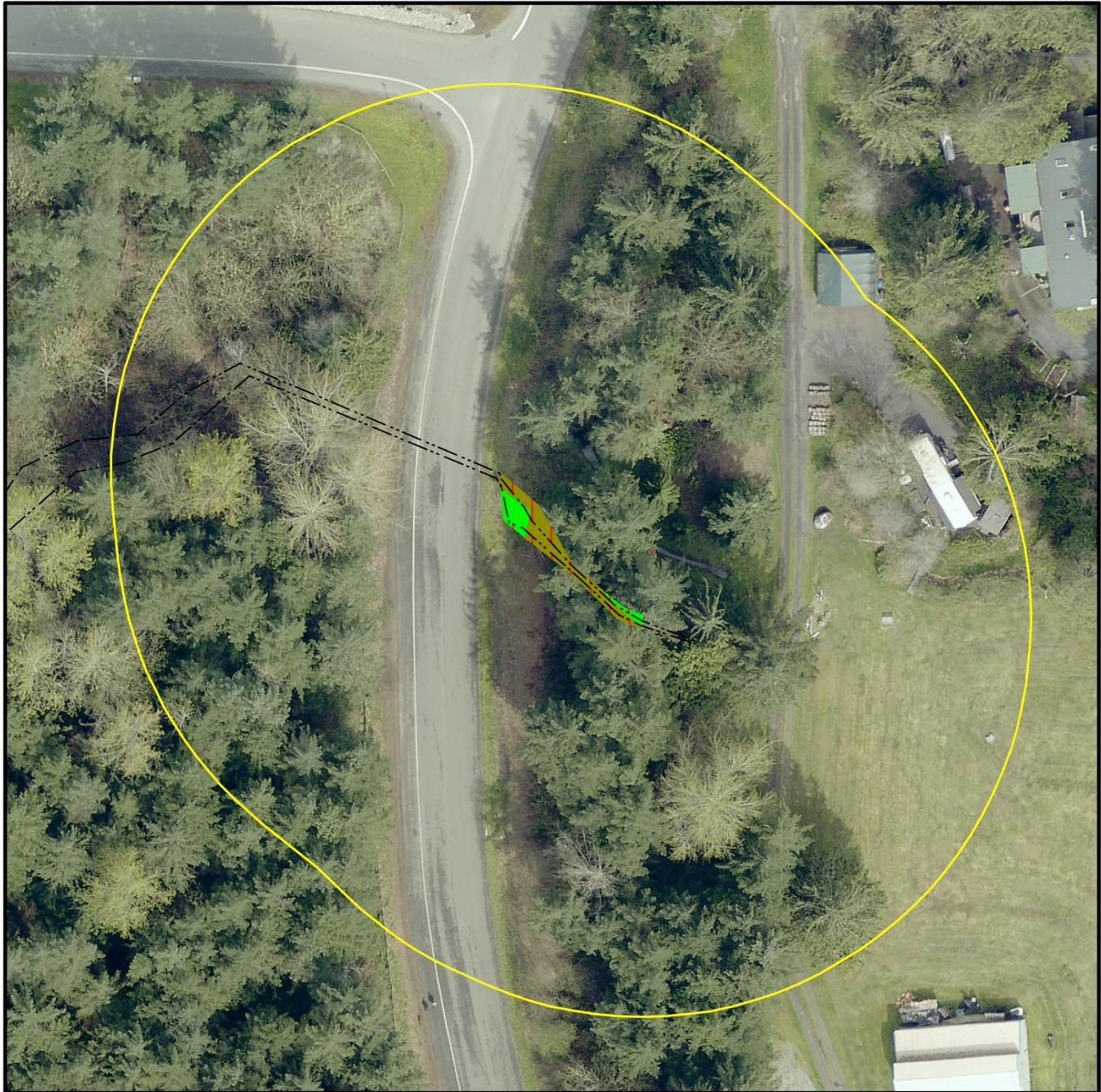
¹³⁵ <https://www.dnr.wa.gov/NHPdata>

¹³⁶ https://www.dnr.wa.gov/Publications/amp_nh_sighting_form.pdf

Wetland name or number A

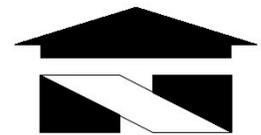
<p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as Priority Habitats? <i>If you answer YES, you will still need to rate the wetland based on its functions.</i></p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> 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).</p> <p style="text-align: right;"><input type="checkbox"/> Yes = Category I <input checked="" type="checkbox"/> No = Not a forested wetland for this section</p>	<p>Cat. I</p>
<p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <p><input type="checkbox"/> 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</p> <p><input type="checkbox"/> 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 (<i>needs to be measured near the bottom</i>)</p> <p><input type="checkbox"/> The lagoon retains some of its surface water at low tide during spring tides</p> <p><input type="checkbox"/> Yes – Go to SC 5.1 <input checked="" type="checkbox"/> No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <p><input type="checkbox"/> 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 in H 1.5 in the manual).</p> <p><input type="checkbox"/> 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.</p> <p><input type="checkbox"/> The wetland is larger than 1/10 ac (4350 ft²)</p> <p><input type="checkbox"/> Yes = Category I <input type="checkbox"/> No = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>
