



Soundview Consultants LLC

Environmental Assessment • Planning • Land Use Solutions

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Technical Memorandum

To: Denise Courter

File Number: 1926.0001

From: Racheal Villa, Soundview Consultants LLC

Revision Date: February 5, 2020

**Re: Revised Wetland and Fish and Wildlife Habitat Assessment and Mitigation Plan
12000 Courter Lane Northwest Poulsbo, WA 98370**

Dear Mrs. Courter,

Soundview Consultants LLC (SVC) conducted a wetland and fish and wildlife habitat assessment of an approximately 20.26-acre property located at 12000 Courter Lane NW, in the vicinity of Poulsbo in unincorporated Kitsap County, Washington (Figure 1). The property consists of two parcels located in the Southeast $\frac{1}{4}$ of Section 10, Township 25 North, Range 1 East, W.M. (Kitsap County Tax Parcel Numbers 102501-4-002-2004 and 102501-4-001-2005). SVC investigated the site to evaluate if any potentially regulated wetlands, streams, or other fish and wildlife habitat conservation areas are located on or adjacent to the subject property. This assessment was conducted to support the existing agricultural and potential limited commercial use of the subject property as an event space. This Technical Memorandum has been prepared to document the results of this assessment, and revised to include a mitigation plan in response to comments from Kitsap County on January 22, 2020 (Kitsap County, 2020).

Figure 1. Subject Property Location.



Background Data

Prior to the site investigation, staff conducted background research using Kitsap County Geographic Information System (GIS) data, Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species (PHS) and SalmonScape mapping tools, the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), Washington Department of Natural Resources (DNR) stream typing map, and Natural Resources Conservation Service (NRCS) Soil Survey (Attachment B). All determinations were made using observable vegetation, hydrology, and soils in conjunction with data from the U.S. Geological Survey (USGS) topographic maps, USFWS, local precipitation data, and various orthophotographic resources.

The USFWS NWI map (Attachment B1), Kitsap County Stream and Wetland Inventory (Attachment B2), WDFW SalmonScape map (Attachment B4), and DNR Stream Typing (Attachment B5) all identify a potential onsite stream, Barker Creek, running along the center of the property. The DNR Stream Typing map identifies Barker Creek as potential fish-habitat. The SalmonScape map identifies documented coho and residential coastal cutthroat trout within the creek. The NWI map, WDFW PHS Map (Attachment B3), and the Kitsap County Stream and Wetland Inventory identify potential pond, emergent, and scrub-shrub/forested wetland along Barker Creek. No other wetlands or fish and wildlife habitat conservation areas are mapped within 315 feet of the subject property by any of the critical area inventories. The NRCS Soil Survey Map (Attachment B7) identifies two soil map units on the subject property: Alderwood gravelly sandy loam, 0 to 8 percent slopes, and Alderwood gravelly sandy loam, 8 to 15 percent slopes. Alderwood gravelly sandy loam, 0 to 8 percent slopes is listed as non-hydric on the Kitsap County Hydric Soils List (NRCS, 2001) but can have inclusions of up to 10 percent hydric components. Alderwood gravelly sandy loam, 8 to 15 percent slopes is listed as a non-hydric soil on the Kitsap County Hydric Soils List (NRCS, 2001) but can have up to 5 percent inclusions of hydric components.

Precipitation

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

Table 1. Precipitation Summary¹.

Site Visit Date	Day of	Day Before	1 Week Prior	2 Weeks Prior	Last 30 Days (Observed/Normal)	Year to Date ² (Observed/Normal)	Percent of Normal (Last 30 Days/Year)
7/3/19	0.00	0.43	0.52	1.01	1.33/1.53	15.30/19.10	87/80

Notes:

1. Precipitation volume in inches. Data obtained from the NOAA (<http://w2.weather.gov/climate/xmacis.php?wfo=sew>) for SeaTac Airport.
2. Year-to-date precipitation is the total for the calendar year from January 1st to the onsite date.

During the site visit on July 3, 2019, precipitation levels were within the statistical normal for the prior 30 days (approximately 87 percent of normal) and within normal range for the 2018/2019 water year (approximately 80 percent of normal). These data suggest that recent hydrologic conditions were normal at the time of the site investigation. Such conditions were considered in making professional wetland determinations.

Methods

A formal investigation was performed by qualified SVC scientists in July 2019. This investigation consisted of walk-through surveys of the subject property and publicly accessible areas within 300 feet of the subject property for potentially regulated wetlands, waterbodies, fish and wildlife habitat, and other critical areas within the nearby vicinity of the subject property.

Wetlands, streams, and select fish and wildlife habitats and species are regulated features per Kitsap County Code (KCC) Title 19 (Critical Areas Ordinances) and subject to restricted uses/activities under the same title. Wetland presence was determined in accordance with KCC 19.200.210 and as outlined in the U.S. Army Corps of Engineers *Wetlands Delineation Manual* (Environmental Laboratory, 1987) and modified according to the guidelines established in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region, Version 2.0* (USACE, 2010) and *Field Indicators of Hydric Soils in the United States* (USDA, 2018). Qualified SVC wetland scientists marked boundaries of any onsite wetlands with orange surveyor's flagging labeled alpha-numerically and tied to 3-foot lath or vegetation along the wetland boundary. Pink surveyor's flagging was labeled alpha-numerically and tied to vegetation or 3-foot lath at formal sampling locations (DP-1 through DP-4) to mark the point where detailed data was collected. Additional tests pits were excavated at regular intervals to further confirm the wetland absence. The locations of the data plots are illustrated in Attachment A.

OHW mark determinations were made using Washington State Department of Ecology's (WSDOE's) method as detailed in *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson et. al., 2016) and the definitions established in the Shoreline Management Act (Revised Code of Washington [RCW] 90.58.030(2)(b) and WAC 173-22-030(11). To mark the centerline or banks of potentially regulated streams, blue surveyor's flagging was alpha-numerically labeled and tied to vegetation.

Wetlands were classified using both the hydrogeomorphic (Brinson, 1993) and Cowardin (Cowardin, 1979; Federal Geographic Data Committee, 2013) classification systems. Following classification and assessment, the wetlands were rated and categorized using the *Washington State Wetlands Rating System for Western Washington – Washington State Department of Ecology Publication No. 14-06-029, published October 2014* (Hruby, 2014) and guidelines established in the KCC 19.200.210. Surface water features were classified using the guidelines established in KCC 19.300.310 and Washington Administrative Code (WAC) 222-16-030.

The fish and wildlife habitat assessment was conducted during the same site visit by qualified fish and wildlife biologists. The experienced biologists made visual observations using stationary and walking survey methods for upland habitats noting any special habitat features or signs of fish and wildlife activity.

Results

The subject property is located in a rural residential and agricultural setting and is developed with an existing single-family residence, pergola and maintained lawn on the northern portion of the property. The subject property also contains pastures and other agricultural use areas. The property is bounded on all sides by undeveloped forests to the north and west, by single family residences to the east and south, and by maintained fields to the south.

The subject property is primarily forested beyond the agricultural use fields and single-family residence in the north. The tree canopy is dominated by red alder (*Alnus rubra*), and Douglas fir (*Pseudotsuga menziesii*), and the understory is dominated by evergreen huckleberry (*Vaccinium ovatum*), salmonberry (*Rubus spectabilis*), Himalayan blackberry (*Rubus armeniacus*) and western sword fern (*Polystichum munitum*). In general, topography on the site slopes downward from both the west and east towards the stream in the center of the subject property. A USGS topographic map is in Attachment B6.

Wetland A

Wetland A is approximately 37,679 square feet (0.86 acres) in size and is located in the center of the subject property running north to south along both sides of Barker Creek. Hydrology for Wetland A is provided primarily by a seasonally-high groundwater table, direct precipitation, surface runoff, and upgradient streams. Wetland vegetation onsite consists of an aquatic bed dominated by floating-leaved pondweed (*Potamogeton natans*) and yellow pond-lily (*Nuphar polysepala*) and forested communities dominated by red alder, hardhack (*Spiraea douglasii*), Himalayan blackberry, soft rush (*Juncus effuses*), and reed canarygrass (*Phalaris arundinacea*). Soil within Wetland A sampled at DP-1 met primary hydric soil indicator F6 (Redox Dark Surface). Wetland A is a Palustrine Aquatic Bed/Forested, Seasonally Saturated and Permanently Flooded wetland (PAB/FOBH). Per KCC 19.200.210.B, Wetland A is classified as a Category III depressional wetland. Table 1 summarizes the wetland identified during the site investigation.

Wetland B

Wetland B is approximately 3,977 square feet (0.09 acres) in size onsite and is located in the southern parcel along Barker Creek in the center of the parcel. Hydrology for Wetland B is provided primarily by a seasonally-high groundwater table, direct precipitation, and drainage from Wetland A. Wetland B vegetation onsite consists of a forested and scrub-shrub community dominated by red alder, western red cedar (*Thuja plicata*), salmonberry, slough sedge (*Carex obnupta*), devil's club (*Oplopanax horridus*), American speedwell (*Veronica americana*), , and skunk cabbage. Soil within Wetland B sampled at DP-3 met primary hydric soil indicator A4 (Hydrogen Sulfide). Wetland B is a Palustrine Emergent/Forested, Seasonally Flooded wetland (PEM/FOC). Per KCC 19.200.210.B, Wetland B is classified as a Category III depressional wetland. Table 1 summarizes the wetland identified during the site investigation.

Table 1. Wetland Summary.

Wetland	Predominant Wetland Classification / Rating				Wetland Size Onsite	Buffer Width (feet) ^E
	Cowardin ^A	HGM ^B	WSDOE ^C	Kitsap County ^D		
A	PAB/FOBH	Depressional	III	III	37,679 square feet	150
B	PEM/FOC	Depressional	III	III	3,977 square feet	150

Table 1 Notes:

- Cowardin et al. (1979) or NWI Class based on vegetation: PEM = Palustrine Emergent; FO = Forested, PAB = Palustrine Aquatic Bed; Modifiers for Water Regime: C = Seasonally Flooded, B = Seasonally Saturated, H = Permanently Flooded.
- Brinson, M. M. (1993).
- Washington State Department of Ecology (WSDOE) current wetland rating system for western Washington (Hruby, 2014).
- KCC 19.200.210.B wetland definitions.
- KCC 19.200.220.A wetland buffer standards, wetlands with moderate level of habitat functions in a high impact land use.

Stream Z

The site assessment identified two stream segments onsite, otherwise identified as Barker Creek. These segments were identified in the field as Stream Z and Stream Y. Stream Z enters the subject property from the north, flowing south into Wetland A where it becomes impounded. The stream appears to be connected to the upgradient Island Lake, located approximately 2,355 feet north of the subject property. The Kitsap County Stream and Wetland Inventory, WDFW, DNR and USFWS all identify a Type-F fish habitat stream with documented salmonid presence running north to south in the center of the subject property. The stream receives seasonal flows as there was no surface water present in the stream channel during the investigation. The investigations did identify areas of defined bed and bank with a silty substrate that was approximately 3 to 5 feet wide on average, however, some sections appear to lose definition and becomes less channelized. Given that fish are documented in Barker Creek and no fish passage barriers were directly observed, Stream Z, and appropriate habitat is present in some areas, Stream Z may be considered a Type F stream according to KCC 19.300.310 and WAC 222-16-030.

Stream Y

Stream Y originates from a corrugated plastic pipe at the southern end of Wetland A which conveys the flows through an upland berm; there is a large elevation change between the culvert inlet and outlet, estimated to be a minimum of 5 feet over a 13 foot span, resulting in an incline of over 38 percent. Additionally, the outlet is perched approximately 2 feet above the existing surface water elevation. Stream Y flows south across the southern parcel, through Wetland B, and eventually outlets into Dyes Inlet, located approximately 13,600 feet southwest of the site. The Kitsap County Stream and Wetland Inventory, WDFW, DNR and USFWS all identify a Type-F fish habitat stream with documented salmonid presence running north to south in the center of the subject property. Onsite investigations identified defined bed and bank with cobble and sand substrate and undercut banks. The width of the stream varied throughout the site from approximately 2 to 3 feet. Scoured gravel material is located immediately beneath the culvert outlet, however, gravels and evidence of sorting become sparse downstream. Stream Y contains eroded bank features with a mucky channel bottom and some skunk cabbage in the channel bottom. Channel width is approximately 2 to 3 feet with some areas of stagnant water. Connectivity to downstream documented fish habitat must be presumed due to a lack of observed fish passage barriers; therefore, though the onsite habitat is degraded, this portion of Barker Creek will likely be considered a Type F stream according to KCC 19.300.310 and WAC 222-16-030.

Regulatory Considerations

Wetland Buffer Requirements

Based on the wetland classification guidelines in KCC 19.200.210.B and the WSDOE wetland rating system, two onsite Category III wetlands (Wetlands A and B) with moderate habitat scores, of 7 and 6 points, respectively, were identified during this assessment. Per Table 19.200.220(C), these Category III wetlands are subject to a 150-foot buffer based on the proposed high land use intensity and moderate levels of habitat functions.

Stream Buffer Requirements

KCC 19.300.310 uses stream typing designations set forth in WAC 222-16-030. Type F streams are natural streams that contain at least perennial or intermittent flow and are used by salmonid

fish. Stream Z and Stream Y, as portions of Barker Creek, are likely regulated as Type F stream subject to a 150-foot buffer per KCC Table 19.300.315.

County Considerations

Kitsap County has identified the proposed limited use of the farm's facilities as an event space to be a high intensity land use type (personal communication between Kathleen Barnhart and Racheal Villa, October 2019). The subject property contains interior access roadways/driveways, six pastures, a greenhouse, a chicken area, an existing single-family residence and garden, plus a lower field/Event Area with existing vegetation, grass, produce, fruit trees, and flower production identified as part of the existing agricultural use areas. The Kitsap County Conservation District's farm management plan identifies these existing features and two rain gardens located downslope of impervious surface areas (Korwel, 2018 and Stahl, 2019). A majority of the onsite improvements are located outside of the 150-foot stream and wetland buffer area except for an existing pergola and greenhouse. To facilitate the proposed event space use of the subject property and its existing improvements, an ADA-compliant gravel pathway is necessarily proposed within the buffer area to facilitate safe access from a temporarily placed event tent to the existing pergola. This proposed event space use is located in existing agricultural use area and the implementation of the engineered surface water management plans is recommended to improve overall protections and buffer functions to attenuate peak flows by slowing runoff, allowing some infiltration, and providing some water quality benefits. In order to protect the downslope wetlands and stream, the project proposes full dispersion across established landscaping in addition to soil amendments where applicable, per the Project Engineer's plans (Loving, 2019).

