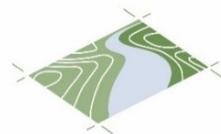


# WETLAND AND FISH AND WILDLIFE HABITAT ASSESSMENT REPORT

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## PIONEER POINT

SEPTEMBER 2021



**Soundyview  
Consultants**

Environmental Assessment  
Planning + Land Use Solutions

# WETLAND AND FISH AND WILDLIFE HABITAT ASSESSMENT REPORT

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## PIONEER POINT

SEPTEMBER 3, 2021

### PROJECT LOCATION

ADJACENT TO 830 PORTAGE STREET  
ARLINGTON, WASHINGTON 98223

### PREPARED FOR

**RANDY BROCKWAY**

**LAVOY INC.**

11014 19<sup>TH</sup> AVENUE SOUTHEAST, SUITE #8-315  
EVERETT, WASHINGTON 98208

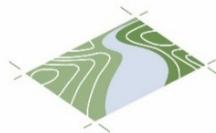
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**Soundview  
Consultants**

Environmental Assessment  
Planning + Land Use Solutions

## Executive Summary

Soundview Consultants LLC (SVC) has been supporting Lavoy Inc. (Applicant) with a wetland and fish and wildlife habitat assessment to assist with planning for proposed residential development of a 15.34-acre site located adjacent to 830 Portage Street in the City of Arlington, Snohomish County, Washington. The subject property consists of three parcels situated in the Southwest ¼ of Section 12, Township 31 North, Range 5 East, W.M. (Snohomish County Tax Parcel Numbers 31051200301000, 31051200301400, 31051200301500).

SVC investigated the subject property for the presence of potentially regulated wetlands, waterbodies, and other fish and wildlife habitat in April of 2021. Using current methodology, the site investigations identified two potentially regulated wetlands (Wetlands A and C), two potentially regulated streams (Streams Z [Eagle Creek] and Y [Kruger Creek]), and one pond (Pond B) on the subject property in addition to one wetland (offsite Wetland D) within 300 feet of the subject property. Wetlands A and C are classified as a Category IV wetlands. Per Arlington Municipal Code (AMC) 20.93.830 Table 20.93-4, Category IV wetlands require a standard 40-foot buffer. Offsite Wetland D is classified as a Category III wetland with a moderate habitat score of 6 points which requires a standard 165-foot buffer. Standard wetland buffers require the use of the minimization measures identified in AMC 20.93.830 Table 20.93-5. Stream Z is classified as a Type F water; given that no known listed ESA species have been recorded within or near the stream by DNR or WDFW, Stream Z is subject to a standard 100-foot buffer per AMC 20.93.730 Table 20.93-3. Per AMC 20.93.700(a)(2), Stream Y is classified as a Type F-ESA stream due to the presumed and gradient accessible presence of chinook salmon and steelhead trout. As such, Stream Y is subject to a standard 150-foot buffer. Pond B meets criteria of a pond per AMC 20.93.100 and was determined to be regulated as a common area pond during Phase 1 (City of Arlington PLN# 107), requiring a 25-foot greenbelt buffer. An additional 15-foot building setback is required from the edge of any critical area buffer per AMC 20.93.340. No other potentially regulated wetlands or fish and wildlife habitat were identified within 300 feet of the subject property.

The summary table below identifies potential regulatory status of the identified critical areas by local, state, and federal agencies.

Feature Name	Size/Length Onsite	Category/Type <sup>1</sup>	Regulated Under AMC Chapter 20.93	Regulated Under RCW 90.48	Regulated Under Section 404 of the Clean Water Act
Wetland A	~2,842 sf	IV	Yes	Yes	Not Likely
Wetland C	~3,490 sf	IV	Yes	Yes	Not Likely
Offsite Wetland D	N/A - offsite	III	Yes	Yes	Likely
Stream Z (Eagle Creek)	~125 linear ft	Type F	Yes	Yes	Likely
Stream Y (Kruger Creek)	~165 linear ft	Type F-ESA	No	Yes	Likely
Pond B	~76,325 sf	N/A	Yes	Yes	Not Likely

**Note:**

1. Current Washington State Department of Ecology (WSDOE) and AMC 20.93.100 wetland definitions; current Washington State Department of Natural Resources (DNR) water typing system and AMC 20.93.100 stream definitions.

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- Appendix A — Methods and Tools
- Appendix B — Background Information
- Appendix C — Existing Conditions Exhibit
- Appendix D — Data Forms
- Appendix E — Wetland Rating Forms
- Appendix F — Wetland Rating Maps
- Appendix G – Site Photographs
- Appendix H – Qualifications

# Chapter 1. Introduction

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Soundview Consultants LLC (SVC) has been supporting Lavoy Inc. (Applicant) with a wetland and fish and wildlife habitat assessment to assist with planning for proposed residential development of a 15.34-acre site located adjacent to 830 Portage Street in the City of Arlington, Snohomish County, Washington. The subject property consists of three parcels situated in the Southwest ¼ of Section 12, Township 31 North, Range 5 East, W.M. (Snohomish County Tax Parcel Numbers 31051200301000, 31051200301400, 31051200301500).

The purpose of this assessment is to identify the presence of potentially regulated wetlands, waterbodies, and fish and wildlife habitat, and/or priority species on or near the subject site.

This report provides conclusions and recommendations regarding:

- Site description and area of assessment;
- Background research and identification of potentially regulated critical areas within the vicinity of the proposed project;
- Identification and assessment of potentially regulated wetlands and other hydrologic features;
- Identification and assessment of potentially regulated fish and wildlife habitat;
- Existing site map detailing identified critical areas and standard buffers; and
- Supplemental information necessary for regulatory review.