<p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer YES, you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <p><input type="checkbox"/> Long Beach Peninsula: Lands west of SR 103</p> <p><input type="checkbox"/> Grayland-Westport: Lands west of SR 105</p> <p><input type="checkbox"/> Ocean Shores-Copalis: Lands west of SR 115 and SR 109 and Ocean Shores Blvd SW, including lands west of E. Oceans Shores Blvd SW.</p> <p style="text-align: right;"><input type="checkbox"/> Yes – Go to SC 6.1 <input checked="" type="checkbox"/> No = Not an interdunal wetland for rating</p> <p>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)? <input type="checkbox"/> <input type="checkbox"/> Yes = Category I <input type="checkbox"/> No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? <input type="checkbox"/> <input type="checkbox"/> Yes = Category II <input type="checkbox"/> No – Go to SC 6.3</p> <p>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? <input type="checkbox"/> <input type="checkbox"/> Yes = Category III <input type="checkbox"/> No = Category IV</p>	<p>Cat I</p> <p>Cat. II</p> <p>Cat. III</p> <p>Cat. IV</p>
<p>Category of wetland based on Special Characteristics</p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<p>N/A</p>

SOUTH LAKE RIDGE - MONROE 30 - PKA NORTH 41
WETLAND RATING FIGURE 1- WETLAND A

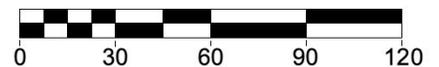


LEGEND

-  SCRUB-SHRUB
-  FORESTED VEGETATION
-  SATURATED ONLY
-  150' FROM WL BOUNDARY
-  INTERMITTENT STREAM



Scale 1" = 60'