State and Federal Considerations

Wetlands A and B and Barker Creek have potential surface and/or subsurface connections to Waters of the United States, and as such, potentially regulated under Section 404 of the Clean Water Act (CWA) by the USACE. WSDOE also regulates natural surface waters under RCW 90.48. As no direct wetland or stream impacts are proposed, no regulatory coordination with USACE or WSDOE is anticipated or likely required at this time.

Buffer Enhancement Plan

The proposed project will avoid direct impacts to the identified wetlands and streams; however, the buffers of Wetland A, Wetland B, Stream Z and Stream Y, and associated building setbacks encumber the western half of the subject property. A tent will be temporarily located over existing agricultural use areas as needed. The proposed event space requires the existing pergola (64 square feet) and retaining wall (240 square feet) be retained, as well as installing an ADA compliant gravel pathway (1,005 square feet) for safe pedestrian access within the buffer of Wetland A and Stream Z (a total of 1,309 square feet of indirect impacts; see Attachment A). All parking and other event space uses will be located outside the buffers. As such, wetland buffer enhancement is proposed for a portion of the Wetland A and Stream Z buffer to accommodate the proposed event space and improve onsite ecological conditions (Attachment A). The buffer enhancement plan uses KCC Title 19.200.205 as a guide for the proposed buffer enhancement actions. The objectives of the plan include the support of water quality maintenance, storm water and floodwater storage and conveyance functions provided by the downslope wetland as well as the enhancement of primary productivity and habitat functions within onsite portions of Wetland A and Stream Z. The enhancement actions include dense plantings of native trees, shrubs and herbaceous plants and the removal of invasive species such as non-native invasive Himalayan blackberry and non-native grasses (see Attachment A for planting plan). This

section incorporates the buffer enhancement plan for the portion of onsite buffer area associated with Wetland A and Stream Z that is located between the proposed ADA compliant gravel pathway, existing pergola and retaining wall, and Wetland A and Stream Z (2,546 square feet of mitigation). This plan provides buffer enhancement actions of greater than a 1.9:1 ratio of enhanced wetland and stream buffer area to project improvement area, and as such, this mitigation plan more than compensates for indirect impacts to the downslope wetland and stream, resulting in an overall net increase of buffer function.

The existing Wetland A and Stream Z buffer area consists of a mowed field west of the proposed ADA compliant gravel pathway, and portions of degraded forest area lining Wetland A and Stream Z. The forest area consists of a mixed deciduous coniferous canopy, with a row of red alder trees and non-native invasive Himalayan blackberry in the understory. As such, the enhancement plan proposes plantings of diverse native shrubs that will improve screening of the wetland; minimize dust, light, and physical intrusions from upland area uses; and provide habitat protection, as needed while restoring natural conditions. The majority of the native plantings will be focused in the mowed areas to restore natural buffer conditions, with a few shrubs proposed in the existing forest area to increase diversity and effectiveness of the buffer. The enhancement actions will primarily rely on the use of hand tools where possible, though equipment (e.g., tractor) may be used as necessary to remove and grub the invasive vegetation. Existing trees will be retained. Overall, the proposed enhancement actions will provide additional protective screening between the proposed ADA compliant gravel pathway, existing pergola and retaining wall, and Wetland A and Stream Z, while also increasing plant diversity and interspersation.

Additionally, the applicant proposes a voluntary enhancement planting area (1,870 square feet of voluntary planting; see Attachment A). The voluntary enhancement planting area is proposed around both sides of the ADA compliant gravel pathway and along the top tier of the retaining wall. The voluntary enhancement planting area will consist of native plantings to further restore the areas surrounding proposed structures with native plantings, improve screening of such features and increase overall aesthetics of the property and event space.

Mitigation Sequencing

Mitigation sequencing for the proposed project is required under KCC 19.200.230.A to demonstrate the project will result in no net loss in wetland buffer functions and values. The following discussion addresses specific actions taken to fulfill mitigation sequencing for this project.

1. *Avoiding the impact altogether by not taking a certain action or parts of actions.*

The proposed project manages to completely avoid direct impacts to the identified critical areas; however, the buffers of Wetland A, Wetland B, Stream Z and Stream Y encumber the entire western half of the subject property. As such, mitigation is necessary to accommodate the proposed event space which includes installing the required ADA compliant gravel pathway within the Wetland A and Stream Z buffer area for safe access to the existing pergola. Event parking will be located outside the buffers and associated signage may be installed during events in order to direct parking away from the buffer areas.

2. *Minimizing impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to reduce impacts.*

The proposed project has taken all reasonable efforts to minimize indirect impacts to the greatest extent feasible. Wetland and stream buffer impacts have been minimized as the only proposed activity that will impact the standard buffer area is the installation of the required ADA compliant gravel pathway that is required for safe access to the existing pergola. The proposed buffer enhancement will result in an overall net increase of buffer function. All appropriate best management practices (BMPs) and temporary erosion and sediment control (TESC) measures, including construction fencing and silt fencing, will be implemented and maintained during construction on the site to minimize any potential temporary construction impacts to the identified critical areas and buffers.

3. *Using one of the following mitigation types, listed in order of preference:*

- a. *Rectifying the impact by reestablishing, rehabilitating, or restoring the affected environment;*
- b. *Compensating for the impact by replacing or providing substitute resources or environments; or*
- c. *Compensating for the impact by improving the environmental processes that support wetland systems and functions*

The indirect impacts will be compensated for by enhancing the portion of the existing buffer located between the ADA compliant gravel pathway and existing pergola and retaining wall, and Wetland A and Stream Z. This will result in an overall net increase of buffer function.

4. *Monitoring the impact and compensation and taking appropriate corrective measures.*

The Applicant is committed to compliance with the enhancement plan and overall success of the project. As such, the Applicant will continue to maintain the project, keeping the site free from of non-native invasive vegetation, trash, and waste. In accordance with the intent of KCC 19.200.230.E, the applicant will self-monitor and submit monitoring reports to Kitsap County, as required, on an annual basis for five years, or until the department determines that the native plants are established within the mitigation areas and mitigation actions have achieved success. Monitoring reports will consist of a list of species installed and the condition of those plants in the buffer enhancement area, and photographs by email provided by the Applicant. The photographs will be taken from approximately the same location each year and will clearly show the mitigation plantings.

Buffer Enhancement Specifications

The following specifications are established as a set of minimum standards for proper implementation of the buffer enhancement actions. Additional actions, modifications, and/or substitutions may be approved in advance by the responsible Wetland Scientist.

Plant Scheduling, Species, Density, and Location

All planting should occur between September 1 and May 1 to ensure plants do not dry out after installation, or temporary irrigation measures may be necessary. All planting will be installed per the procedures detailed in the following subsections using the species and densities outlined in Figure 3 of Attachment A of this Technical Memorandum.

Plant Materials

All plant materials to be used on the site will be nursery grown stock from a reputable, local source. Only native species are to be used; no hybrids or cultivars will be allowed. Plant material provided

will be typical of their species or variety; if not cuttings, they will exhibit normal, densely developed branches and vigorous, fibrous root systems. Plants will be sound, healthy, vigorous plants free from defects and all forms of disease and infestation.

Any container stock provided in-lieu of specified bare root stock shall have been grown in its delivery container for not less than six months but not more than two years. Plants shall not exhibit rootbound conditions. Under no circumstances shall container stock be handled by their trunks, stems, or tops.

All plant material shall be inspected upon delivery. Plant material not conforming to the specifications above will be rejected and replaced. Rejected plant materials shall be immediately removed from the site.

Fertilizer will be in the form of Agroform plant tabs or an approved like form. Mulch will consist of sterile wheat straw or clean recycled wood chips approximately 1/2-inch to 1-inch in size and 1/2-inch thick. If free of invasive plant species, the mulch material may be sourced from woody materials salvaged from the land clearing activities for the proposed residence.

Product Handling, Delivery, and Storage

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

Preparation and Installation of Plant Materials

The Applicant or the landscape contractor will verify the location of all elements of the planting plan, prior to installation. The Applicant or landscape contractor may adjust the locations of landscape elements during the installation period as appropriate.

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

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

Optional Temporary Irrigation Specifications

While the native species selected for mitigation are hardy and typically thrive in northwest conditions,

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

Wetland and Buffer/Habitat Management Recommendations

The buffer enhancement plan drawings and specifications are included in Attachment A. The following habitat management recommendations are provided to further protect the onsite wetland and associated buffer:

- Prior to the initiation of the construction activities, erosion control measures (e.g., silt fencing) and temporary construction fencing at least 30 inches tall should be erected around the perimeter of the wetland area to protect wetland functions, minimize the potential for sedimentation into the wetland, prevent unintended intrusion, and protect native wetland vegetation.
- The temporary fencing shall be posted with signage clearly identifying the wetland area and should remain in place through site development and construction;
- Vehicles, construction materials, fuel, and/or other hazardous materials should not be placed in the wetland area. The use of machinery within the buffer enhancement area should be limited to the greatest extent possible and only during implementation of the enhancement actions;
- The soil duff layer should remain undisturbed to the greatest extent possible near the wetland areas;
- Following implementation of the enhancement actions, appropriate signage should be installed along the outer perimeter of the enhanced wetland and stream buffers to indicate the sensitive nature of the buffer and to deter intrusion; and
- Following construction and enhancement activities, control invasive plant communities to the extent practicable using mechanical and/or approved herbicide methods, as needed.

Conclusions

The site investigation identified two Category III wetlands (Wetlands A and B) running north to south along Barker Creek. Wetlands A and B are subject to a 150-foot buffer based on the proposed high land use intensity and moderate level of function for habitat. Barker Creek was identified as a fish-habitat stream by WDFW and DNR and is subject to a 150-foot buffer from the ordinary high-water mark. No other wetlands, streams, or fish and wildlife habitat conservation areas were identified on or within 300 feet of the subject property during the site investigation. The proposed limited event space use is located over existing agricultural use areas and with implementation of the engineered surface water management plans and the Conservation District's Farm Plans, the proposed project is anticipated to enhance the buffer functions and provide additional protections over current conditions to the onsite wetlands and stream.

If you have any further questions, please contact us at your earliest convenience.

Sincerely,

A handwritten signature in cursive script, reading "Racheal Villa", written in dark ink. The signature is positioned above a horizontal line.

Racheal Villa
Senior Scientist/Project Manager

February 5, 2020

Date

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- United States Department of Agriculture (USDA), NRCS. 2018. *Field Indicators of Hydric Soils in the United States, Version 8.1*. L.M. Vasialas, G.W. Hurt, and C.V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

Attachment A – Existing Conditions and Buffer Enhancement Plan Exhibit

**PRELIMINARY
INFORMATION ONLY
NOT FOR CONSTRUCTION**

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

Legend:

- Wetland
- Culvert
- Data Point
- OHW
- Wetland Flag
- 15' Building & Impervious Surface Setback
- 150' Type F Stream & Wetland Buffer
- OHW
- Rain Collection Pipe
- Trail/Road
- Roof Runoff
- Rain Garden
- Pasture
- Chicken Area
- Hoop House
- Existing Retaining Wall (240 SF)
- Proposed ADA Access Path (1005 SF)
- Existing Pergola (64 SF)
- Site Boundary

Map Labels:

- Wetland A Category III
- Wetland B Category III
- Pasture 1
- Pasture 2
- Pasture 3
- Pasture 4
- Pasture 5
- Pasture 6
- Orchard
- Garden
- Rain Garden
- Roof Runoff
- Chicken Area
- Hoop House
- Proposed ADA Path
- Retaining Wall
- Pergola
- Drain Field
- Lower Field
- Western Wetland Boundary Not Delineated

Scale: 0, 70, 140, 280 Feet

North Arrow: N

Disclaimer: PRELIMINARY INFORMATION ONLY NOT FOR CONSTRUCTION. SOUNDVIEW CONSULTANTS LLC ASSUMES NO LIABILITY OR RESPONSIBILITY FOR CONSTRUCTION, IMPROVEMENTS, OR ESTIMATES BASED ON THIS PLAN SET.

Legend:

- Wetland
- Culvert
- Data Point
- OHW
- Wetland Flag
- 15' Building & Impervious Surface Setback
- 150' Type F Stream & Wetland Buffer
- OHW
- Rain Collection Pipe
- Trail/Road
- Roof Runoff
- Rain Garden
- Pasture
- Chicken Area
- Hoop House
- Existing Retaining Wall (240 SF)
- Proposed ADA Access Path (1005 SF)
- Existing Pergola (64 SF)
- Site Boundary

Map Labels:

- Wetland A Category III
- Wetland B Category III
- Pasture 1
- Pasture 2
- Pasture 3
- Pasture 4
- Pasture 5
- Pasture 6
- Orchard
- Garden
- Rain Garden
- Roof Runoff
- Chicken Area
- Hoop House
- Proposed ADA Path
- Retaining Wall
- Pergola
- Drain Field
- Lower Field
- Western Wetland Boundary Not Delineated




















Scale: 0, 70, 140, 280 Feet

North Arrow: N

Disclaimer: PRELIMINARY INFORMATION ONLY NOT FOR CONSTRUCTION. SOUNDVIEW CONSULTANTS LLC ASSUMES NO LIABILITY OR RESPONSIBILITY FOR CONSTRUCTION, IMPROVEMENTS, OR ESTIMATES BASED ON THIS PLAN SET.