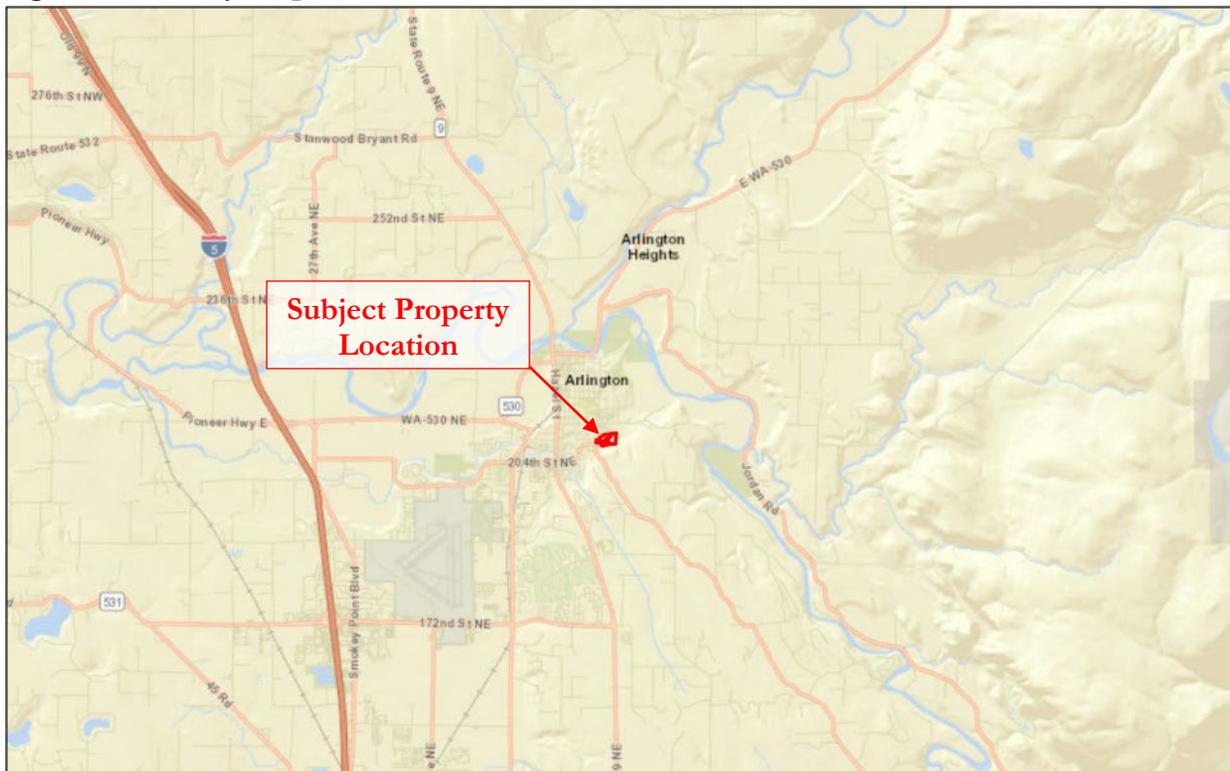
# Chapter 2. Proposed Project

## 2.1 Project Location

The subject property consists of a 15.34-acre site located adjacent to 830 Portage Street in the City of Arlington, Snohomish County, Washington (Figure 1). The subject property consists of three parcels situated in the Southwest ¼ of Section 12, Township 31 North, Range 5 East, W.M. (Snohomish County Tax Parcel Numbers 31051200301000, 31051200301400, 31051200301500).

To access the subject property from Interstate-5 North, take exit 208 for WA-530 toward Arlington/Darrington. Continue on Highway 530 East for 3.7 miles and turn right onto WA-9 South. After 0.8 mile, turn left onto East Highland Drive. Continue for 0.5 mile and turn right onto South Stillaguamish Avenue, where the subject property will be on the left after 0.2 mile.

Figure 1. Vicinity Map.



## Chapter 3. Methods

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SVC investigated, delineated, and assessed wetlands, waterbodies, and other potentially regulated fish and wildlife habitat areas on and within 300 feet of the project area in April of 2021. All determinations were made using observable vegetation, hydrology, and soils in conjunction with background data collected from the U.S. Geological Survey (USGS) topographic map, Natural Resources Conservation Service (NRCS) soil survey, U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) and SalmonScape mapping tools, Washington State Department of Natural Resources (DNR) water typing data, Snohomish County Geographic Information Systems (GIS) data, local precipitation data, and various orthophotographic resources. Appendix A contains further details for the methods and tools used to prepare this report.

Wetlands, streams, and select fish and wildlife habitats and species are regulated features per Arlington Municipal Code (AMC) Chapter 20.93 are subject to restricted uses/activities under the same title. In accordance with AMC 20.93.810, wetland boundaries were determined using the routine approach described in the U.S. Army Corps of Engineers (USACE) *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* (NRCS, 2018). Qualified wetland scientists marked boundaries of 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 3-foot lath or vegetation at formal sampling locations to mark the points where detailed data was collected (DP-1 to DP-9). Additional tests pits were excavated at regular intervals inside and outside of the wetland boundaries to further confirm the delineations.

Wetlands were classified using both the hydrogeomorphic (Brinson, 1993) and Cowardin (Cowardin, 1979; Federal Geographic Data Committee, 2013) classification systems. Following classification and assessment, all 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 AMC 20.93.800.

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

# Chapter 4. Existing Conditions

## 4.1 Landscape Setting

The subject property is located in an urban residential/agricultural setting within the City of Arlington (Figure 2). The subject property is entirely undeveloped with a powerline utility corridor running north/south through the eastern portion of the subject property. The property has been previously disturbed due to clearing, grading, and excavation activities. The subject property is bordered by high-density residential development to the north, single-family residences to the south, undeveloped forested areas to the east, and South Stillaguamish Avenue to the west. Topography onsite slopes down moderately from the southeast to the northwest, with elevations ranging between approximately 230 feet above mean sea level (amsl) to 140 amsl. A Snohomish County contours map is provided in Appendix B1. The subject property is located within Water Resource Inventory Area (WRIA) 5 for the Stillaguamish watershed.

**Figure 2. Aerial Image of Subject Property.**



## 4.2 Soils

The NRCS soil survey of Snohomish County, Washington, identifies two soil series on site: Norma silt loam and Pastik silt loam, 8 to 25 percent slopes. Below is a detailed description of the soil profiles. A NRCS soil survey map is provided in Appendix B2.