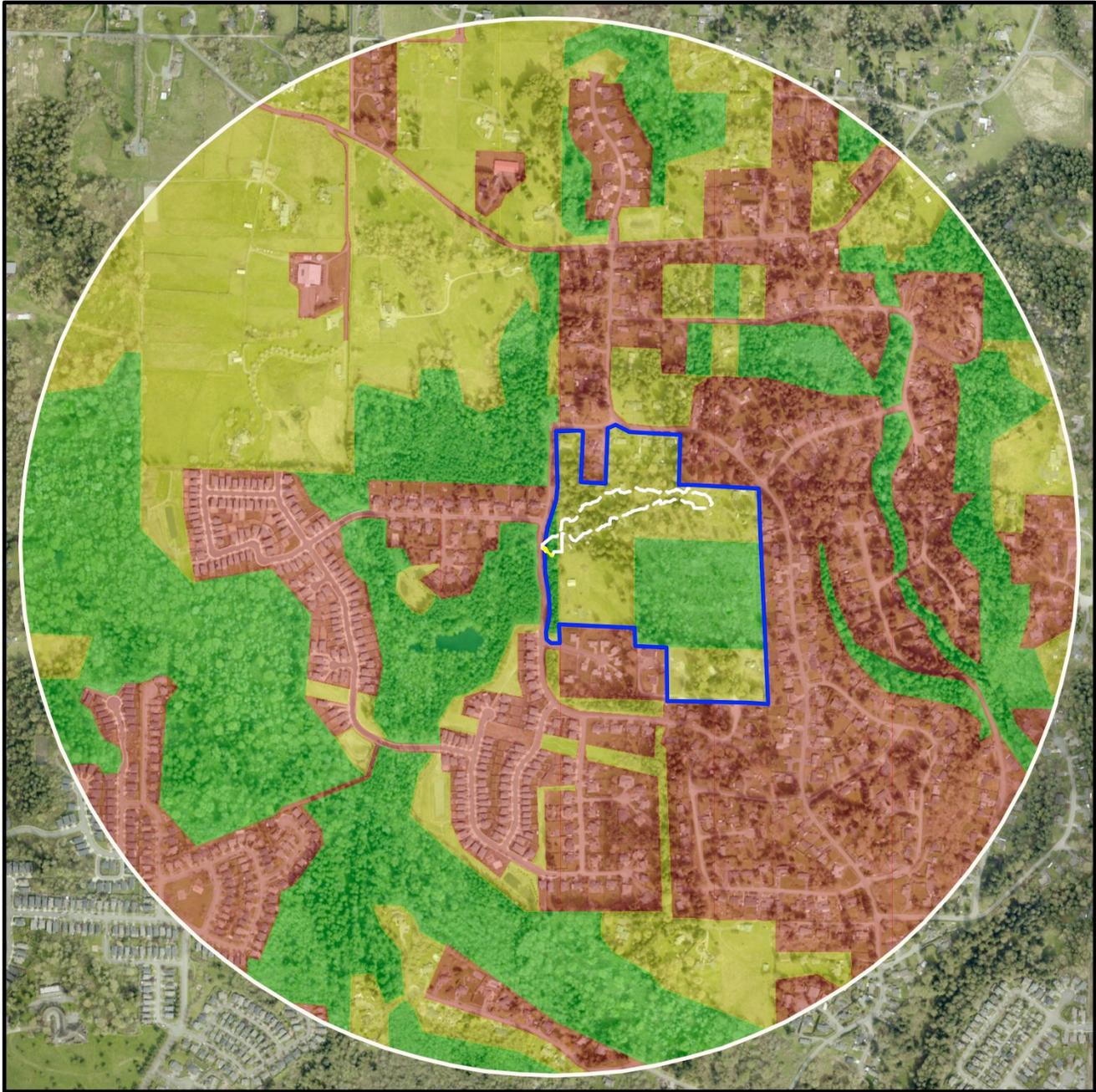


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Email: mailbox@wetlandresources.com

WETLAND RATING
Wetland A

Figure A-1
WRI Job # 24231
Rated by: EC

SOUTH LAKE RIDGE - MONROE 30 - PKA NORTH 41
 WETLAND RATING FIGURE 2- WETLAND A



LEGEND

- RELATIVELY UNDISTURBED
- LOW/MOD. INTENSITY
- HIGH INTENSITY
- ACCESSIBLE HABITAT
- WETLAND
- 1 KM FROM WETLAND
- CONTRIBUTING BASIN



Scale 1" = 1,000'