Legend:

- Wetland
- Culvert
- Data Point
- OHW
- Wetland Flag
- 15' Building & Impervious Surface Setback
- 150' Type F Stream & Wetland Buffer
- OHW
- Rain Collection Pipe
- Trail/Road
- Roof Runoff
- Rain Garden
- Pasture
- Chicken Area
- Hoop House
- Existing Retaining Wall (240 SF)
- Proposed ADA Access Path (1005 SF)
- Existing Pergola (64 SF)
- Site Boundary

-  Wetland
-  Culvert
-  Data Point
-  OHWM
-  Wetland Flag
-  15' Building & Impervious Surface Setback
-  150' Type F Stream & Wetland Buffer
-  OHW
-  Rain Collection Pipe
-  Trail/Road
-  Roof Runoff
-  Rain Garden
-  Pasture
-  Chicken Area
-  Hoop House
-  Existing Retaining Wall (240 SF)
-  Proposed ADA Access Path (1005 SF)
-  Existing Pergola (64 SF)
-  Site Boundary



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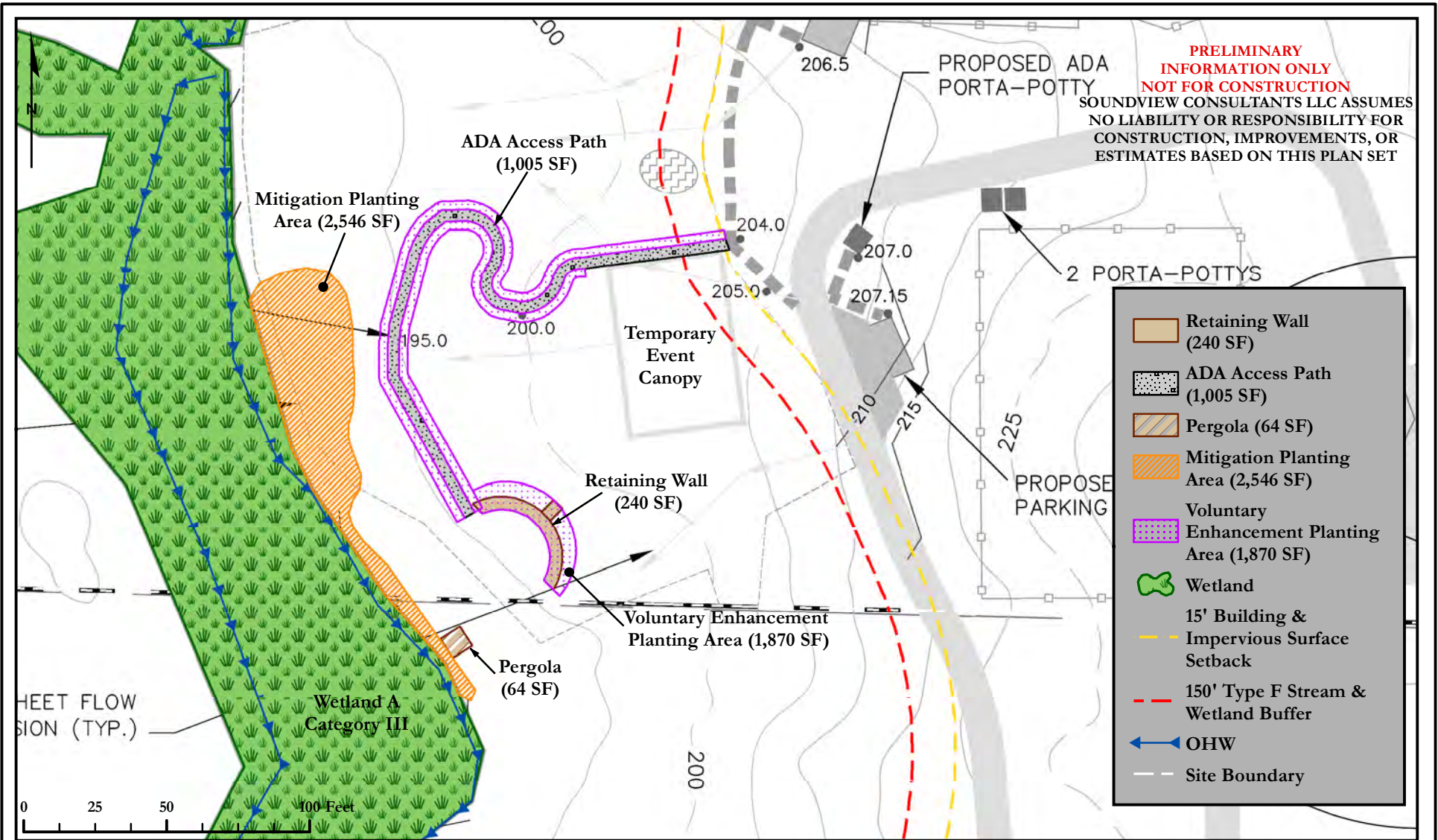
2907 Harborview Dr., Suite D, Gig Harbor, WA 98335
Phone: (253) 514-8952 Fax: (253) 514-8954
www.soundviewconsultants.com

12000 COURTER LANE NW
POULSBO, WA 98370

DATE: 2/3/2020
JOB: 1926.0001
BY: DLS/RJK
SCALE: 1" = 140'
FIGURE NO. 1

Permit Number: 19-01265

COURTER LANE NW - PROPOSED MITIGATION & VOLUNTARY ENHANCEMENT PLAN



COURTER LANE NW

12000 COURTER LANE NW
POULSBORO, WA 98370

KITSAP COUNTY PARCEL NUMBERS:
102501-4-002-2004

DATE: 2/3/2020

JOB: 1926.0001

BY: DLS

SCALE: 1" = 50'

FIGURE NO. 2



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Permit Number: 19-01265

COURTER LANE NW - PLANTING SCHEDULE AND DETAILS

Plant Name		Plant Status	Mitigation Area (2,546 SF)	Spacing	Mature Size	Condition	Planting Area
Scientific	Common						
Tree							
<i>Corylus cornuta</i>	Beaked hazelnut	FACU	10	4 - 5 ft	10 - 15 ft	Bare root	Moist/Wet
Total			10				
Shrubs							
<i>Cornus stolonifera</i>	Red Osier Dogwood	FACW	10	4 - 5 ft	6 - 8 ft	Bare root	Moist/Wet
<i>Philadelphus lewisii</i>	Mock-Orange	FACU	10	4 - 5 ft	6 - 8 ft	Bare root	Dry/Moist
<i>Physocarpus capitatus</i>	Pacific ninebark	FACW	10	4 - 5 ft	6 - 8 ft	Bare root	Moist/Wet
<i>Ribes sanguineum</i>	Red-flowering currant	FACU	10	4 - 5 ft	6 - 8 ft	Bare root	Dry/Moist
<i>Rosa nutkana</i>	Nootka rose	FAC	10	4 - 5 ft	6 - 8 ft	Bare root	Dry
<i>Symphoricarpos albus</i>	Snowberry	FACU	10	4 - 5 ft	4 - 5 ft	Bare root	Dry
Total			60				
Native Ornamental Plantings			Voluntary Enhancement Area (~1,870 SF)	Plug Size	Mature Size		
<i>Achillea millefolium</i>	Common Yarrow	FACU	10	5 in	1 - 3 ft	Plug	Dry
<i>Aruncus dioicus</i>	Goatsbeard	FACU	10	5.5 in	3 - 4 ft	Plug	Dry
<i>Erigeron speciosus</i>	Showy Fleabane	FACU	10	5 in	1 - 3 ft	Plug	Dry
<i>Eriophyllum lanatum</i>	Oregon Sunshine	FACU	10	10 in	4 - 36 in	Plug	Dry
<i>Sidalcea campestris</i>	Meadow Checkerbloom	FACU	10	10 in	1 - 3 ft	Plug	Dry
<i>Sisyrinchium idahoense</i>	Blue-Eyed Grass	FACU	10	10 in	6 - 18 in	Plug	Dry
<i>Tellima grandiflora</i>	Fringecup	FACU	10	10 in	1 - 3 ft	Plug	Dry
Total			70				

1 - Scientific names and species identification taken from *Flora of the Pacific Northwest, 2nd Edition* (Hitchcock and Cronquist, Ed. by Giblin, Ledger, Zika, and Olmstead, 2018).
2 - Native plant species may be substituted or added with Wetland Scientist approval.

SHRUB PLANTING DETAIL (TYPICAL)

NOT TO SCALE

LOCATOR LATH (IF SPECIFIED)

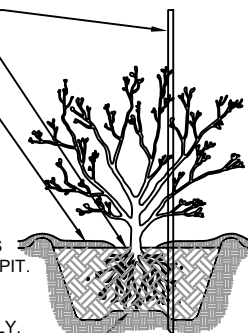
SET TOP OF ROOT MASS / ROOT BALL FLUSH WITH FINISH GRADE OR SLIGHTLY ABOVE

3 to 4 INCH LAYER OF MULCH - KEEP MULCH MIN. 3" AWAY FROM TRUNK OF SHRUB

NOTES:

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

UNDISTURBED OR COMPACTED SUBGRADE



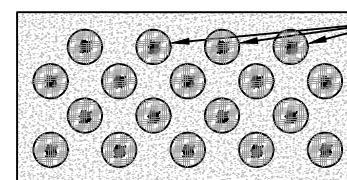
PLUG PLANTING DETAIL

NOT TO SCALE

NOTES:

1. PLANT HERBACEOUS PLUGS STAGGERED 2'-0" O.C.
2. EXCAVATE PLANTING PIT TO 6" DIA. AND ADEQUATE DEPTH.
3. FORM A RING OF SOIL AROUND THE EDGE OF EACH PLANTING PIT.
4. WATER IMMEDIATELY AFTER INSTALLATION.

PLAN VIEW OF TYPICAL PLUG INSTALLATION



TYPICAL PLANTING PIT (SEE NOTE 2)

TYPICAL PLUG




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Phone: (253) 514-8952 Fax: (253) 514-8954
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COURTER LANE NW