### **Norma loam (39)**

According to the NRCS survey, Norma loam is a deep, poorly drained soil formed in alluvium. Permeability is moderately rapid and water capacity is moderate. In a typical profile, the surface layer is very dark gray loam about 10 inches thick. The subsoil is dark grayish brown sandy loam about 18 inches thick. The substratum is a dark gray sandy loam to a depth of 60 inches or more. Norma loam is listed as 100 percent hydric (NRCS, N.d.).

### **Pastik silt loam, 8 to 25 percent slopes (48)**

According to the NRCS survey, Pastik silt loam, 8 to 25 percent slopes, is a very deep, moderately drained soil located on terraces formed from lacustrine deposits and volcanic ash. Permeability is slow and water capacity is high. In a typical profile, the surface layer is approximately 6 inches thick and is a dark brown ashy silt loam. From 6 to 29 inches, the subsoil is dark brown and yellowish-brown ashy silt loam. The substratum, to a depth of 60 inches or more, is light olive gray silt loam. Pastik silt loam, 8 to 25 percent slopes, is listed as 100 percent non-hydric (NRCS, N.d.).

## **4.3 Vegetation**

Upland vegetation onsite is dominated by tall fescue (*Schedonorus arundinaceus*), reed canarygrass (*Phalaris arundinacea*), and bluegrass (*Poa* sp.) with scattered red alder (*Alnus rubra*) trees and patches of non-native invasive Himalayan blackberry (*Rubus armeniacus*) throughout.

## **4.4 Wetland and Stream Inventories**

The USFWS NWI map (Appendix B3) and Snohomish County critical areas (Appendix B4) identify wetlands in the northern portion of the subject property and offsite to the east. Snohomish County, DNR stream typing map (Appendix B5), and WDFW SalmonScape map (Appendix B6) identify fish-bearing streams (Type-F) generally traversing the western and eastern limits of the subject property. No other potential wetlands or streams are identified on or within 300 feet of the subject property.

## **4.5 Priority Habitats and Species**

The WDFW SalmonScape map (Appendix B6) and WDFW PHS map (Appendix B7) identify the documented presence of coho, presumed presence of resident coastal cutthroat, and gradient accessible stream reaches for chinook, chum, and pink in the stream located on the western portion of the subject property. No other priority habitats or species are identified within 300 feet of the subject property.

## **4.6 Precipitation**

Precipitation data was obtained from the National Oceanic and Atmospheric Administration (NOAA) station at SeaTac International Airport in order to acquire percent of normal precipitation for the general Puget South region during and preceding the site investigations. A summary of data collected is provided in Table 1 below.

**Table 1. Precipitation**

<b>Date</b>	<b>Day Of</b>	<b>Day Before</b>	<b>1 Week Prior</b>	<b>2 Weeks Prior</b>	<b>30 Days Prior (Observed/Normal)</b>	<b>Year to Date (Observed/Normal)<sup>2</sup></b>	<b>Percent of Normal<sup>3</sup></b>
04/14/2021	0.00	0.00	0.27/0.92	0.27/1.76	2.10/3.86	31.12/31.18	54/100

Notes:

1. Precipitation levels provided in inches. Data obtained from NOAA (<http://w2.weather.gov/climate/xmacis.php?wfo=sew>) for SeaTac International Airport.
2. Year-to-date precipitation is for the 2020/2021 water year from October 1 to the onsite date.
3. Percent of normal is shown for the last 30 days and 2020/2021 water year.

Precipitation levels during the April 2021 site investigation were below the statistical normal range for the prior 30 days (54 percent of normal) and within the normal range for the 2020/2021 water year (90 percent of normal). These precipitation data suggest that hydrologic conditions during the time of the site investigation may have been slightly drier than normal. Such conditions were considered in making professional wetland boundary determinations.

## Chapter 5. Results

The April of 2021 site investigations identified two potentially regulated wetlands (Wetlands A and C), two potentially regulated streams (Streams Z [Eagle Creek] and Y [Kruger Creek]), and one pond (Pond B) on the subject property in addition to one wetland (offsite Wetland D) within 300 feet of the subject property. No other potentially regulated wetlands, waterbodies, fish and wildlife habitat, or priority species were identified within 300 feet of the subject property during the site investigation.

### 5.1 Wetlands

The four identified wetlands contained a predominance of hydrophytic vegetation, hydric soils (assumed for Offsite Wetland D), and indicators of wetland hydrology according to current wetland delineation methodology. The data forms are provided in Appendix D, wetland rating forms are provided in Appendix E, and wetland rating maps are provided in Appendix F. Table 2 summarizes the wetlands identified during the site investigation.

**Table 2. Wetland Summary**

Wetland	Predominant Wetland Classification / Rating				Wetland Size Onsite	Buffer Width (feet) <sup>5</sup>
	Cowardin <sup>1</sup>	HGM <sup>2</sup>	WSDOE <sup>3</sup>	City of Arlington <sup>4</sup>		
<b>A</b>	PEMB	Slope	IV	IV	~2,842 sf	40
<b>C</b>	PFO/EMCD	Depressional	IV	IV	~3,490 sf	40
<b>Offsite D</b>	PFOCD	Depressional	III	III	N/A	165

Notes:

1. Cowardin et al. (1979) or National Wetland Inventory (NWI) class based on vegetation: PFO = Palustrine Forested, PEM = Palustrine Emergent, PAB = Palustrine Aquatic Bed; Modifier for Water Regime: B = Seasonally Saturated, C = Seasonally Flooded, D = Continuously Saturated, H = Permanently Flooded.
2. Brinson, M. M. (1993).
3. WSDOE rating according to Washington State Wetland Rating System for Western Washington (Hruby, 2014).
4. AMC 20.93.800 wetland rating definitions.
5. Standard buffer requirements with the use of minimization measures based on habitat scores per AMC 20.93.830 Table 20.93-4.

#### Wetland A

Wetland A is approximately 2,842 square feet (0.07 acre) in size and is located in the northeastern portion of the subject property. Wetland vegetation is dominated by soft rush (*Juncus effusus*) and a bluegrass species (*Poa* sp.). Hydrology for Wetland A is primarily provided by a seasonally high groundwater table through hillside seeps, direct precipitation, and surface runoff from adjacent uplands. Wetland A is a Palustrine Emergent, Seasonally Saturated wetland (PEMB). Per AMC 20.93.800(b), Wetland A is a Category III slope wetland. Table 3 summarizes Wetland A.