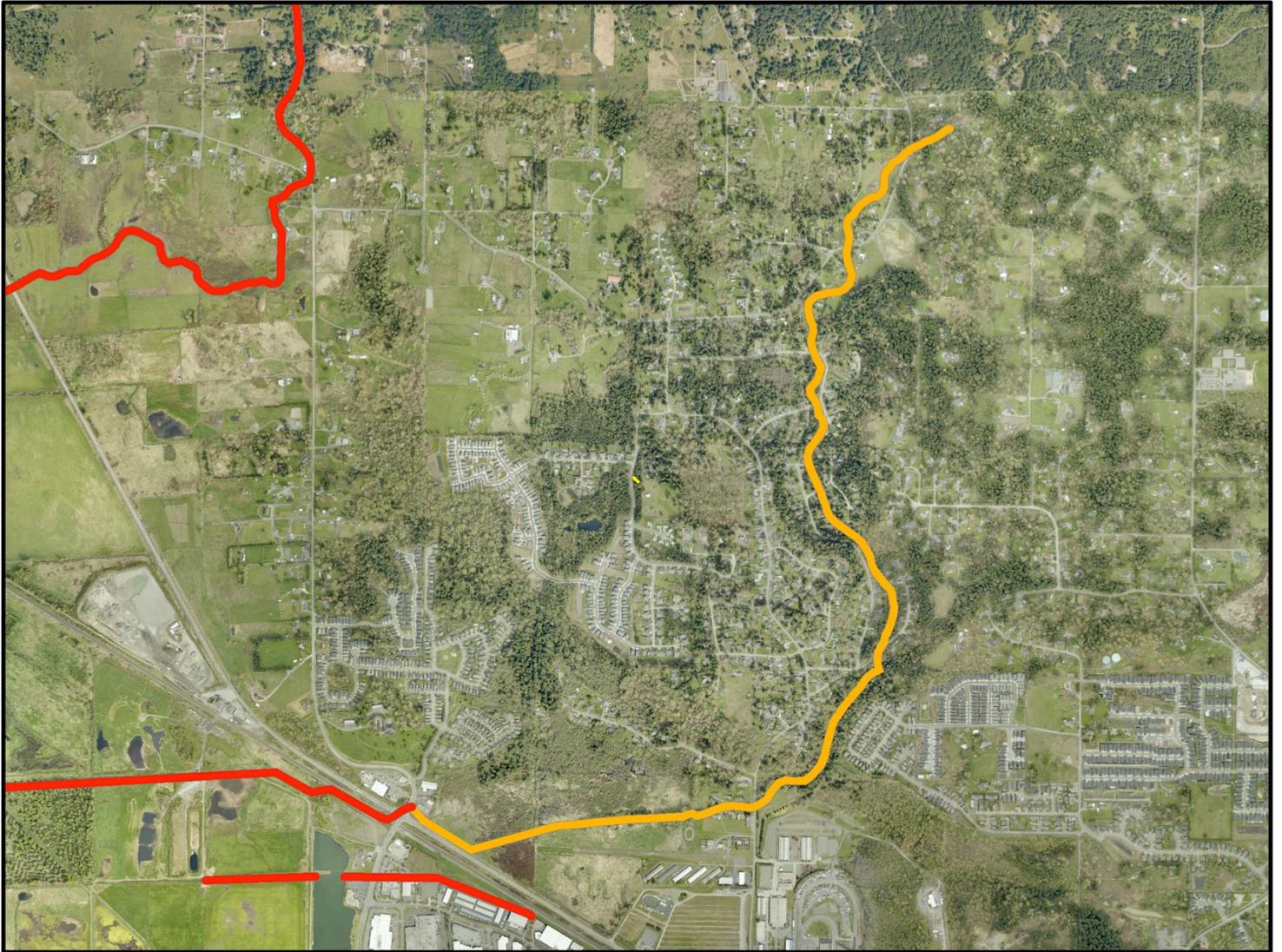
**CONTRIBUTING BASIN
 AREA RELATIVE TO
 WETLAND UNIT IS 236:1**

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**WETLAND RATING
 Wetland A**

Figure A-2
 WRI Job # 24231
 Rated by: EC

SOUTH LAKE RIDGE - MONROE 30 - PKA NORTH 41
WETLAND RATING FIGURE 3- WETLAND A



LEGEND



WETLAND



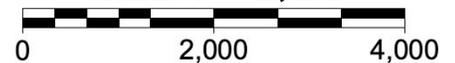
AQUATIC RESOURCES
WITH ACTIVE TMDL



AQUATIC RESOURCES
ON THE 303(d) LIST



Scale 1" = 2,000'