12000 COURTER LANE NW
POULSBO, WA 98370

KITSAP COUNTY PARCEL NUMBERS:
102501-4-002-2004

DATE: 2/3/2020

JOB: 1926.0001

BY: DLS

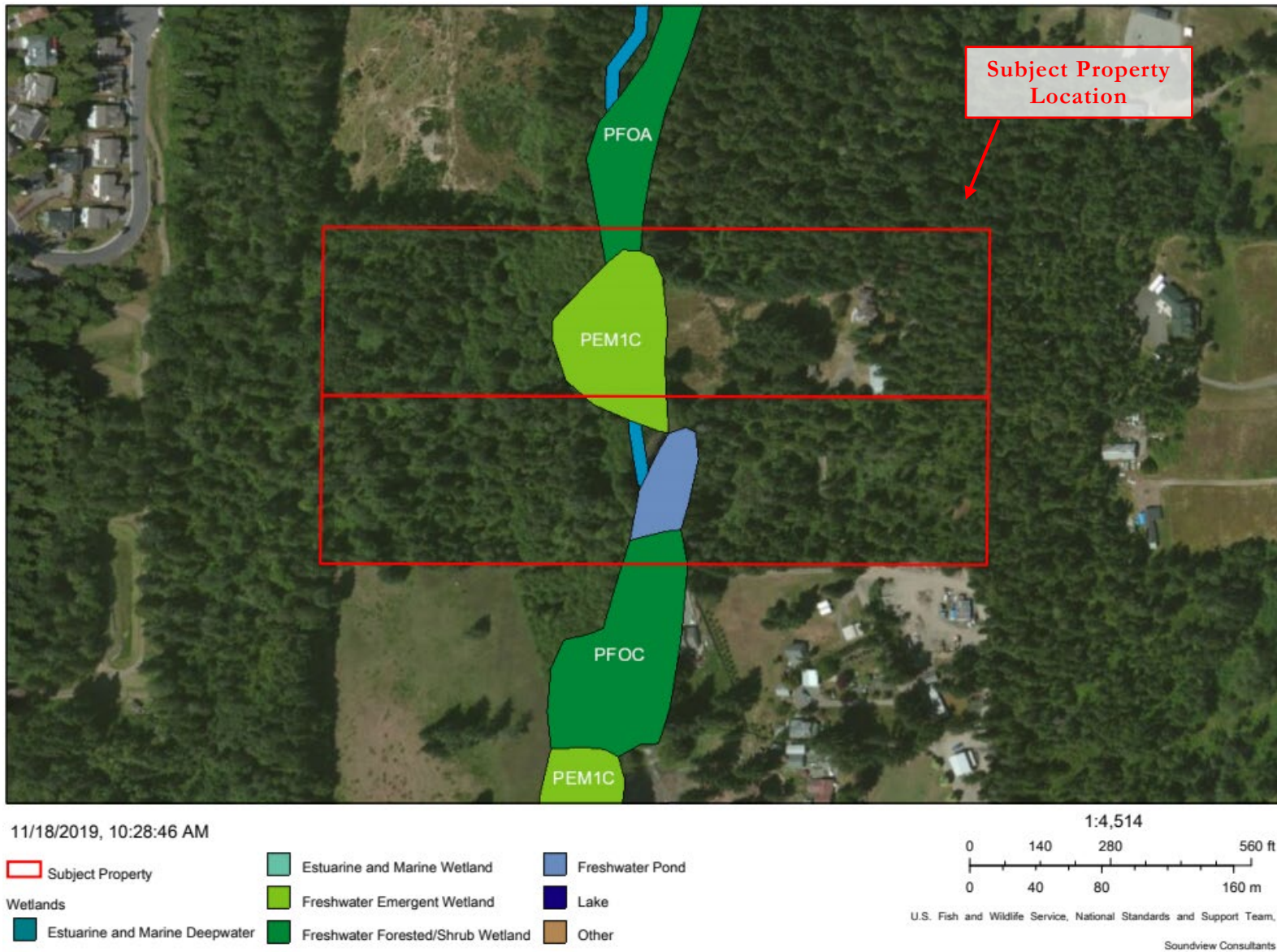
SCALE: N/A

FIGURE NO. 3

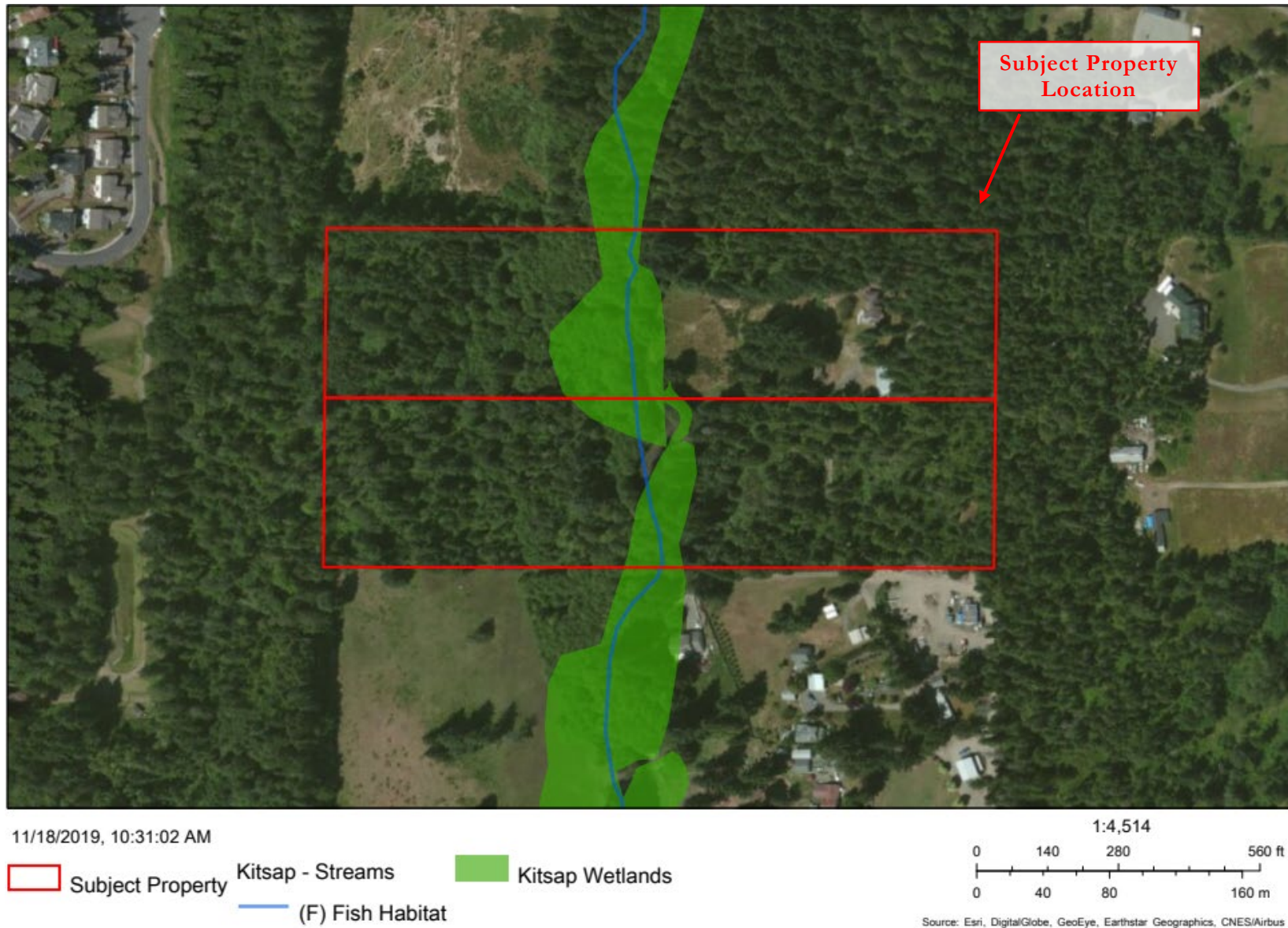
Attachment B – Background Information

This attachment includes a USFWS NWI Map (B1); Kitsap County Wetland and Stream Inventory (B2); WDFW PHS Map (B3); WDFW SalmonScape Map (B4); DNR Stream Typing Map (B5); USGS Topographic Map (B6); and NRCS Soil Survey Map (B7)

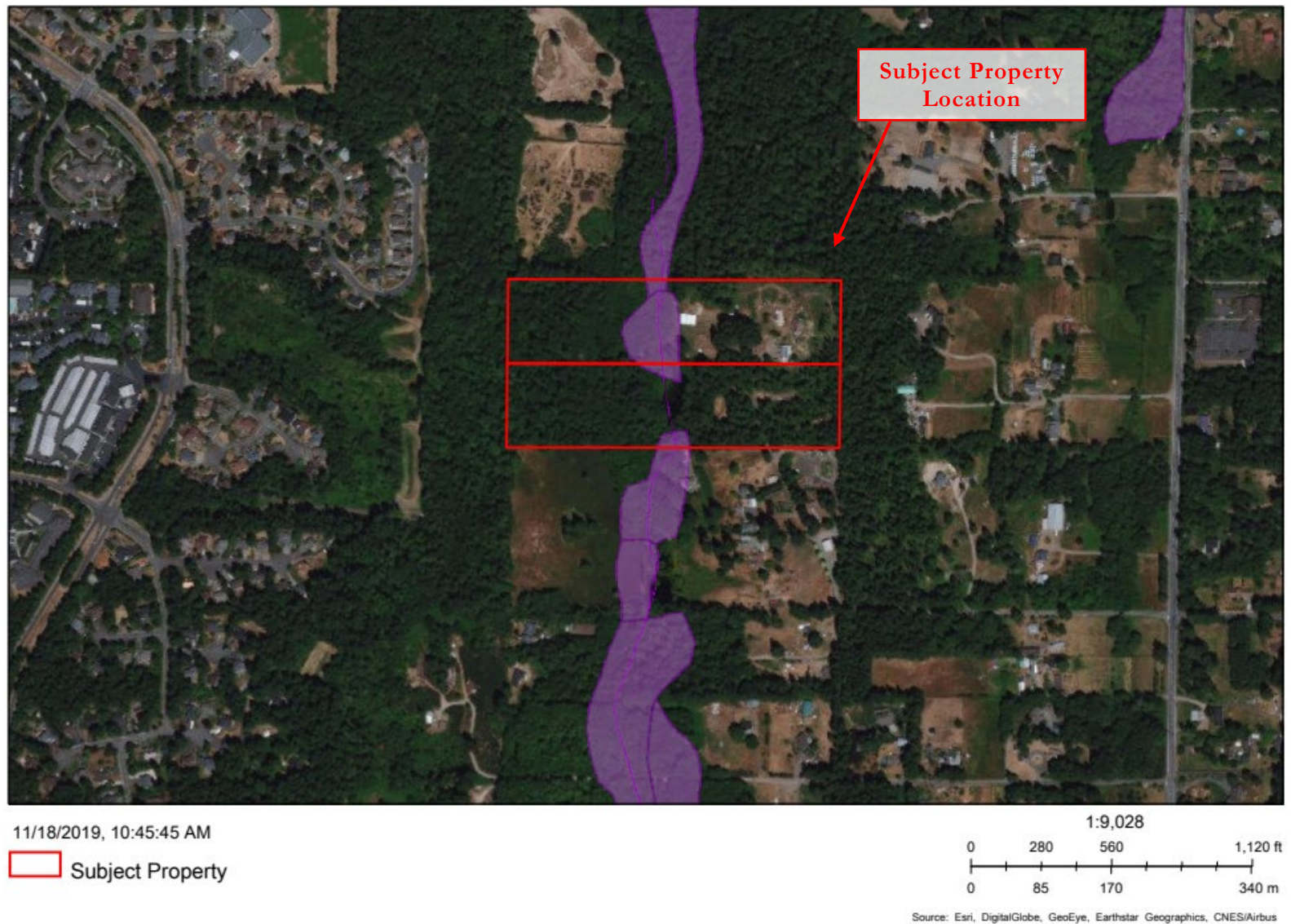
Attachment B1 – USFWS NWI Map



Attachment B2 – Kitsap County Wetland and Stream Inventory



Attachment B3 – WDFW PHS Map





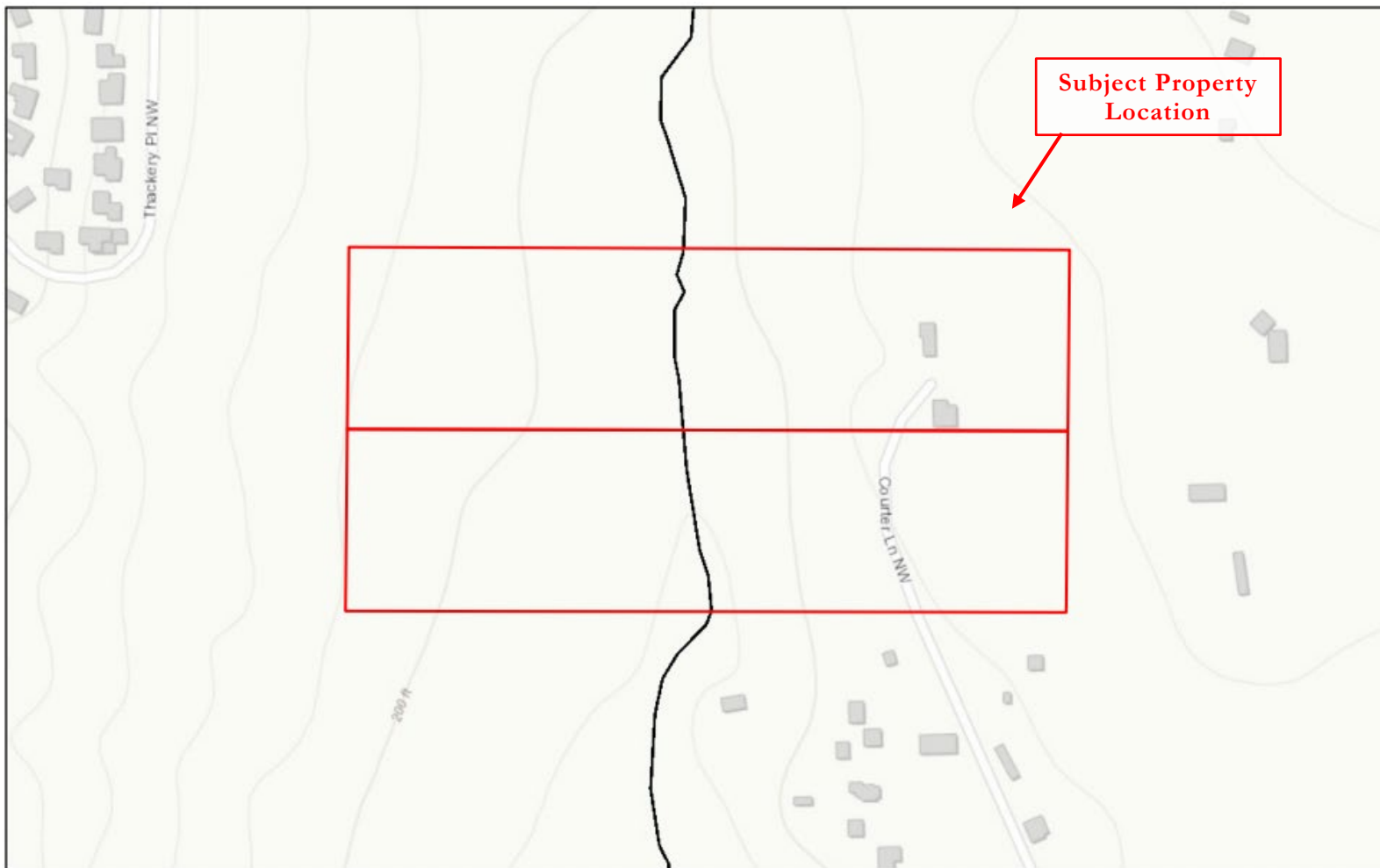
WASHINGTON DEPARTMENT OF FISH AND WILDLIFE PRIORITY HABITATS AND SPECIES REPORT

SOURCE DATASET: PHSPublic
REPORT DATE: 04/12/2019 1.24

Query ID: P190412132339

Common Name	Site Name	Priority Area	Accuracy	Federal Status	Sensitive Data	Source Entity
Scientific Name	Source Dataset	Occurrence Type		State Status	Resolution	Geometry Type
Notes	Source Date	More Information (URL)		PHS Listing Status		
Freshwater Forested/Shrub	N/A	Aquatic Habitat	NA	N/A	N	US Fish and Wildlife Service
	NWIWetlands	Aquatic habitat		N/A	AS MAPPED	Polygons
		http://www.ecy.wa		PHS Listed		
Freshwater Forested/Shrub	N/A	Aquatic Habitat	NA	N/A	N	US Fish and Wildlife Service
	NWIWetlands	Aquatic habitat		N/A	AS MAPPED	Polygons
		http://www.ecy.wa		PHS Listed		
Freshwater Pond	N/A	Aquatic Habitat	NA	N/A	N	US Fish and Wildlife Service
	NWIWetlands	Aquatic habitat		N/A	AS MAPPED	Polygons
		http://www.ecy.wa		PHS Listed		

Attachment B4 – WDFW SalmonScape Map



11/18/2019, 10:32:28 AM

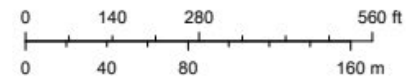


Subject Property



All SalmonScape Species

1:4,514



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS.

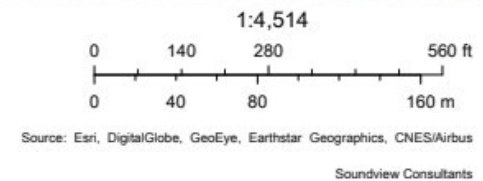
Soundview Consultants

Attachment B5 – DNR Stream Typing Map

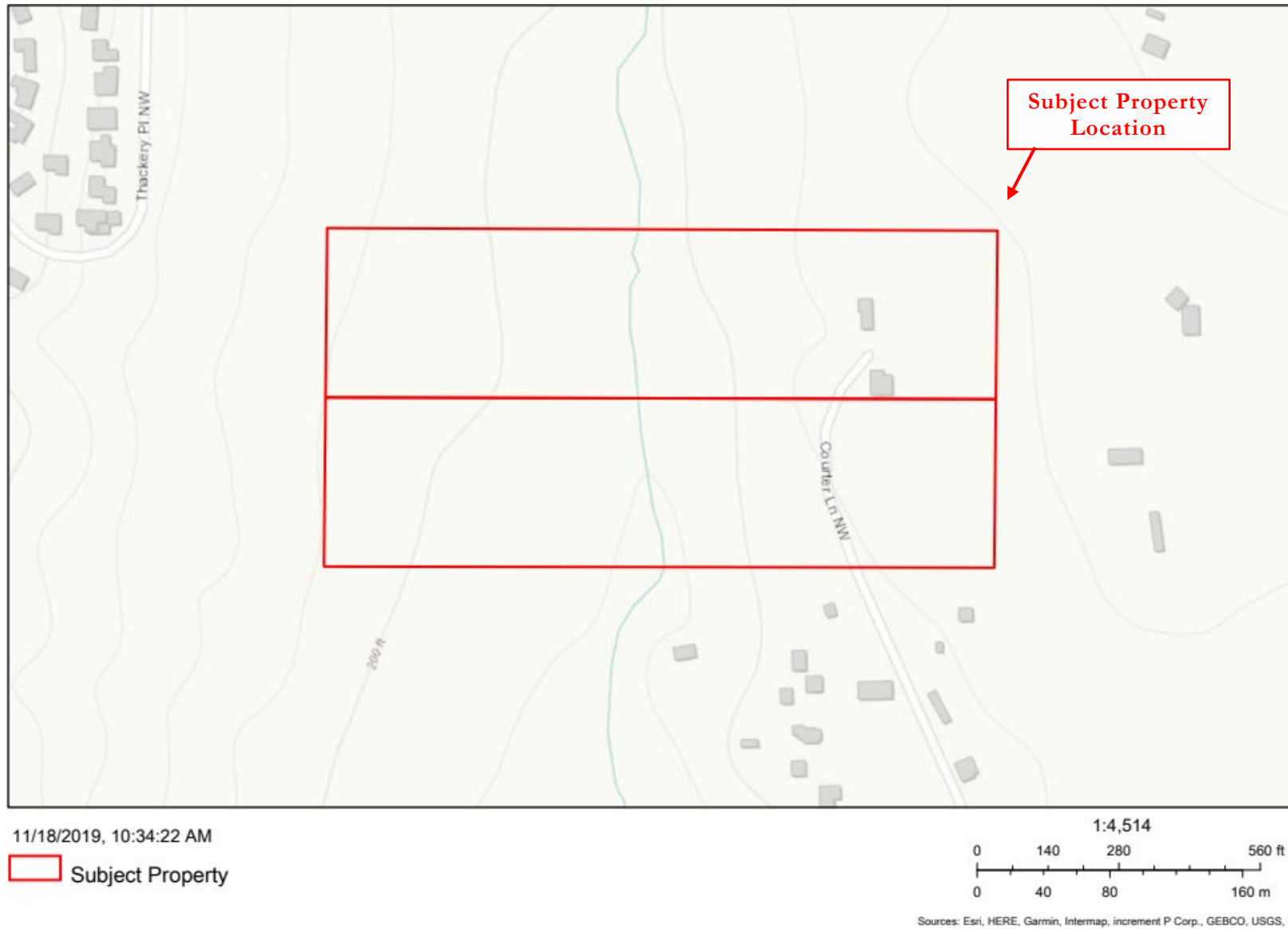


11/18/2019, 10:33:16 AM

Subject Property
 Type F
Type N, Np, Ns
Type S
U, unknown
Stream Names
..... X, non-typed per WAC 222-16