#### Wetland C

Wetland C is approximately 3,490 square feet (0.08 acre) in size and located in the north-central portion of the subject property. Hydrology for Wetland C is provided by a seasonally high groundwater table, direct precipitation, and surface runoff from adjacent uplands. Wetland vegetation is dominated by willow and non-native invasive reed canarygrass. Wetland C is classified as a Palustrine Forested/Emergent, Seasonally Flooded and Continuously Saturated (PFO/EMCD) wetland. Per

AMC 20.93.800(b), Wetland C is a Category IV depressional wetland. Table 5 provides a detailed summary of Wetland C.

### **Offsite Wetland D**

Offsite Wetland D is located entirely offsite, approximately 35 feet east of the subject property. Offsite Wetland D was identified and estimated based on changes in topography, vegetation, and available GIS data. Hydrology for Offsite Wetland D is provided by direct precipitation, a continuously high groundwater table, and surface runoff from adjacent uplands; while Stream Z is associated with offsite Wetland D, overbank flooding is not a primary source of hydrology. Hydric soils for Offsite Wetland D were presumed. Wetland vegetation observed included red alder, salmonberry (*Rubus spectabilis*), and skunk cabbage (*Lysichiton americanus*). Offsite Wetland D is classified as a Palustrine Forested, Seasonally Flooded and Continuously Saturated (PFOCD) wetland. Per AMC 20.93.800(b), Wetland D is a Category III depressional wetland. Given its offsite location, offsite Wetland D will not be discussed further in this report.

**Table 3. Wetland A Summary.**

<b>WETLAND A – INFORMATION SUMMARY</b>		
<b>Location:</b>	Located in the northeastern portion of the subject property.	
	<b>Local Jurisdiction</b>	City of Arlington
	<b>WRIA</b>	5 – Stillaguamish
	<b>WSDOE Rating (Hruby, 2014)</b>	IV
	<b>City of Arlington Rating</b>	IV
	<b>City of Arlington Buffer Width</b>	40
	<b>Wetland Size</b>	2,842 square feet
	<b>Cowardin Classification</b>	PEMB
	<b>HGM Classification</b>	Slope
	<b>Wetland Data Sheet(s)</b>	DP-4W
	<b>Upland Data Sheet (s)</b>	DP-3U
	<b>Boundary Flag color</b>	Orange
<b>Dominant Vegetation</b>	Wetland vegetation is dominated by soft rush and a bluegrass species.	
<b>Soils</b>	Hydric soil indicators A11 (Depleted Below Dark Surface) and F3 (Depleted Matrix) were observed.	
<b>Hydrology</b>	Hydrology for Wetland A is provided by a seasonally high water table, direct precipitation, and surface runoff from adjacent uplands.	
<b>Rationale for Delineation</b>	Wetland boundaries were determined by a transition to wetland hydrology and hydric soils.	
<b>Rationale for Local Rating</b>	Local rating is based upon WSDOE’s current rating system per AMC 20.93.800(a).	
<b>Wetland Functions Summary</b>		
<b>Water Quality</b>	Wetland A has low potential to improve water quality functions due to the presence of a TMDL in the watershed and dense, uncut herbaceous plants in greater than 50 percent of the area. However, functions are limited due to the higher slope gradient which lacks the ability to filter sediments and pollutants, and the wetland does not discharge into 303(d) waters. Wetland A has a low score for improving water quality (5).	
<b>Hydrologic</b>	Wetland A has a low potential to reduce flooding due to the lack of dense, uncut, rigid plants in less than 90 percent of the wetland area. The surrounding landscape does not provide additional hydrologic input as the upland area is primarily undeveloped. The hydrologic functions provided by the wetland are valuable to society due to the presence of flooding downgradient. Wetland A has a low score for hydrologic functions (4).	
<b>Habitat</b>	Wetland A provides low habitat functions due to a lack of species richness, habitat complexity and interspersions, and special habitat features which would provide increased habitat suitability. The surrounding landscape has a low potential to support habitat connectivity and complexity between the wetland and other potential habitat due to the highly developed surrounding landscape. However, WDFW riparian and instream priority habitats are located within 100 meters of the unit which increases habitat suitability and complexity. Wetland A has a low habitat score (4).	
<b>Buffer Condition</b>	The buffer surrounding Wetland A is primarily degraded due to regular maintenance and the presence of non-native invasive reed canarygrass, providing limited screening of the wetland.	

**Table 4. Wetland C Summary.**

<b>WETLAND C – INFORMATION SUMMARY</b>		
<b>Location:</b>	Located in the north-central portion of the subject property.	
	<b>Local Jurisdiction</b>	City of Arlington
	<b>WRIA</b>	5 – Stillaguamish
	<b>WSDOE Rating (Hruby, 2014)</b>	IV
	<b>City of Arlington Rating</b>	IV
	<b>City of Arlington Buffer Width</b>	40
	<b>Wetland Size</b>	3,490 square feet
	<b>Cowardin Classification</b>	PFO/EMCD
	<b>HGM Classification</b>	Depressional
	<b>Wetland Data Sheet(s)</b>	DP-9W
	<b>Upland Data Sheet (s)</b>	DP-8U
	<b>Boundary Flag color</b>	Orange
<b>Dominant Vegetation</b>	Wetland vegetation is dominated by willow and non-native invasive reed canarygrass.	
<b>Soils</b>	Hydric soils indicator A12 (Thick Dark Surface) was observed.	
<b>Hydrology</b>	Hydrology for Wetland C is provided by direct precipitation, surface runoff from adjacent uplands, and a seasonally high groundwater table.	
<b>Rationale for Delineation</b>	Wetland boundaries were determined by topographic drop and a transition to wetland hydrology.	
<b>Rationale for Local Rating</b>	Local rating is based upon WSDOE’s current rating system per AMC 20.93.800(a).	
<b>Wetland Functions Summary</b>		
<b>Water Quality</b>	Wetland C has moderate potential to improve water quality due to the presence of persistent, ungrazed plants in greater than 50 percent of the wetland area, seasonal ponding in greater than 25 percent of the area, at least 10 percent pollutant-generating surfaces within 150 feet of the wetland, and the presence of a TMDL in the watershed. Wetland C has a moderate score for improving water quality (6).	
<b>Hydrologic</b>	Wetland C has low potential to reduce flooding due to the low depth of storage and small size of the wetland compared to the contributing basin. The surrounding landscape provides hydrologic input due to land uses that generate excess runoff. The hydrologic functions provided by the wetland are valuable to society due to the presence of flooding downgradient. Wetland C has a low score for hydrologic functions (5).	
<b>Habitat</b>	Wetland C provides low habitat functions due to the lack of species richness and minimal habitat interspersions and special habitat features. The surrounding landscape has a low potential to support habitat connectivity and complexity between the wetland and other potential habitat due to the highly developed surrounding landscape. Wetland C has a low habitat score (4).	
<b>Buffer Condition</b>	The buffer surrounding Wetland C is primarily degraded due to regular maintenance and the presence of non-native invasive reed canarygrass, providing limited screening of the wetland.	