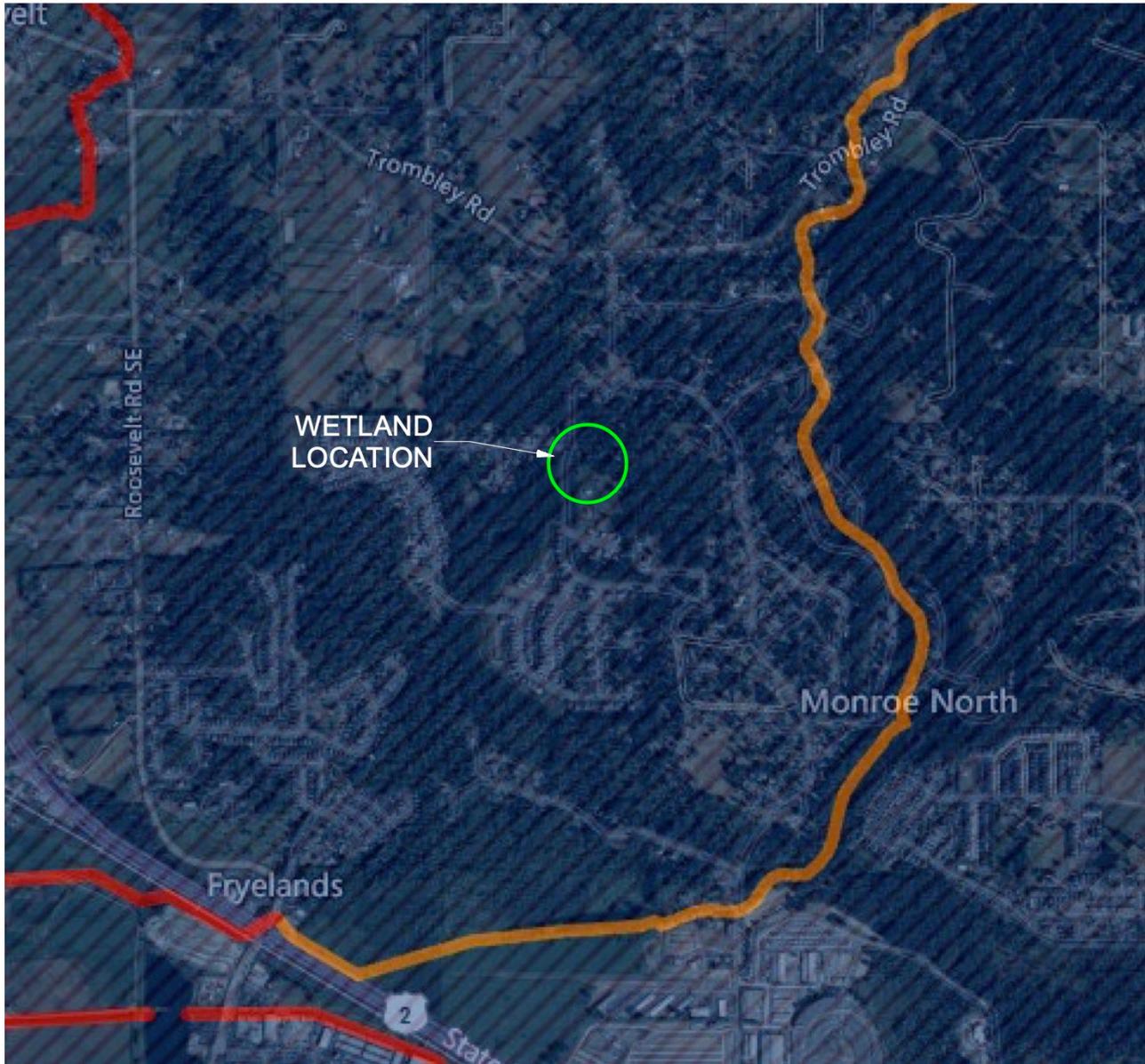


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WETLAND RATING
Wetland A

Figure A-3
WRI Job # 24231
Rated by: EC

SOUTH LAKE RIDGE - MONROE 30 - PKA NORTH 41
WETLAND RATING FIGURE 4- WETLAND A



LEGEND

 APPROVED TMDL /
TMDL IN DEVELOPMENT

 AQUATIC RESOURCES
WITH ACTIVE TMDL

 AQUATIC RESOURCES
ON THE 303(d) LIST



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WETLAND RATING
Wetland A

Figure A-4
WRI Job # 24231
Rated by: EC

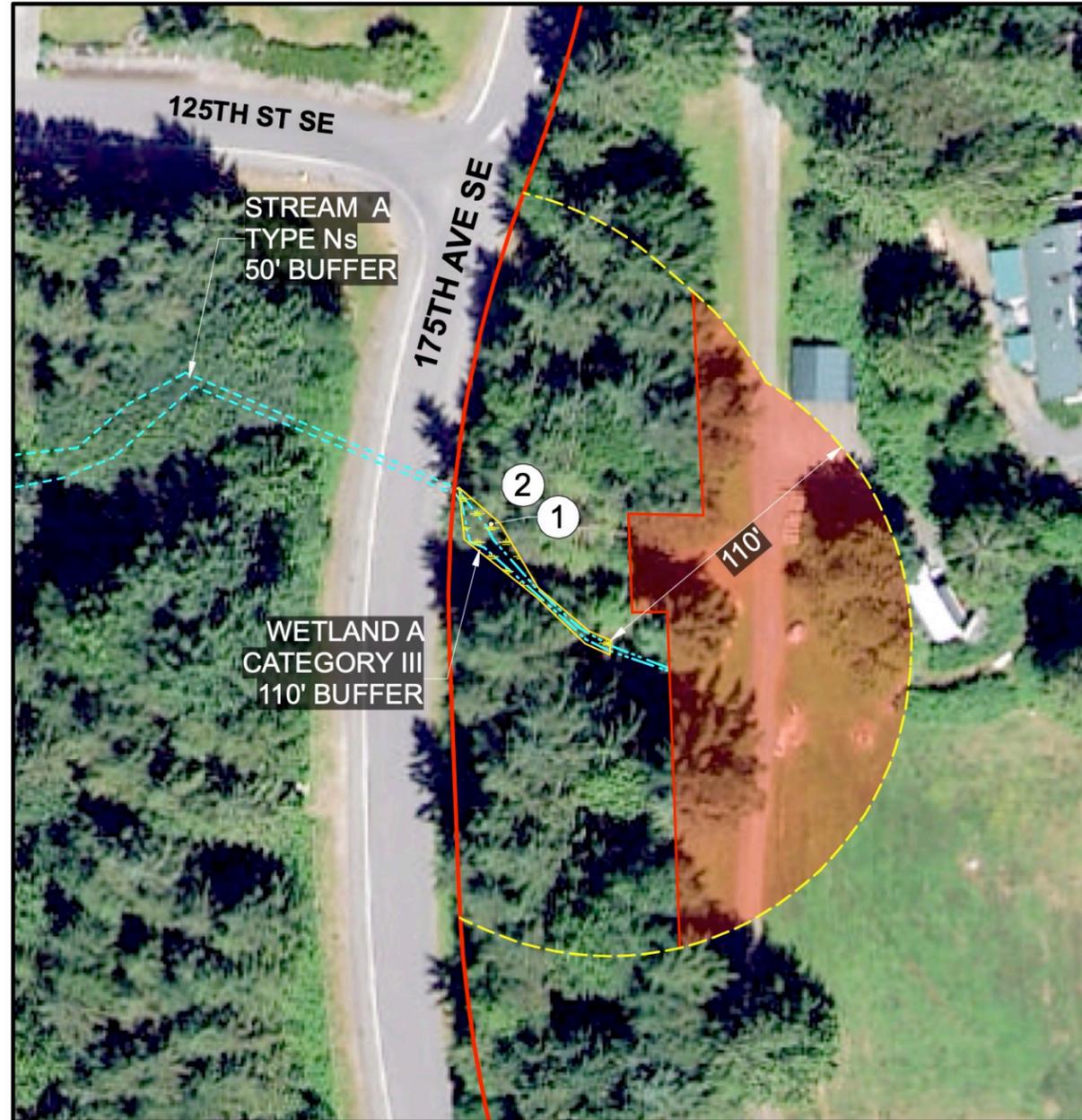
**APPENDIX C:
CRITICAL AREA REPORT MAPS
(SHEETS 1-2)**

CRITICAL AREA REPORT MAP - EXISTING CONDITIONS

MONROE 30

PORTION OF SECTION 26, TOWNSHIP 28N, RANGE 6E, W.M.

INSET



SITE OVERVIEW

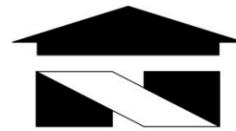
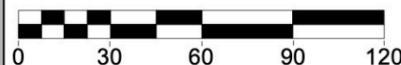


LEGEND

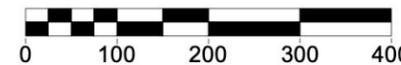
-  WETLAND
-  STREAM (OHWM)
-  STREAM (ESTIMATED)
-  BUFFER
-  DEGRADED BUFFER AREAS
-  DATA SITES (S1-S6)



Scale 1" = 60'



Scale 1" = 200'



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CRITICAL AREA REPORT MAP
MONROE 30
 Monroe, WA

South Lake Ridge, LLC
 c/o Land Pro Group, Inc.
 10515 20th St SE, #202
 Lake Stevens, WA 98258