Attachment B6 – USGS Topographic Map



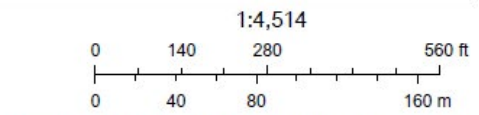
Attachment B7 – NRCS Soil Survey



11/18/2019, 10:35:27 AM

Subject Property
 USA Soils Map Units

1 - Alderwood gravelly sandy loam, 0 to 8 percent slopes
2 - Alderwood gravelly sandy loam, 8 to 15 percent slopes



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

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Attachment C –Wetland Data Forms

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

Project/Site: 1926.0001 - Courter Lane NW City/County: Poulsbo / Kitsap Sampling Date: 07/03/2019
 Applicant/Owner: Denise Courter State: WA Sampling Point: DP-1
 Investigator(s): Rachael Hyland Section, Township, Range: 10 / 25N / 01E
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2
 Subregion (LRR): A2 Lat: 47.671588 Long: -122.65819677 Datum: WGS 84
 Soil Map Unit Name: Alderwood gravelly sandy loam, 6 to 15 percent slopes NWI classification: PUBHx

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"/>	Is the Sampled Area within a Wetland? 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"/>	
Remarks: All three wetland criteria met. Data collect in Wetland A.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: 30 ft)				
1. <u>Spiraea douglasii</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Salix scouleriana</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Rubus spectabilis</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Herb Stratum (Plot size: 10 ft)				
1. <u>Lawn grass*</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" 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>Geum macrophyllum</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Carex obnupta</u>	<u>10</u>	<u>No</u>	<u>OBL</u>	
4. <u>Veronica americana</u>	<u>5</u>	<u>No</u>	<u>OBL</u>	
5. <u>Mycelis muralis**</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
6. <u>Taraxacum officinale</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
7. <u>Juncus effusus</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
8. <u>Ranunculus repens</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>85</u> = Total Cover				
Woody Vine Stratum (Plot size: 30 ft)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>15</u>				
Remarks: Hydrophytic vegetation criteria met through dominance test. *Could not be identified to species, assumed FAC for scoring purposes. **No indicator status, assumed FAC for scoring purposes.				

SOIL

Sampling Point: DP-1

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0 - 6	2.5Y 3/1	100	-	-	-	-	SaLo	Sandy loam
6 - 11	2.5Y 3/1	93	7.5YR 3/4	5	C	PL, M	SaLo	Sandy loam
			2.5Y 4/1	2	D	M		
11 - 16	2.5Y 3/1	90	5YR 3/3	7	C	M, PL	SaLo	Sandy loam
			2.5Y 5/1	3	D	M		

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) |
| <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) |

Indicators for Problematic Hydric Soils³:

- ☐ 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: None

Depth (inches): --

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicator F6.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Hydrology criteria met through secondary indicators C2 and D2.

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

Project/Site: 1926.0001 - Courter Lane NW City/County: Poulsbo / Kitsap Sampling Date: 07/03/2019
 Applicant/Owner: Denise Courter State: WA Sampling Point: DP-2
 Investigator(s): Rachael Hyland Section, Township, Range: 10 / 25N / 01E
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2
 Subregion (LRR): A2 Lat: 47.671591 Long: -122.65815157 Datum: WGS 84
 Soil Map Unit Name: Alderwood gravelly sandy loam, 6 to 15 percent slopes NWI classification: PEM1C

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 type="checkbox"/>
Remarks: <div style="text-align: center; font-weight: bold; font-size: 1.2em;">No wetland criteria met. Data collect east of Wetland A in a lawn area.</div>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: 30 ft)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
Herb Stratum (Plot size: 10 ft)				
1. <u>Prunella vulgaris</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Taraxacum officinale</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Veronica americana</u>	<u>15</u>	<u>Yes</u>	<u>OBL</u>	
4. <u>Plantago lanceolata</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>	
5. <u>Lawn grass*</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	
6. <u>Hypericum scouleri</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	
7. <u>Mycelis muralis**</u>	<u>10</u>	<u>No</u>	<u>FAC</u>	
8. <u>Ranunculus repens</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>110</u>	= Total Cover		
Woody Vine Stratum (Plot size: 30 ft)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 5 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 40% (A/B)

Prevalence Index worksheet:

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

Hydrophytic Vegetation Indicators:
☐ Rapid Test for Hydrophytic Vegetation
☐ Dominance Test is >50%
☐ Prevalence Index is ≤3.0¹
☐ 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: No hydrophytic vegetation criteria met. Prevalence index not warranted due to lack of hydric soil and hydrology.
 *Could not be identified to species, assumed FAC for scoring purposes.
 **No indicator status, assumed FAC for scoring purposes.

SOIL

Sampling Point: DP-2

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0 - 1	10YR 3/4	100	-	-	-	-	SaLo	Sandy loam
1 - 8	2.5Y 3/2	100	-	-	-	-	SaLo	Gravelly sandy loam
8 - 11	2.5Y 3/2	70	-	-	-	-	SaLo	Gravelly sandy loam, dual matrix
	10YR 4/4	30	-	-	-	-	SaLo	Gravelly sandy loam, dual matrix
11 - 14	10YR 4/4	95	7.5YR 4/4	5	C		SaLo	Gravelly 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) |
| <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) |

Indicators for Problematic Hydric Soils³:

- ☐ 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: None

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

No wetland hydrology criteria met.

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

Project/Site: 1926.0001 - Courter Lane NW City/County: Poulsbo / Kitsap Sampling Date: 07/03/2019
 Applicant/Owner: Denise Courter State: WA Sampling Point: DP-3
 Investigator(s): Rachael Hyland Section, Township, Range: 10 / 25N / 01E
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2
 Subregion (LRR): A2 Lat: 47.670599 Long: -122.65828346 Datum: WGS 84
 Soil Map Unit Name: Alderwood gravelly sandy loam, 6 to 15 percent slopes NWI classification: PFOC

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: <div style="border: 1px solid black; padding: 5px; text-align: center;"> All three wetland criteria met. Data collect in Wetland B. </div>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Alnus rubra</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>15</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum (Plot size: 30 ft)				
1. <u>Thuja plicata</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Rubus spectabilis</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Rubus armeniacus</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" 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.
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>30</u> = Total Cover				
Herb Stratum (Plot size: 10 ft)				
1. <u>Lysichiton americanus</u>	<u>50</u>	<u>Yes</u>	<u>OBL</u>	
2. <u>Athyrium cyclosorum</u>	<u>15</u>	<u>No</u>	<u>FAC</u>	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3. <u>Carex obnupta</u>	<u>10</u>	<u>No</u>	<u>OBL</u>	
4. <u>Veronica americana</u>	<u>10</u>	<u>No</u>	<u>OBL</u>	
5. <u>Ranunculus repens</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
11. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>90</u> = Total Cover				
Woody Vine Stratum (Plot size: 30 ft)				
1. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>10</u>				

Remarks: **Hydrophytic vegetation criteria met through dominance test.**

SOIL

Sampling Point: DP-3**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0 - 8	10YR 3/1	100	-	-	-	-	MeLo	Medium loam
8 - 14	10YR 3/1	95	5Y 5/1	5	D	M	SiLo	Silt loam with some pockets of sand

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.)**

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

Indicators for Problematic Hydric Soils³:

- ☐ 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: NoneDepth (inches): --**Hydric Soil Present?** Yes ☒ No ☐

Remarks:

Hydric soil criteria met through indicator A4.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): None
 Water Table Present? Yes ☒ No ☐ Depth (inches): 12
 Saturation Present? Yes ☒ No ☐ Depth (inches): 10
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Hydrology criteria met through primary indicators A2 and A3.

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

Project/Site: 1926.0001 - Courter Lane NW City/County: Poulsbo / Kitsap Sampling Date: 07/03/2019
 Applicant/Owner: Denise Courter State: WA Sampling Point: DP-4
 Investigator(s): Rachael Hyland Section, Township, Range: 10 / 25N / 01E
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 2
 Subregion (LRR): A2 Lat: 47.670677 Long: -122.65806152 Datum: WGS 84
 Soil Map Unit Name: Alderwood gravelly sandy loam, 6 to 15 percent slopes NWI classification: N/A

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

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

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? 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"/>	
Remarks: No wetland criteria met. Data collect east of Wetland B.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	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>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>43%</u> (A/B)
1. <u>Alnus rubra</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Pseudotsuga menziesii</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>60</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column Totals: <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
1. <u>Rubus spectabilis</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Rubus armeniacus</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Vaccinium ovatum</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>	
4. <u>Rubus laciantus</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>65</u> = Total Cover				
Herb Stratum (Plot size: 10 ft)	Absolute % Cover	Dominant Species?	Indicator Status	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.
1. <u>Polystichum munitum</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
11. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>10</u> = Total Cover				
Woody Vine Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. <u>Rubus ursinus</u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>50</u> = Total Cover				
% Bare Ground in Herb Stratum <u>90</u>				
Remarks: No hydrophytic vegetation criteria met. Prevalence index not warranted due to lack of hydric soil and hydrology.				

SOIL

Sampling Point: DP-4

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0 - 10	10YR 3/2	100	-	-	-	-	SiLo	Silt loam
10 - 14	10YR 4/2	99	10YR 4/4	1	C	M	SiLo	Silt 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) |
| <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) |

Indicators for Problematic Hydric Soils³:

- ☐ 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: None

Depth (inches): --

Hydric Soil Present? Yes ☐ No ☒

Remarks:

No hydric soil criteria met.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

No hydrology criteria met.

Attachment D –Wetland Rating Forms

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): A Date of site visit: 07/03/19
Rated by Rachael Hyland, Laura Livingston Trained by Ecology? ☒ Yes ☐ No Date of training _____
HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

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

Source of base aerial photo/map ESRI ArcGIS

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

_____ **Category I** – Total score = 23 - 27
_____ **Category II** – Total score = 20 - 22
☒ **Category III** – Total score = 16 - 19
_____ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate ratings				
Site Potential	L	L	M	
Landscape Potential	M	M	M	
Value	H	M	H	TOTAL
Score Based on Ratings	6	5	7	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	N/A

Wetland name or number A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<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 undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<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 undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<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 undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetlands in Western Washington

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

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

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

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

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

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

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

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

- ☒ NO – go to 3 ☐ YES – The wetland class is **Flats**
*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

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

- ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

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

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

- ☐ The wetland is on a slope (*slope can be very gradual*),
☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
☐ The water leaves the wetland **without being impounded**.

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

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

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

- ☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
☐ The overbank flooding occurs at least once every 2 years.

Wetland name or number A

☒ NO – go to 6

☐ YES – The wetland class is **Riverine**

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

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

☐ NO – go to 7

☒ YES – The wetland class is **Depressional**

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

☐ NO – go to 8

☐ YES – The wetland class is **Depressional**

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

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

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

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

Wetland name or number A

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. <u>Characteristics of surface water outflows from the wetland:</u> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	2
D 1.2. <u>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</u> Yes = 4 No = 0	0
D 1.3. <u>Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</u> Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > 1/2 of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	3
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u> <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > 1/2 total area of wetland points = 4 Area seasonally ponded is > 1/4 total area of wetland points = 2 Area seasonally ponded is < 1/4 total area of wetland points = 0	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 X 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?	Yes = 1 No = 0 0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0 1
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0 0
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?	0
Source _____	Yes = 1 No = 0
Total for D 2	Add the points in the boxes above 1

Rating of Landscape Potential If score is: 3 or 4 = H X 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?	Yes = 1 No = 0 0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	Yes = 1 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 for the basin in which the unit is found)?	Yes = 2 No = 0 2
Total for D 3	Add the points in the boxes above 3

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

NOTES and FIELD OBSERVATIONS:

The wetland is located approximately 1.05 miles from a 303(d) listed water.

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:

- | | | |
|---|------------|---|
| Wetland is a depression or flat depression with no surface water leaving it (no outlet) | points = 4 | 2 |
| Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet | points = 2 | |
| Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch | points = 1 | |
| 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.

- | | | |
|--|------------|---|
| Marks of ponding are 3 ft or more above the surface or bottom of outlet | points = 7 | 3 |
| Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet | points = 5 | |
| Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet | points = 3 | |
| The wetland is a "headwater" wetland | points = 3 | |
| Wetland is flat but has small depressions on the surface that trap water | points = 1 | |
| 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 wetland to the area of the wetland unit itself.