## 5.2 Streams

### Stream Z (Eagle Creek)

Stream Z was identified traversing south/north along the eastern portion of the subject property, flowing onsite for approximately 125 feet. Substrate within the stream consists of gravel and cobble and the onsite channel varies from 4 to 7 feet wide on average. Riparian vegetation consists of red alder with an understory of non-native invasive Himalayan blackberry, salmonberry, osoberry (*Oemleria cerasiformis*), common ladyfern (*Athyrium cyclosorum*), and yellow skunk cabbage. DNR does not recognize Stream Z as a fish-bearing stream, which is consistent with the lack of documented salmonid presence identified by WDFW. In addition, Snohomish County classifies Stream Z has fish habitat but does not specify the presence of salmonids. As no ESA-listed species have been documented by any agencies or observed, Stream Z is classified as a Type F stream under AMC 20.93.700(b). A summary of Stream Z is provided in Table 6 below.

**Table 5. Stream Z (Eagle Creek) Summary.**

STREAM INFORMATION SUMMARY		
	<b>Feature Name</b>	Stream Z/Eagle Creek
	<b>WRIA</b>	5 – Stillaguamish
	<b>Local Jurisdiction</b>	City of Arlington
	<b>DNR Stream Type</b>	Type F
	<b>Local Stream Rating</b>	Type F
	<b>Buffer Width</b>	100 feet
	<b>Building Setback</b>	15 feet
	<b>Documented Fish</b>	None
<b>Location of Feature</b>	Stream Z is located on the eastern portion of the subject property.	
<b>Connectivity (where water flows from/to)</b>	Stream Z flows onsite for approximately 125 feet before continuing northeast offsite.	
<b>Riparian/Buffer Condition</b>	The buffer of Stream Z is relatively intact; however, onsite portions of the stream are dominated by non-native invasive Himalayan blackberry.	

**Stream Y (Kruger Creek)**

Stream Y traverses approximately 165 feet south/north along the western boundary of the subject property and continues offsite flowing west through a culvert passing under South Stillaguamish Avenue. Stream Y was observed as a short, slightly meandering channel approximately 10 feet wide on average. Substrate within the stream consists of gravel and cobble. Stream Y is part of an ongoing habitat restoration project managed by the Stilly-Snohomish Fisheries Enhancement Task Force (dba Sound Salmon Solutions). Riparian vegetation consists of red alder, willow species, and maintained grasses. WDFW identifies the documented presence of coho, presumed presence of resident coastal cutthroat, and the modeled presence of chinook, chum, pink salmon, and steelhead. As such, Stream Y is classified as a Type F-ESA stream under AMC 20.93.700(a)(2). A summary of Stream Y is provided in Table 7 below.

**Table 7. Stream Y (Kruger Creek) Summary.**

<b>STREAM INFORMATION SUMMARY</b>		
	<b>Feature Name</b>	Stream Y
	<b>WRIA</b>	5 – Stillaguamish
	<b>Local Jurisdiction</b>	City of Arlington
	<b>DNR Stream Type</b>	Type F
	<b>Local Stream Rating</b>	Type F-ESA
	<b>Buffer Width</b>	150 feet
	<b>Building Setback</b>	15 feet
	<b>Documented Fish</b>	Coho salmon
<b>Location of Feature</b>	Stream Y is located on the western portion of the subject property.	
<b>Connectivity (where water flows from/to)</b>	Stream Y flows north for approximately 165 feet onsite before continuing north offsite and discharging west through a culvert passing under South Stillaguamish Avenue.	
<b>Riparian/Buffer Condition</b>	The buffer of Stream Y is relatively intact onsite and is dominated by red alder and willow species. However, portions of the stream buffer are maintained and mowed, providing limited screening to the stream.	

### 5.3 Ponds

Pond B is approximately 76,325 square feet (1.75 acre) in size and located northwest portion of the subject property. Pond B is fed by artificial drainages and bioswales (as discussed in Section 5.3 above) precipitation, and surface runoff from surrounding uplands. Pond B appears to have been manipulated by beaver activity. A small wetland fringe dominated by soft rush, non-native invasive reed canarygrass (*Phalaris arundinacea*), and Rocky Mountain pond lily (*Nuphar polysepala*) lines the pond. Pond B meets criteria of a pond in accordance with AMC 20.93.100. Per Phase 1 approval of the subject property (City of Arlington PLN# 107), a standard 25-foot greenbelt buffer is required for Pond B.

## Chapter 6. Regulatory Considerations

The site investigations identified and delineated three potentially regulated onsite wetlands (Wetlands A-C) and two potentially regulated streams (Stream Y and Stream Z) on the subject property. No other wetlands, streams, or select fish and wildlife habitat were identified onsite or within 300 feet of the subject property.