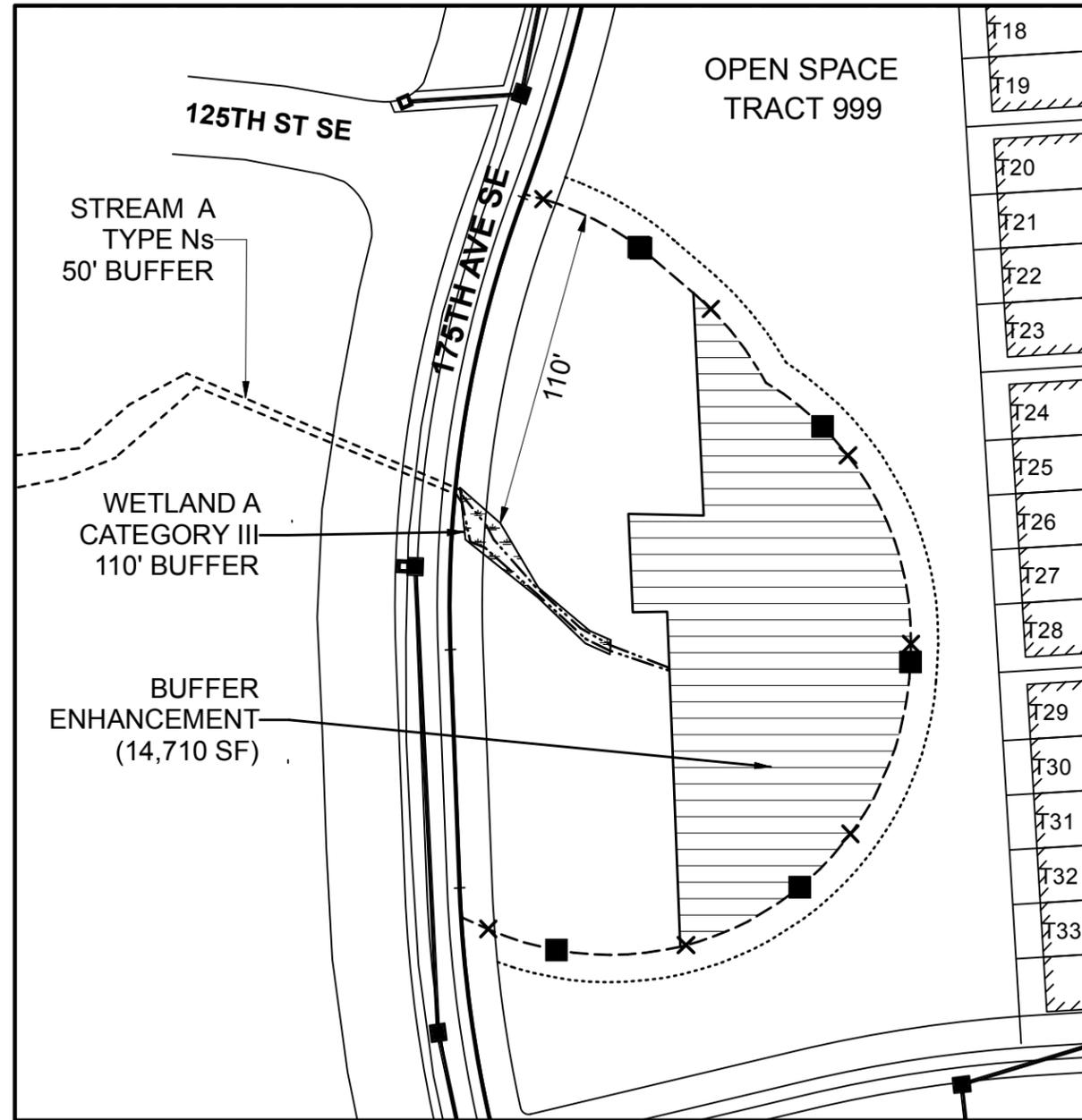
Sheet 1/2
 WRI #: 24231
 Drawn by: EC
 Date: 4/24/2025