- | | | |
|---|------------|---|
| The area of the basin is less than 10 times the area of the unit | points = 5 | 0 |
| The area of the basin is 10 to 100 times the area of the unit | points = 3 | |
| The area of the basin is more than 100 times the area of the unit | points = 0 | |
| Entire wetland is in the Flats class | points = 5 | |

Total for D 4 Add the points in the boxes above 5

Rating of Site Potential If score is: 12-16 = H 6-11 = M X 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? Yes = 1 No = 0 0

D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0 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.)? Yes = 1 No = 0 1

Total for D 5 Add the points in the boxes above 2

Rating of Landscape Potential If score is: 3 = H X 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. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.

- | | | |
|---|------------|---|
| The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): | | 1 |
| • Flooding occurs in a sub-basin that is immediately down-gradient of unit. | points = 2 | |
| • Surface flooding problems are in a sub-basin farther down-gradient. | points = 1 | |
| Flooding from groundwater is an issue in the sub-basin. | points = 1 | |
| 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. Explain why _____ | points = 0 | |
| 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? Yes = 2 No = 0 0

Total for D 6 Add the points in the boxes above 1

Rating of Value If score is: 2-4 = H X 1 = M 0 = L

Record the rating on the first page

Wetland name or number _____

These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

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

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

- | | |
|---|----------------------------------|
| <input checked="" type="checkbox"/> Aquatic bed | 4 structures or more: points = 4 |
| <input checked="" type="checkbox"/> Emergent | 3 structures: points = 2 |
| <input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover) | 2 structures: points = 1 |
| <input checked="" type="checkbox"/> Forested (areas where trees have > 30% cover) | 1 structure: points = 0 |
- If the unit has a Forested class, check if:*
- ☐ The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon

2

H 1.2. Hydroperiods

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

- | | |
|--|-------------------------------------|
| <input checked="" type="checkbox"/> Permanently flooded or inundated | 4 or more types present: points = 3 |
| <input type="checkbox"/> Seasonally flooded or inundated | 3 types present: points = 2 |
| <input type="checkbox"/> Occasionally flooded or inundated | 2 types present: points = 1 |
| <input checked="" type="checkbox"/> Saturated only | 1 type present: points = 0 |
- ☐ Permanently flowing stream or river in, or adjacent to, the wetland
- ☐ Seasonally flowing stream in, or adjacent to, the wetland
- ☐ **Lake Fringe wetland** **2 points**
- ☐ **Freshwater tidal wetland** **2 points**

1

H 1.3. Richness of plant species

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

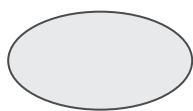
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. **Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle***

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

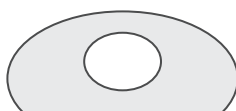
1

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.*



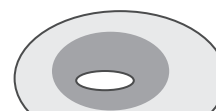
None = 0 points



Low = 1 point

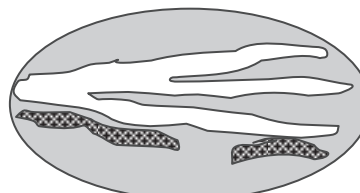
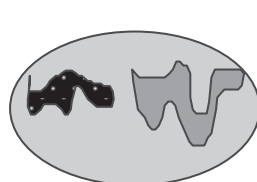


Moderate = 2 points



2

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



Wetland name or number A

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (dbh > 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><input checked="" 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 (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><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 (<i>structures for egg-laying by amphibians</i>)</p> <p><input checked="" type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		2
Total for H 1	Add the points in the boxes above	8

Rating of Site Potential If score is: 15-18 = H X 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 <i>only habitat that directly abuts wetland unit</i>).</p> <p>Calculate: <u>6.65</u> % undisturbed habitat + [(% moderate and low intensity land uses) <u>8.74</u> /2] = <u>11.02</u> %</p> <p>If total accessible habitat is:</p> <p>> 1/3 (33.3%) of 1 km Polygon points = 3</p> <p>20-33% of 1 km Polygon points = 2</p> <p>10-19% of 1 km Polygon points = 1</p> <p>< 10% of 1 km Polygon points = 0</p>		1
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: <u>16.12</u> % undisturbed habitat + [(% moderate and low intensity land uses) <u>47.78</u> /2] = <u>40.010000000000000000</u> %</p> <p>Undisturbed habitat > 50% of Polygon points = 3</p> <p>Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p>Undisturbed habitat 10-50% and > 3 patches points = 1</p> <p>Undisturbed habitat < 10% of 1 km Polygon points = 0</p>		1
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>> 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p>≤ 50% of 1 km Polygon is high intensity points = 0</p>		0
Total for H 2	Add the points in the boxes above	2

Rating of Landscape Potential If score is: 4-6 = H X 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></p> <p>Site meets ANY of the following criteria: points = 2</p> <p><input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)</p> <p><input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p><input type="checkbox"/> It is mapped as a location for an individual WDFW priority species</p> <p><input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p><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</p> <p>Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p>Site does not meet any of the criteria above points = 0</p>		2

Rating of Value If score is: X 2 = H 1 = M 0 = L

Record the rating on the first page

WDFW Priority Habitats

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

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

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ✗ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- ✗ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- ✗ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <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	
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? <input type="checkbox"/> Yes = Category I <input type="checkbox"/> No - Go to SC 1.2	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <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 page 25) <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 unmowed grassland. <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"/> Yes = Category I <input type="checkbox"/> No = Category II	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <input type="checkbox"/> Yes – Go to SC 2.2 <input checked="" type="checkbox"/> No – Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <input type="checkbox"/> Yes = Category I <input checked="" type="checkbox"/> No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <input type="checkbox"/> Yes – Contact WNHP/WDNR and go to SC 2.4 <input checked="" type="checkbox"/> No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? <input type="checkbox"/> Yes = Category I <input checked="" type="checkbox"/> No = Not a WHCV	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> 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 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"/> Yes – Go to SC 3.3 <input checked="" type="checkbox"/> No = Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? <input type="checkbox"/> Yes = Is a Category I bog <input type="checkbox"/> No – Go to SC 3.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? <input type="checkbox"/> Yes = Is a Category I bog <input type="checkbox"/> No = Is not a bog	

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> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). <p><input type="checkbox"/> Yes = Category I <input checked="" type="checkbox"/> No = Not a forested wetland for this section</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> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) <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> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than 1/10 ac (4350 ft²) <p><input type="checkbox"/> Yes = Category I <input type="checkbox"/> No = Category 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> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 <p><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"/> 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"/> 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"/> Yes = Category III <input type="checkbox"/> No = Category 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>	

Wetland name or number A

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Wetland name or number B

RATING SUMMARY – Western Washington

Name of wetland (or ID #): B Date of site visit: 07/03/19
Rated by Rachael Hyland, Laura Livingston Trained by Ecology? ☒ Yes ☐ No Date of training _____
HGM Class used for rating Depressional Wetland has multiple HGM classes? ☐ Y ☒ N

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

Source of base aerial photo/map ESRI ArcGIS

OVERALL WETLAND CATEGORY III (based on functions ☒ or special characteristics ☐)

1. Category of wetland based on FUNCTIONS

_____ **Category I** – Total score = 23 - 27
_____ **Category II** – Total score = 20 - 22
☒ **Category III** – Total score = 16 - 19
_____ **Category IV** – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate ratings				
Site Potential	M	L	L	
Landscape Potential	M	M	M	
Value	H	M	H	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	N/A

Wetland name or number B

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

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

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<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 undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<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 undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<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 undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetlands in Western Washington

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

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

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

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

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

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

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

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

- ☒ NO – go to 3 ☐ YES – The wetland class is **Flats**
*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

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

- ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

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

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

- ☐ The wetland is on a slope (*slope can be very gradual*),
☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
☐ The water leaves the wetland **without being impounded**.

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

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

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

- ☐ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
☐ The overbank flooding occurs at least once every 2 years.

Wetland name or number B

☒ 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	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

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

Wetland name or number B

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. <u>Characteristics of surface water outflows from the wetland:</u> Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	1
D 1.2. <u>The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions).</u> Yes = 4 No = 0	0
D 1.3. <u>Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</u> Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > 1/2 of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	3
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u> <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > 1/2 total area of wetland points = 4 Area seasonally ponded is > 1/4 total area of wetland points = 2 Area seasonally ponded is < 1/4 total area of wetland points = 0	4
Total for D 1	Add the points in the boxes above 8

Rating of Site Potential If score is: 12-16 = H X 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? Yes = 1 No = 0	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	0
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 _____ Yes = 1 No = 0	0
Total for D 2	Add the points in the boxes above 1

Rating of Landscape Potential If score is: 3 or 4 = H X 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? Yes = 1 No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 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 for the basin in which the unit is found)? Yes = 2 No = 0	2
Total for D 3	Add the points in the boxes above 3

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

NOTES and FIELD OBSERVATIONS:

Wetland name or number B

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:

- | | | |
|---|------------|---|
| Wetland is a depression or flat depression with no surface water leaving it (no outlet) | points = 4 | 0 |
| Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet | points = 2 | |
| Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch | points = 1 | |
| 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.

- | | | |
|--|------------|---|
| Marks of ponding are 3 ft or more above the surface or bottom of outlet | points = 7 | 3 |
| Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet | points = 5 | |
| Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet | points = 3 | |
| The wetland is a "headwater" wetland | points = 3 | |
| Wetland is flat but has small depressions on the surface that trap water | points = 1 | |
| 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 wetland to the area of the wetland unit itself.

- | | | |
|---|------------|---|
| The area of the basin is less than 10 times the area of the unit | points = 5 | 0 |
| The area of the basin is 10 to 100 times the area of the unit | points = 3 | |
| The area of the basin is more than 100 times the area of the unit | points = 0 | |
| Entire wetland is in the Flats class | points = 5 | |

Total for D 4 Add the points in the boxes above 3

Rating of Site Potential If score is: 12-16 = H 6-11 = M X 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? Yes = 1 No = 0 0

D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0 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.)? Yes = 1 No = 0 1

Total for D 5 Add the points in the boxes above 2

Rating of Landscape Potential If score is: 3 = H X 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. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.

- | | | |
|---|------------|---|
| The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): | | 1 |
| • Flooding occurs in a sub-basin that is immediately down-gradient of unit. | points = 2 | |
| • Surface flooding problems are in a sub-basin farther down-gradient. | points = 1 | |
| Flooding from groundwater is an issue in the sub-basin. | points = 1 | |
| 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. Explain why _____ | points = 0 | |
| 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? Yes = 2 No = 0 0

Total for D 6 Add the points in the boxes above 1

Rating of Value If score is: 2-4 = H X 1 = M 0 = L

Record the rating on the first page

Wetland name or number _____



These questions apply to wetlands of all HGM classes.

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

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

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

- | | |
|---|----------------------------------|
| <input type="checkbox"/> Aquatic bed | 4 structures or more: points = 4 |
| <input checked="" type="checkbox"/> Emergent | 3 structures: points = 2 |
| <input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover) | 2 structures: points = 1 |
| <input checked="" type="checkbox"/> Forested (areas where trees have > 30% cover) | 1 structure: points = 0 |

If the unit has a Forested class, check if:

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

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 or ¼ ac to count (*see text for descriptions of hydroperiods*).

- | | |
|--|-------------------------------------|
| <input type="checkbox"/> Permanently flooded or inundated | 4 or more types present: points = 3 |
| <input checked="" type="checkbox"/> Seasonally flooded or inundated | 3 types present: points = 2 |
| <input type="checkbox"/> Occasionally flooded or inundated | 2 types present: points = 1 |
| <input type="checkbox"/> Saturated only | 1 type present: points = 0 |
| <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland | |
| <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland | |
| <input type="checkbox"/> Lake Fringe wetland | 2 points |
| <input type="checkbox"/> Freshwater tidal wetland | 2 points |

0

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, Canadian thistle

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

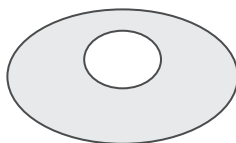
1

H 1.4. Interspersion of habitats

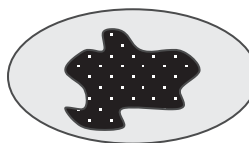
Decide from the diagrams below whether interspersions among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



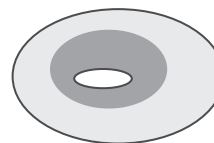
None = 0 points



Low = 1 point

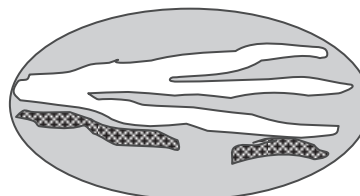
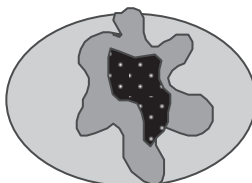
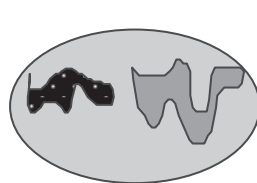


Moderate = 2 points



1

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



Wetland name or number B

<p>H 1.5. Special habitat features:</p> <p>Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i></p> <p><input checked="" type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).</p> <p><input checked="" type="checkbox"/> Standing snags (dbh > 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)</p> <p><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 (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>)</p> <p><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 (<i>structures for egg-laying by amphibians</i>)</p> <p><input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		2
Total for H 1	Add the points in the boxes above	5

Rating of Site Potential If score is: 15-18 = H 7-14 = M X 0-6 = L

Record the rating on the first page

H 2.0. Does the landscape have the potential to support the habitat functions of the site?		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p>Calculate: <u>6.65</u> % undisturbed habitat + [(% moderate and low intensity land uses) <u>8.74</u> /2] = <u>11.02</u> %</p> <p>If total accessible habitat is:</p> <p>> 1/3 (33.3%) of 1 km Polygon points = 3</p> <p>20-33% of 1 km Polygon points = 2</p> <p>10-19% of 1 km Polygon points = 1</p> <p>< 10% of 1 km Polygon points = 0</p>		1
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: <u>16.12</u> % undisturbed habitat + [(% moderate and low intensity land uses) <u>41.78</u> /2] = <u>37.010000000000000000</u> %</p> <p>Undisturbed habitat > 50% of Polygon points = 3</p> <p>Undisturbed habitat 10-50% and in 1-3 patches points = 2</p> <p>Undisturbed habitat 10-50% and > 3 patches points = 1</p> <p>Undisturbed habitat < 10% of 1 km Polygon points = 0</p>		1
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>> 50% of 1 km Polygon is high intensity land use points = (- 2)</p> <p>≤ 50% of 1 km Polygon is high intensity points = 0</p>		0
Total for H 2	Add the points in the boxes above	2