### 6.1 Local Critical Area Requirements

#### 6.1.1 Wetland Buffer Standards

AMC 20.93.800 has adopted the 2014 wetland rating system. Category IV wetlands generally provide low levels of function; they are often heavily disturbed, smaller, and/or more isolated in the landscape than Category I, II, or III wetlands. Category IV wetlands provide low levels of functions and score less than 16 out of 27 points on the *Revised Washington State Wetland Rating System for Western Washington* (Hruby, 2014). Wetlands A and C are classified as Category IV wetlands. Per AMC 20.93.830 Table 20.93-4, Category IV wetlands require a standard 40-foot buffer. Category III wetlands generally provide moderate levels of function and have typically been disturbed in some ways and/or more isolated in the landscape than Category I or II wetlands. Category III wetlands score between 16 and 19 points on the *Revised Washington State Wetland Rating System for Western Washington* (Hruby, 2014). Offsite Wetland D is classified as a Category III wetland with a moderate habitat score of 6 points which is subject to a 165-foot buffer. Standard wetland buffers require the use of minimization measures identified in AMC 20.93.830 Table 20.93-5 (Table 8 below). Additionally, a 15-foot building setback is required from the edge of any critical area buffer per AMC 20.93.340.

**Table 8. Measures to Minimize Impacts to Wetlands.**

Examples of Disturbance	Activities and Uses that Cause Disturbances	Examples of Measures to Minimize Impacts
Lights	<ul style="list-style-type: none"> <li>•Parking lots</li> <li>•Warehouses</li> <li>•Manufacturing</li> <li>•Residential</li> <li>•Parks</li> </ul>	<ul style="list-style-type: none"> <li>•Direct lights away from critical areas and buffers</li> <li>•Day use only regulations preventing the need for lights</li> <li>•Timer on lights</li> </ul>
Noise	<ul style="list-style-type: none"> <li>•Manufacturing</li> <li>•Residential</li> </ul>	<ul style="list-style-type: none"> <li>•Locate activity that generates noise away from wetlands</li> <li>•Seasonal limitations on hours of operation</li> </ul>
Toxic runoff*	<ul style="list-style-type: none"> <li>•Parking lots</li> <li>•Roads</li> <li>•Manufacturing</li> <li>•Residential areas</li> <li>•Application of agricultural pesticides</li> <li>•Landscaping</li> </ul>	<ul style="list-style-type: none"> <li>•Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered</li> <li>•Establish covenants limiting use of pesticides within 150 ft of critical area or buffer</li> <li>•Apply integrated pest management</li> </ul>

Examples of Disturbance	Activities and Uses that Cause Disturbances	Examples of Measures to Minimize Impacts
Stormwater runoff	<ul style="list-style-type: none"> <li>•Parking lots</li> <li>•Roads</li> <li>•Manufacturing</li> <li>•Residential areas</li> <li>•Commercial</li> <li>•Landscaping</li> </ul>	<ul style="list-style-type: none"> <li>•Retrofit stormwater detention and treatment for roads and existing adjacent development</li> <li>•Prevent channelized flow from lawns that directly enters the buffer</li> </ul>
Change in water regime	<ul style="list-style-type: none"> <li>•Impermeable surfaces</li> <li>•Lawns</li> <li>•Tilling</li> <li>•Forest and forest duff removal</li> </ul>	<ul style="list-style-type: none"> <li>•Infiltrate or treat, detain, and disperse into buffer new runoff from impervious surfaces and new lawns</li> <li>•Retain minimum forest and forest duff</li> </ul>
Pets and human disturbance	<ul style="list-style-type: none"> <li>•Residential areas</li> <li>•Parks</li> </ul>	<ul style="list-style-type: none"> <li>•Use privacy fencing; plant dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion; place wetland and its buffer in a separate tract</li> </ul>
Dust	<ul style="list-style-type: none"> <li>•Construction sites</li> </ul>	<ul style="list-style-type: none"> <li>•Use best management practices to control dust</li> </ul>
Disruption of corridors or connections	<ul style="list-style-type: none"> <li>•Roads</li> <li>•Residential</li> <li>•Commercial</li> <li>•Manufacturing</li> <li>•Landscaping</li> <li>•Stormwater</li> </ul>	<ul style="list-style-type: none"> <li>•Maintain connection to offsite areas that are undisturbed</li> <li>•Restore corridors or connections to offsite habitats by replanting</li> </ul>
<p>* These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present at the site.</p>		

### 6.1.2 Stream and Pond Buffer Standards

Stream classifications are defined by WAC 222-16-030 per AMC 20.93.700. In addition, Type F-ESA waters are waters that meet the criteria of a Type F stream and also have been identified as having presumed use of ESA listed fish species per AMC 20.93.700(a)(2). Stream Z is a fish bearing stream classified as Type F by DNR. However, no known listed ESA species have been recorded within Stream Z. As such, Stream Z is subject to a standard 100-foot buffer per AMC Table 20.93-3. Per AMC 20.93.700(a)(2), Stream Y is classified as a Type F-ESA stream due to the presumed and gradient accessible presence of chinook salmon and steelhead trout. As such, Stream Y is subject to a standard 150-foot buffer per AMC Table 20.93-3. An additional 15-foot building setback is required for any critical area buffer per AMC 20.93.340.

Pond B meets criteria of a pond in accordance with AMC 20.93.100. Per Phase 1 approval of the subject property (City of Arlington PLN# 107), a standard 25-foot greenbelt buffer is required for Pond B.

## 6.2 State and Federal Considerations

### 6.2.1 State Requirements

WSDOE regulates surface waters of the state under RCW 90.48 and WAC 173-201A for potential impacts to water quality. WAC-173-201A-020 provides definitions of surface waters of the state and wetlands.

Per WAC 173-201A-020, surface waters of the state are defined as:

*“includes lakes, rivers, ponds, streams, inland waters, saltwaters, wetlands and all other surface waters and water courses within the jurisdiction of the state of Washington.”*

Per WAC 173-201A-020, wetlands are defined as:

*“wetlands means areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas to mitigate the conversion of wetlands. (Water bodies not included in the definition of wetlands as well as those mentioned in the definition are still waters of the state.)”*

The identified wetlands (Wetlands A and C), streams (Streams Z and Y), and Pond B are likely to be regulated as Waters of the State of Washington through the WSDOE under the Revised Code of Washington (RCW) 90.48 and WAC 173-201A.