CRITICAL AREA REPORT MAP - SITE DEVELOPMENT AND BUFFER ENHANCEMENT MAP

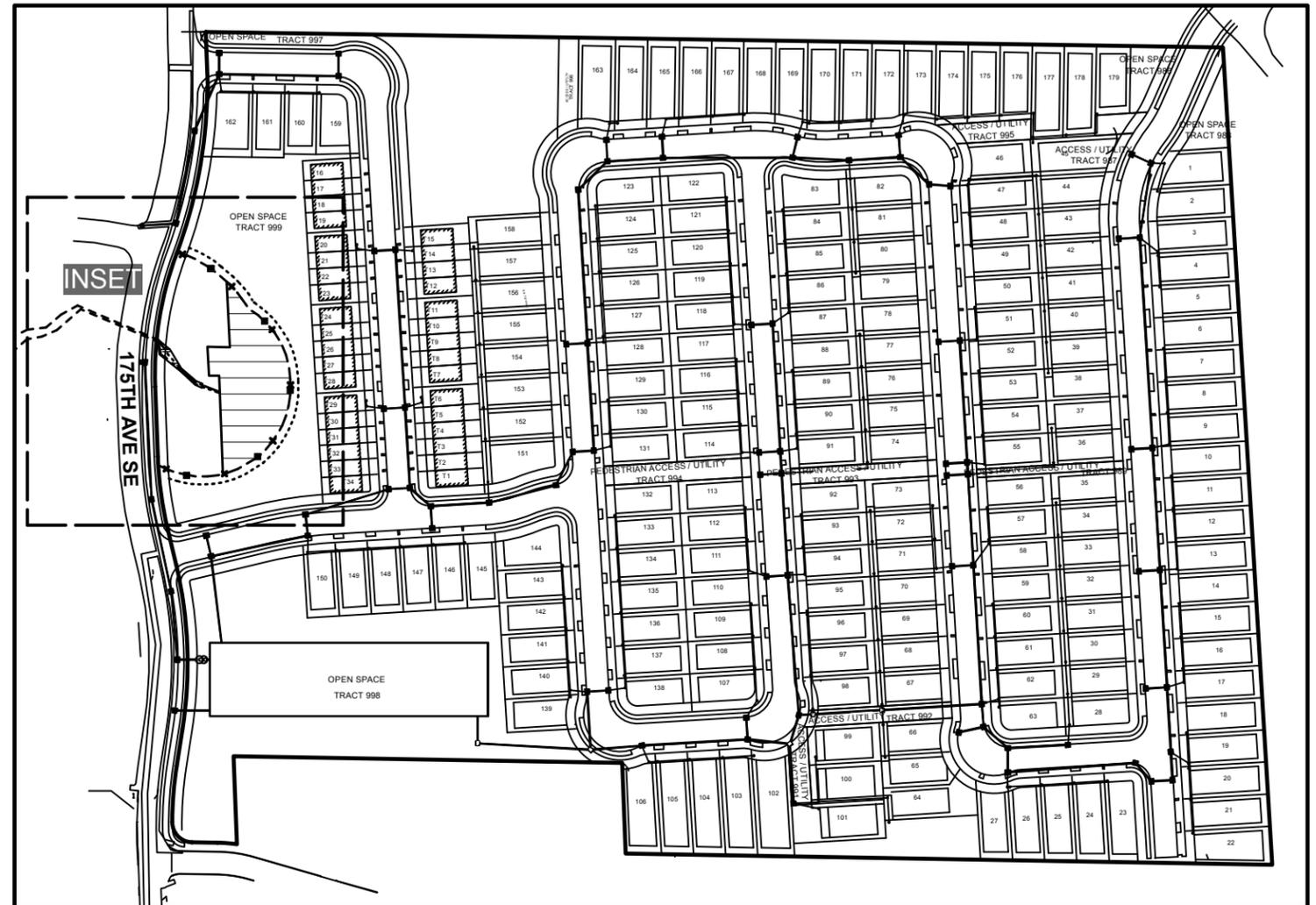
MONROE 30

PORTION OF SECTION 26, TOWNSHIP 28N, RANGE 6E, W.M.

INSET

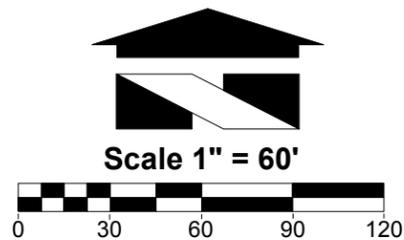


SITE OVERVIEW



LEGEND

- | | | | |
|--|--------------------|--|-----------------------|
| | WETLAND | | BUFFER ENHANCEMENT |
| | STREAM | | BUILDING SETBACK LINE |
| | STREAM (ESTIMATED) | | SIGN |
| | BUFFER FENCE | | |



Scale 1" = 200'



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CRITICAL AREA REPORT MAP
MONROE 30
 Monroe, WA

South Lake Ridge, LLC
 c/o Land Pro Group, Inc.
 10515 20th St SE, #202
 Lake Stevens, WA 98258

Sheet 2/2
 WRI #: 24231
 Drawn by: EC
 Date: 4/24/2025