Rating of Landscape Potential If score is: 4-6 = H X 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></p> <p>Site meets ANY of the following criteria: points = 2</p> <p><input checked="" type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page)</p> <p><input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p><input type="checkbox"/> It is mapped as a location for an individual WDFW priority species</p> <p><input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p><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</p> <p>Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1</p> <p>Site does not meet any of the criteria above points = 0</p>		2

Rating of Value If score is: X 2 = H 1 = M 0 = L

Record the rating on the first page

Wetland name or number B

WDFW Priority Habitats

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

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

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- ✗ **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- ✗ **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- ✗ **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

Wetland name or number B

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>	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? <input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <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	
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? <input type="checkbox"/> Yes = Category I <input type="checkbox"/> No - Go to SC 1.2	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? <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 page 25) <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 unmowed grassland. <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"/> Yes = Category I <input type="checkbox"/> No = Category II	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <input type="checkbox"/> Yes – Go to SC 2.2 <input checked="" type="checkbox"/> No – Go to SC 2.3 SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? <input type="checkbox"/> Yes = Category I <input checked="" type="checkbox"/> No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf <input type="checkbox"/> Yes – Contact WNHP/WDNR and go to SC 2.4 <input checked="" type="checkbox"/> No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? <input type="checkbox"/> Yes = Category I <input checked="" type="checkbox"/> No = Not a WHCV	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> 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 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"/> Yes – Go to SC 3.3 <input checked="" type="checkbox"/> No = Is not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? <input type="checkbox"/> Yes = Is a Category I bog <input type="checkbox"/> No – Go to SC 3.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? <input type="checkbox"/> Yes = Is a Category I bog <input type="checkbox"/> No = Is not a bog	

Wetland name or number B

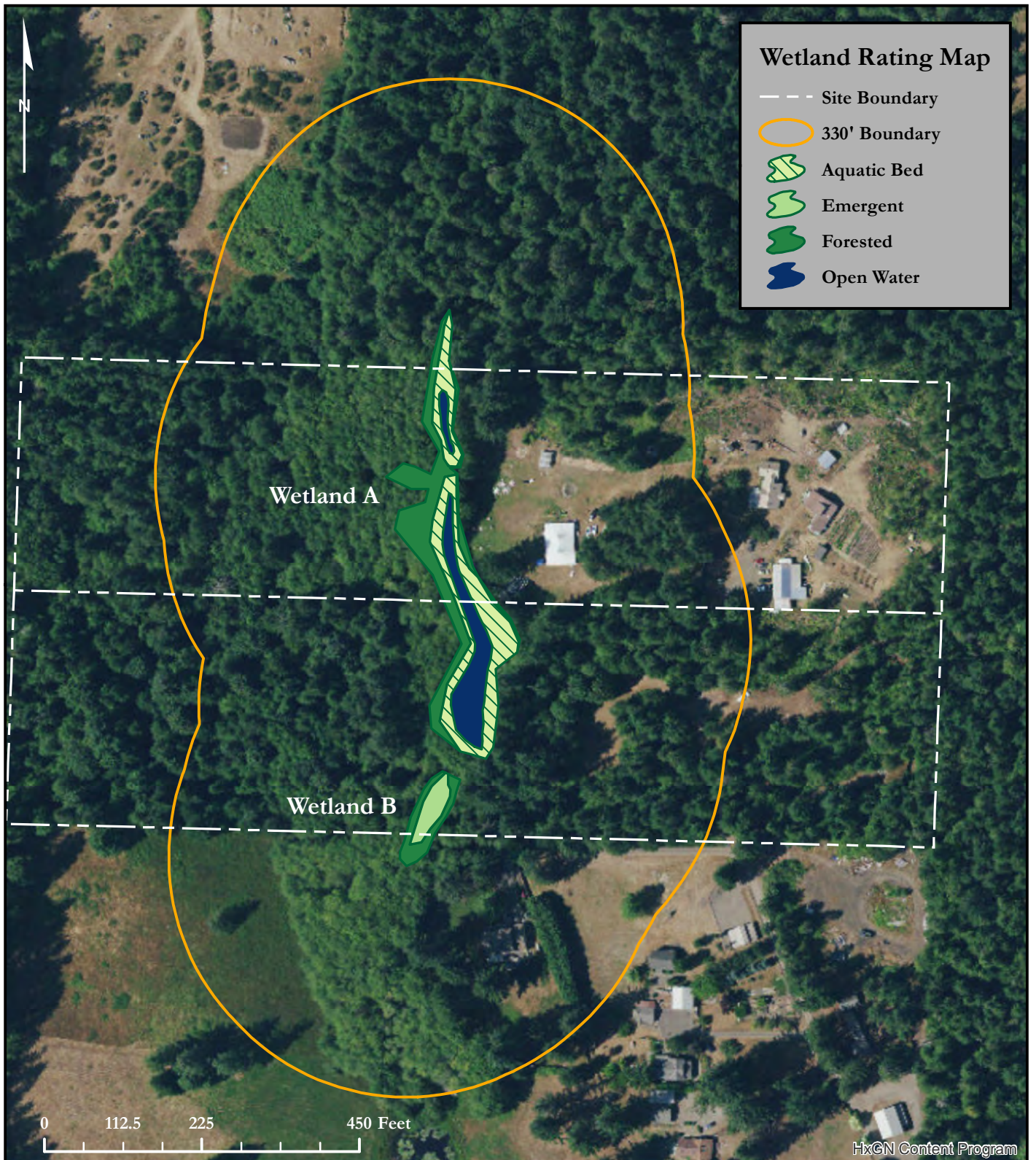
<p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). <p><input type="checkbox"/> Yes = Category I <input checked="" type="checkbox"/> No = Not a forested wetland for this section</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> <ul style="list-style-type: none"> — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) <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> <ul style="list-style-type: none"> — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland is larger than 1/10 ac (4350 ft²) <p><input type="checkbox"/> Yes = Category I <input type="checkbox"/> No = Category 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> <ul style="list-style-type: none"> — Long Beach Peninsula: Lands west of SR 103 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 <p><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"/> 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"/> 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"/> Yes = Category III <input type="checkbox"/> No = Category 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>	

Wetland name or number B

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Attachment E –Wetland Rating Maps

COURTER LANE NW - COWARDIN MAP



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COURTER LANE NW

12000 COURTER LANE NW
POULSBO, WA 98370

KITSAP COUNTY PARCEL NUMBERS:
102501-4-002-2004

DATE: 12/2/2019

JOB: 1926.0001

BY: DLS

SCALE: 1" = 200'

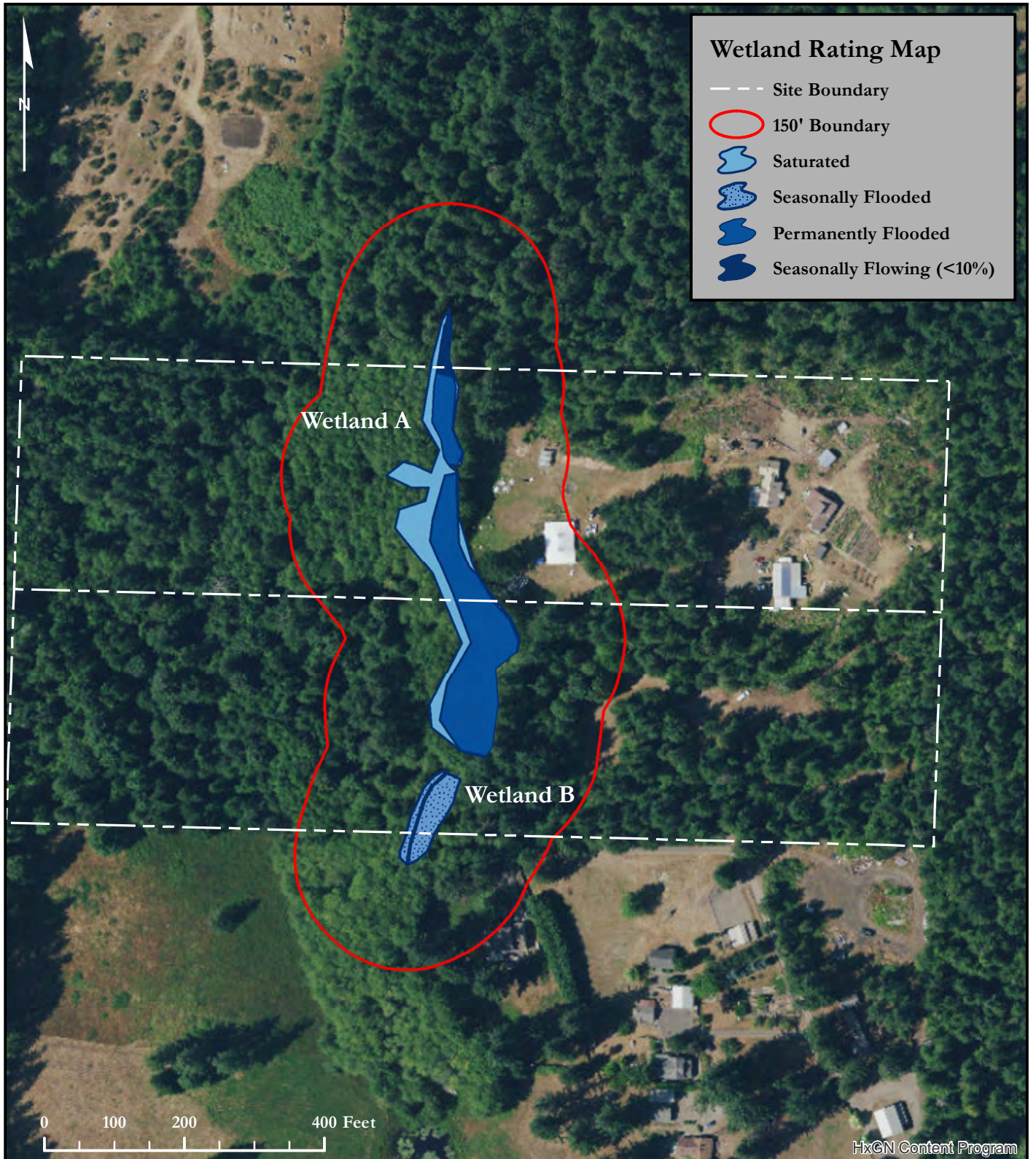
FIGURE NO. 1 of 5

Permit Number: 19-01265

COURTER LANE NW - HYDROPERIOD MAP

Wetland Rating Map

- Site Boundary
- 150' Boundary
- Saturated
- Seasonally Flooded
- Permanently Flooded
- Seasonally Flowing (<10%)




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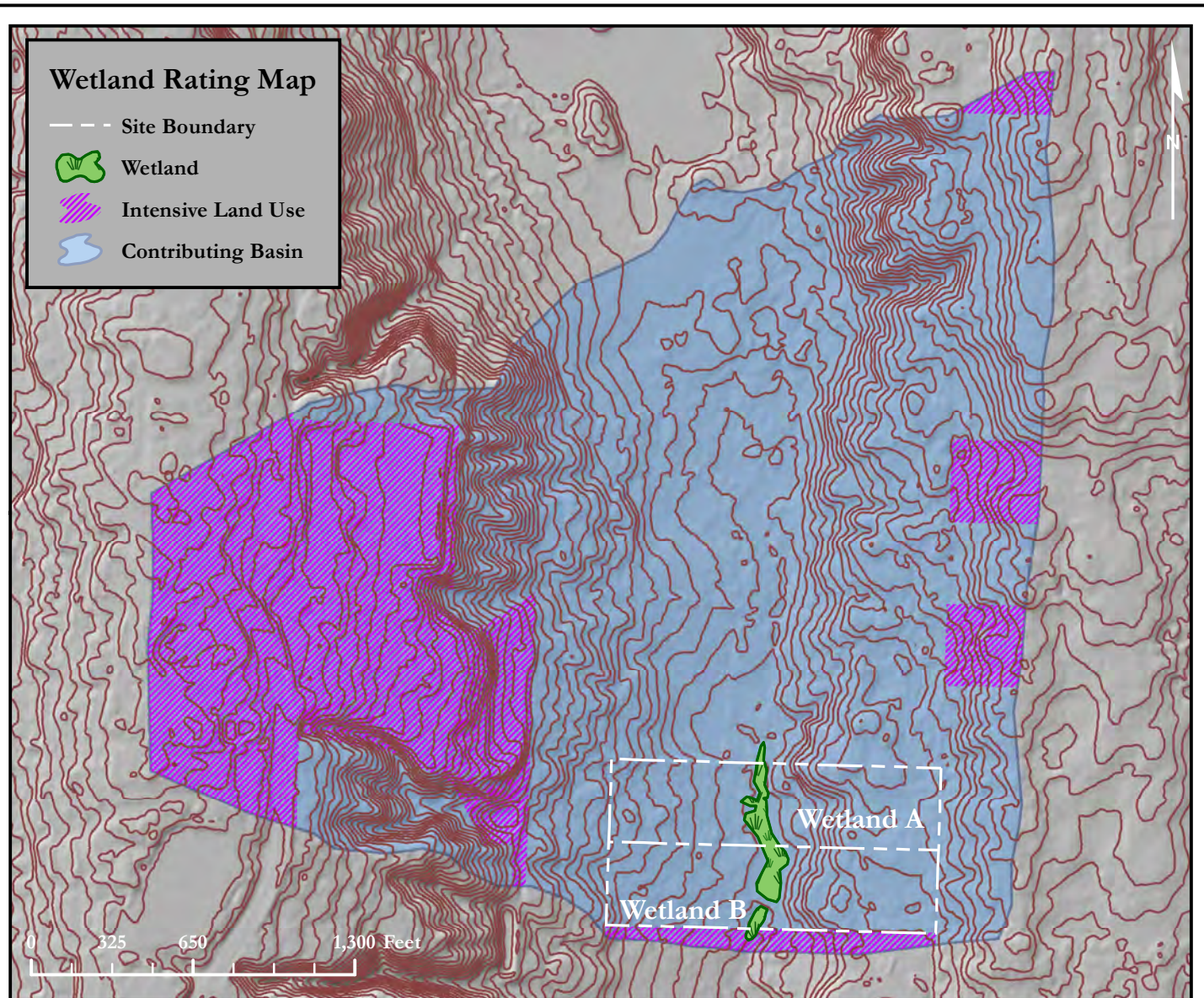
BY: DLS

SCALE: 1" = 200'