### 6.2.2 Federal Requirements

The Federal Register published “The Navigable Waters Protection Rule: Definition of “Waters of the United States”” on April 21, 2020. The Navigable Waters Protection Rule is the second step in reviewing and revising the definition of WOTUS as intended by the Executive Order “Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the ‘Waters of the United States Rule.’” The Navigable Waters Protection Rule (NWPR) became effective June 22, 2020.

Under the final NWPR, the agencies interpret the term WOTUS to encompass: 1) the territorial seas and traditional navigable waters; 2) perennial and intermittent tributaries that contribute surface water flow to such waters; 3) certain lakes, ponds, and impoundments of jurisdictional waters; and 4) wetlands adjacent to other jurisdictional waters.

The NWPR specifies that WOTUS do not include: a) groundwater, including groundwater drained through subsurface drainage systems; b) ephemeral features that flow only in direct response to precipitation, including ephemeral streams, swales, gullies, rills, and pools; c) diffuse stormwater runoff and directional sheet flow over upland; d) ditches that are not traditional navigable waters, tributaries, or that are not constructed in adjacent wetlands, subject to certain limitations; e) prior converted cropland; f) artificially irrigated areas that would revert to upland if artificial irrigation ceases; g) artificial lakes and ponds that are not jurisdictional impoundments and that are constructed or

excavated in upland or non-jurisdictional waters; h) water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in non-jurisdictional waters for the purpose of obtaining fill, sand, or gravel; i) stormwater control features constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater runoff; j) groundwater recharge, water reuse, and wastewater recycling structures constructed or excavated in upland or in non-jurisdictional waters; and k) waste treatment systems.

Under the NWPR, Stream Z and Stream Y are likely regulated through Category 2 of WOUTS because they are an intermittent natural tributary within a stream network that eventually drains into Puget Sound, a traditionally navigable water. Wetlands A and C and Pond B appear to lack connections to other potentially regulated tributaries and are not likely regulated as Category 4 under the NWPR. Offsite Wetland D is likely associated with Stream Z which is likely regulated; as such, Offsite Wetland D is likely regulated through Category 4 of WOTUS.

## Chapter 7. Closure

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

Wetland and waterbody status and boundaries identified by SVC are based on conditions present at the time of the site visit and considered preliminary until the wetland boundaries validated by the jurisdictional agencies. Validation of the boundaries and jurisdictional status of such features by the regulatory agencies provides a certification, usually written, that the critical area determination and boundaries verified are the units that will be regulated by the agencies until a specific date or until the regulations are modified. Only the regulatory agencies can provide this certification.

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

## Chapter 8. References

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- USACE. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Ver2.0)*, ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-10-3. Vicksburg, MSS: U.S. Army Engineer Research and Development Center.

## Appendix A — Methods and Tools

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

Parameter	Method or Tool	Website	Reference
Wetland Delineation	USACE 1987 Wetland Delineation Manual	<a href="http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf">http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf</a>	<b>Environmental Laboratory.</b> 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
	Western Mountains, Valleys, and Coast Region Regional Supplement	<a href="http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/west_mt_finalsupp.pdf">http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/west_mt_finalsupp.pdf</a>	<b>U.S. Army Corps of Engineers.</b> 2010. <i>Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)</i> , ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
Wetland Classification	USFWS/Cowardin Classification System	<a href="http://www.fws.gov/wetlands/Documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf">http://www.fws.gov/wetlands/Documents/Classification-of-Wetlands-and-Deepwater-Habitats-of-the-United-States.pdf</a>  <a href="https://www.fgdc.gov/standards/projects/wetlands/nvcs-2013">https://www.fgdc.gov/standards/projects/wetlands/nvcs-2013</a>	<b>Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe.</b> 1979. Classification of wetlands and deepwater habitats of the United States. Government Printing Office, Washington, D.C.  <b>Federal Geographic Data Committee.</b> 2013. Classification of Wetlands and Deepwater Habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC.
	Hydrogeomorphic Classification (HGM) System	<a href="http://el.erdc.usace.army.mil/wetlands/pdfs/wrpde4.pdf">http://el.erdc.usace.army.mil/wetlands/pdfs/wrpde4.pdf</a>	<b>Brinson, M. M.</b> (1993). “A hydrogeomorphic classification for wetlands,” Technical Report WRP-DE-4, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
Wetland Rating	Washington State Wetland Rating System	<a href="http://www.ecy.wa.gov/biblio/0406025.html">http://www.ecy.wa.gov/biblio/0406025.html</a>	<b>Hruby, T.</b> 2014. Washington State wetland rating system for western Washington –Revised. Publication # 04-06-029.
Wetland Indicator Status	2016 National Wetland Plant List	<a href="https://www.fws.gov/wetlands/documents/National-Wetland-Plant-List-2016-Wetland-Ratings.pdf">https://www.fws.gov/wetlands/documents/National-Wetland-Plant-List-2016-Wetland-Ratings.pdf</a>	<b>Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin.</b> 2016. <i>The National Wetland Plant List: 2016 wetland ratings</i> . Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X
Plant Names and Identification	USDA Plant Database	<a href="http://plants.usda.gov/">http://plants.usda.gov/</a>	Website
	Flora of the Pacific Northwest	<a href="http://www.pnwherbaria.org/florapnw.php">http://www.pnwherbaria.org/florapnw.php</a>	<b>Hitchcock, C.L. &amp; A. Cronquist,</b> Ed. by D. Giblin, B. Ledger, P. Zika, and R. Olmstead. 2018. Flora of the Pacific Northwest, 2nd Edition. U.W. Press and Burke Museum. Seattle, Washington.
Soils Data	NRCS Soil Survey	<a href="http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx">http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx</a>	Website GIS data based upon: <b>Debose A., and Klungland, M.W.</b> 1983. Soil Survey of Snohomish County Area, Washington. United States Department of Agriculture, Soil Conservation Service in cooperation with Washington State Department of Natural Resources, and Washington