FIGURE NO. 2 of 5

Permit Number: 19-01265

COURTER LANE NW - CONTRIBUTING BASIN MAP



D.4.0		
D.4.3		
	Area of Contributing Basin (SF)	8,780,844
	Area of Wetland A (SF)	39,460
	Percent of Wetland A within Contributing Basin	0.449%
	Area of Wetland B (SF)	5,474
	Percent of Wetland B within Contributing Basin	0.062%
	Area of Intensive Human Land Uses (SF)	2,306,068
	Percent of Intensive Human Land Use within Contributing Basin for Wetland A & B	26%


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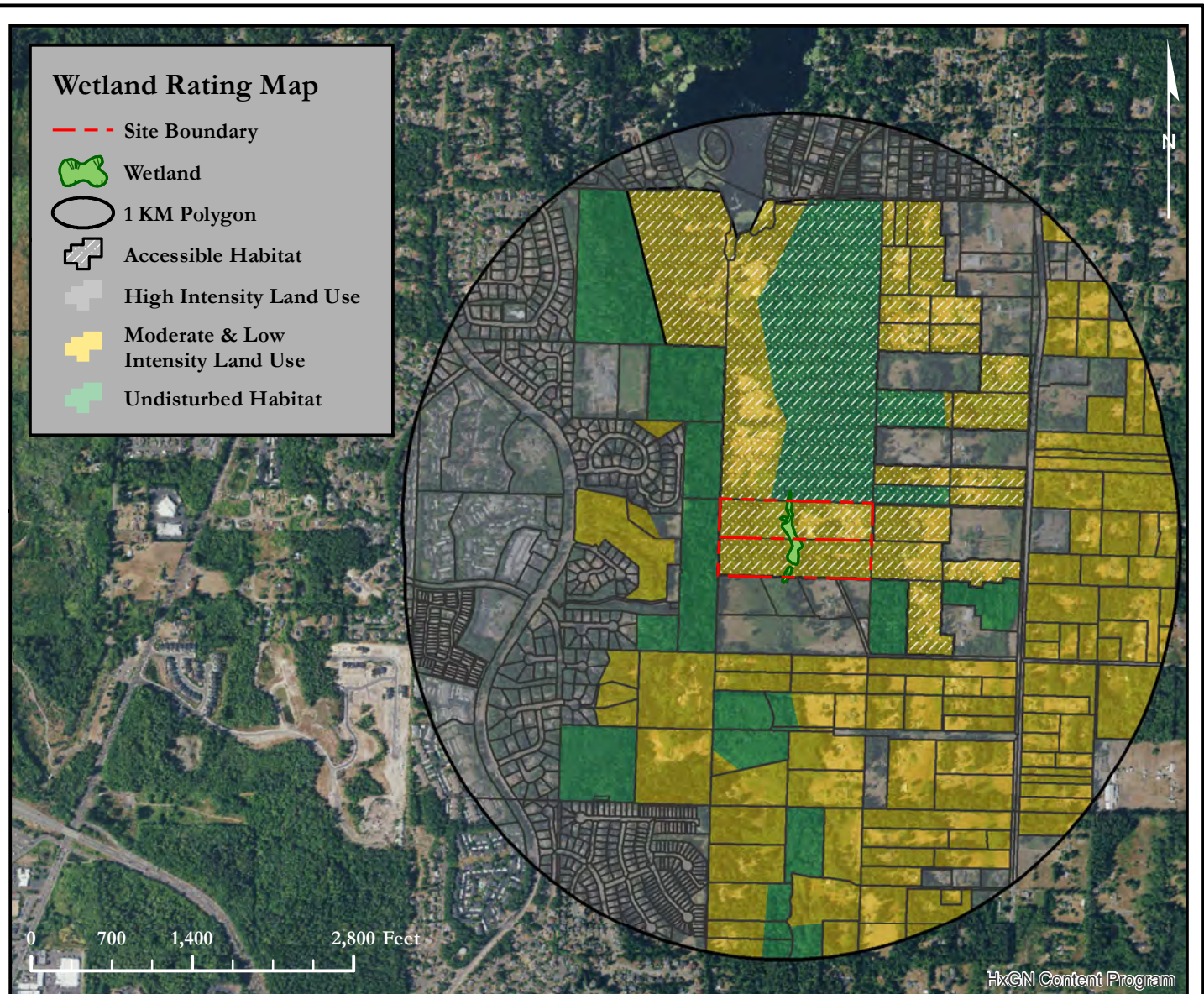
COURTER LANE NW

12000 COURTER LANE NW
POULSBO, WA 98370

KITSAP COUNTY PARCEL NUMBERS:
102501-4-002-2004

DATE: 12/2/2019
JOB: 1926.0001
BY: DLS
SCALE: 1" = 650'
FIGURE NO. 3 of 5

COURTER LANE NW - HABITAT MAP



H.2.0 Wetland A & B		
H.2.1		
	Abutting Undisturbed Habitat	6.65%
	Abutting Moderate & Low Intensity Land Uses	8.74%
	Accessible Habitat	11.02%
H.2.2		
	Undisturbed Habitat	16.12%
	Moderate & Low Intensity Land Uses	41.78%
	Undisturbed Habitat in 1 KM Polygon	37.01%
H.2.3		
	High Intensity Land Use in 1 KM Polygon	42.10%


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DATE: 12/2/2019

JOB: 1926.0001

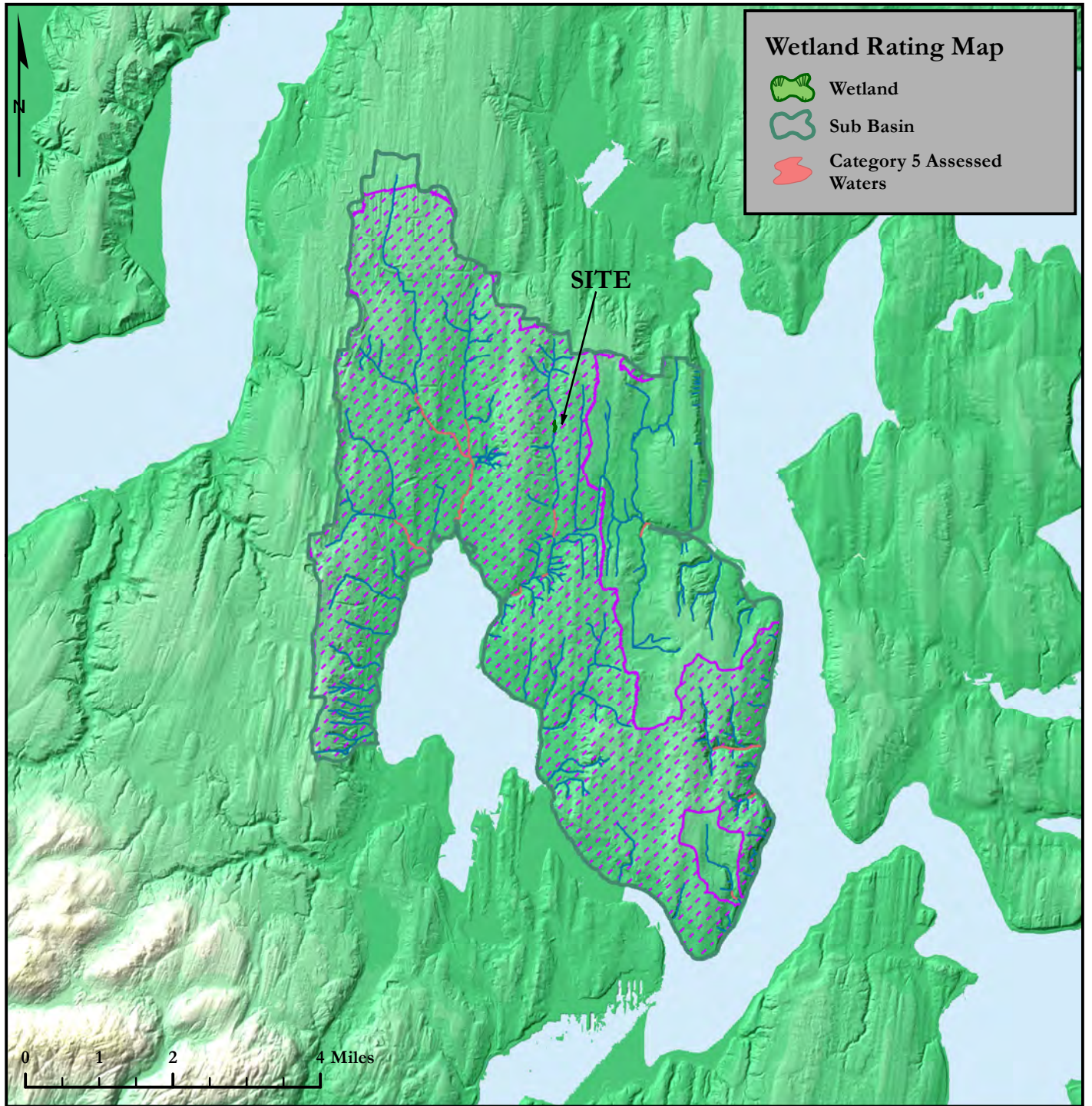
BY: DLS

SCALE: 1" = 1,400'

FIGURE NO. 4 of 5

Permit Number: 19-01265

COURTER LANE NW - 303(D) MAP



Name	Pollutants	TMDL IS	Status
Liberty Bay Watershed Bacteria TMDL	Bacteria	107	Approved
Sinclair and Dyes Inlets Tributaries Bacteria TMDL	Bacteria	130	Approved


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POULSBORO, WA 98370

KITSAP COUNTY PARCEL NUMBERS:
102501-4-002-2004

DATE: 12/2/2019

JOB: 1926.0001

BY: DLS

SCALE: 1" = 2 mi

FIGURE NO. 5 of 5

Permit Number: 19-01265

Attachment F – Proposed Mitigation and Voluntary Enhancement Areas

Proposed Buffer Enhancement Area for Mitigation



Proposed Voluntary Enhancement Planting Area



Attachment G – Qualifications

All field inspections, jurisdictional wetland determinations, OHW determinations, habitat assessments, and supporting documentation, including this *Wetland and Fish and Wildlife Habitat Assessment and Mitigation Plan* prepared for *Courter Lane NW*, were prepared by, or under the direction of, Racheal Villa of SVC. In addition, site inspections were performed by Rachael Hyland, and report preparation was performed by Bela Garcia and Kelly Kramer.

Racheal Villa

Senior Scientist and Fisheries Biologist

Professional Experience: 14 years

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

Racheal earned a Bachelor of Science degree in Fisheries Biology from the University of Washington, Seattle, with additional graduate level training in salmonid behavior and life history; restoration of fish communities and habitats in river ecosystems; biological problems with water pollution; and biomonitoring and assessment. In addition, she has received formal training in Compensatory Mitigation and Restoration Projects, Determining the Ordinary High Water Mark, the revised Washington State Wetland Rating System, Selecting Wetland Mitigation Sites Using a Watershed Approach from the Washington State Department of Ecology; Biological Assessment Preparation for Transportation Projects from the Washington State Department of Transportation; and Seagrass Biology, Delineation, and Mapping from the United States Army Corps of Engineers. She is also a Pierce County qualified Fisheries Biologist and qualified Wetland Specialist.

Rachael Hyland

Environmental Scientist

Professional Experience: 6 years

Rachael Hyland is a Wetland Professional in Training (WPIT) through the Society of Wetland Scientists and a Certified Associated Ecologist through the Ecological Society of America. Rachael has a background in wetland and ecological habitat assessments in various states, most notably Connecticut, Massachusetts, Rhode Island, Ohio, and Washington. She has experience in assessing tidal, stream, and wetland systems, reporting on biological evaluations, permitting, and site assessments. She also has extensive knowledge of bats and white nose syndrome (*Pseudogymnoascus destructans*), a fungal disease affecting bats which was recently documented in Washington.

Rachael earned a Bachelor of Science degree in Ecology and Evolutionary Biology from the University of Connecticut, with additional ecology studies at the graduate level. Rachael has completed Basic Wetland Delineator Training with the Institute for Wetland Education and Environmental Research, received 40-hour wetland delineation training (Western Mountains, Valleys, & Coast and Arid West Regional Supplement), and received formal training from the Washington State Department of Ecology in the Using the Revised 2014 Wetland Rating System for Western Washington, How to Determine the Ordinary High Water Mark, Navigating SEPA, and Selecting Wetland Mitigation Sites Using a Watershed Approach.

Bela Garcia

Staff Scientist

Bela Garcia is a Staff Scientist with a background in environmental science and restoration in Washington State. Bela earned her Bachelor of Science degree in Environmental Science and Resource Management from University of Washington, Seattle. There she received extensive, hands-on experience working in lab and field settings, and studying local organisms and ecosystems. One of her more exceptional projects was the planning, managing and restoration of a site within a local park in Kirkland, Washington. This project required volunteer management, report writing to communicate site plans with city officials, and knowledge of restoration techniques and native plants to ensure succession to a multi-layered, diverse forest ecosystem. Bela has also participated in research on the effects of table salt on juvenile ghost shrimp which involved following of the scientific method to conduct a thorough investigation, technical writing skills to create a scientific paper and presentation of results to the Washington Shellfish Growers Conference.

Bela currently assists in wetland, stream, and shoreline delineations and fish and wildlife habitat assessments; conducts environmental code analysis; and prepares environmental assessment and mitigation reports, biological evaluations, and permit applications to support clients through the regulatory and planning process for various land use projects.

Kelly Kramer

Staff Project Scientist

Professional Experience: 3 years

Kelly Kramer is a Staff Project Scientist with a diverse background in academic research, teaching and extension, as well as industry experience in agriculture. Kelly has expertise in scientific writing, college level teaching, research project management, data organization and statistical analysis, plant identification, forage extension, and farm and pasture management. Kelly has field experience performing in-depth pasture evaluations throughout central Kentucky, and professional experience managing client relations of a thoroughbred breeding farm.

Kelly earned a Master of Science degree in Integrated Plant and Soil Science, Graduate Certificate in College Teaching and Learning, and Bachelor of Science degree in Equine Science and Management from the University of Kentucky. Her graduate research focused on non-structural carbohydrate variation of cool-season grass pastures, and her graduate coursework included studying ecology of grazing lands in Texas, New Mexico, and Colorado. She has received 40-hour wetland delineation training (Western Mtns, Valleys, & Coast and Arid West Regional Supplement), and has been formally trained through the Coastal Training Program in Using Field Indicators for Hydric Soils. Kelly currently assists in wetland, stream, and shoreline delineations and fish and wildlife habitat assessments; conducts environmental code analysis; and prepares environmental assessment and mitigation reports, biological evaluations, and permit applications to support clients through the regulatory and planning process for various land use projects.