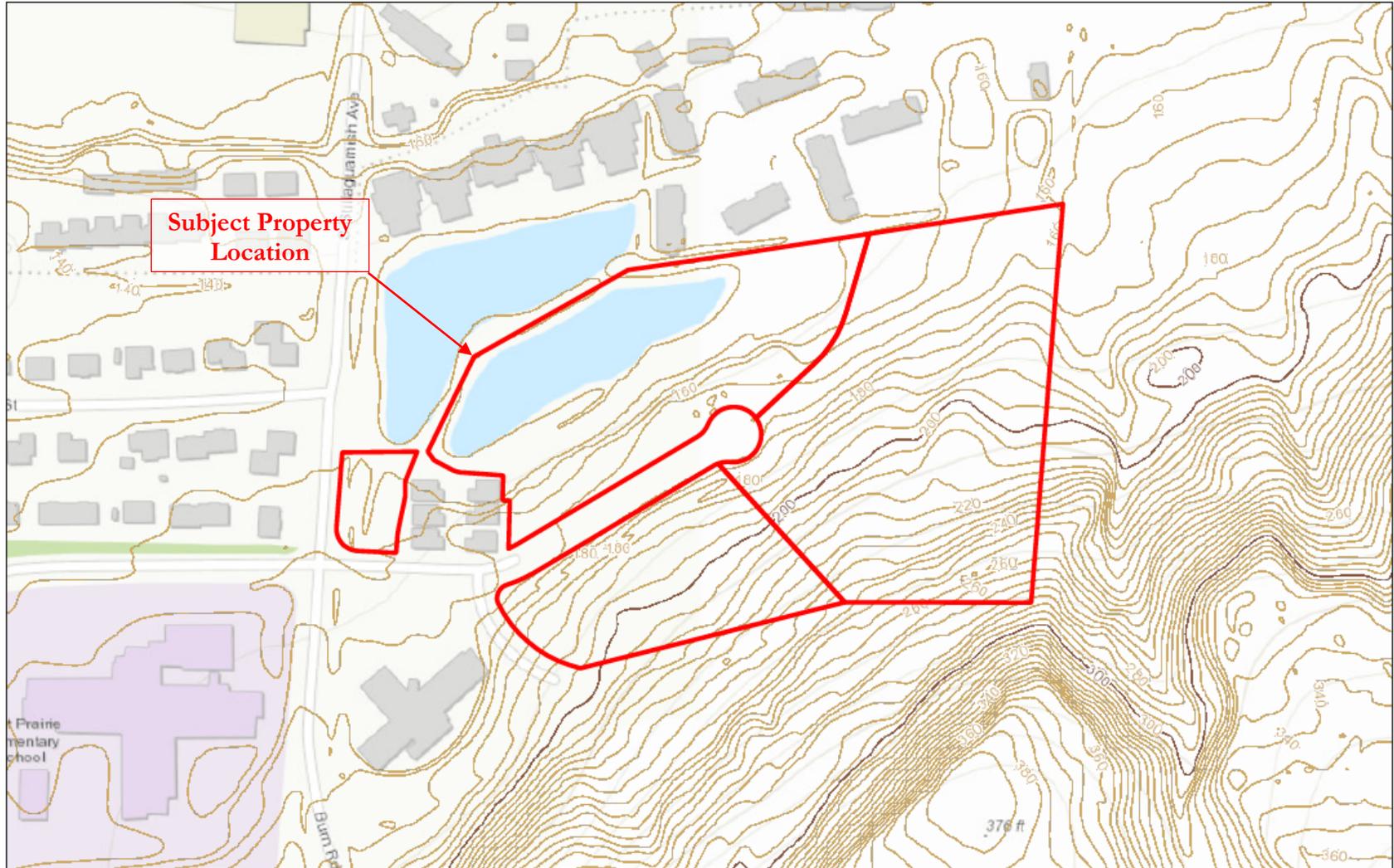
			State University, Agriculture Research Center. Washington, D.C.
	Field Indicators of Hydric Soils	<a href="https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf">https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053171.pdf</a>	<b>United States Department of Agriculture (USDA), NRCS.</b> 2018. <i>Field Indicators of Hydric Soils in the United States, Version 8.2.</i> L.M. Vasialas, G.W. Hurt, and C.V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.
Threatened and Endangered Species	Washington Natural Heritage Program	<a href="http://data-wadnr.opendata.arcgis.com/datasets/wnhp-current-element-occurrences">http://data-wadnr.opendata.arcgis.com/datasets/wnhp-current-element-occurrences</a>	<b>Washington Natural Heritage Program.</b> Endangered, threatened, and sensitive plants of Washington. Washington State Department of Natural Resources, Washington Natural Heritage Program, Olympia, WA
	Washington Priority Habitats and Species	<a href="http://wdfw.wa.gov/hab/phspage.htm">http://wdfw.wa.gov/hab/phspage.htm</a>	WDFW PHS Program. Map of priority habitats and species in project vicinity.
	USFWS species lists by County	<a href="http://www.fws.gov/wafwo/speciesmap.html">http://www.fws.gov/wafwo/speciesmap.html</a>	Website
	NOAA fisheries species list and maps	<a href="http://www.nwr.noaa.gov/ESA-Salmon-Listings/Salmon-Populations/Index.cfm">http://www.nwr.noaa.gov/ESA-Salmon-Listings/Salmon-Populations/Index.cfm</a> and <a href="http://www.nmfs.noaa.gov/pr/species/">http://www.nmfs.noaa.gov/pr/species/</a>	Website
Species of Local Importance	WDFW GIS Data	<a href="http://wdfw.wa.gov/mapping/salmonscape/">http://wdfw.wa.gov/mapping/salmonscape/</a>	Website
FEMA Flood Hazard Areas	FEMA Flood Map Service Center	<a href="https://msc.fema.gov/portal">https://msc.fema.gov/portal</a>	Website
Report Preparation	Arlington Municipal Code	<a href="https://library.municode.com/wa/arlington/codes/code_of_ordinances?nodeId=TIT20ZO_CH20.93ENCRAR">https://library.municode.com/wa/arlington/codes/code_of_ordinances?nodeId=TIT20ZO_CH20.93ENCRAR</a>	AMC Chapter 20.93 – Environmentally Critical Areas

## **Appendix B — Background Information**

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This appendix includes a Snohomish Contours map (B1); NRCS Soil Survey map (B2); USFWS NWI map (B3); Snohomish County Critical Areas map (B4); DNR Stream Typing map (B5); WDFW SalmonScape map (B6); and WDFW PHS map (B7).

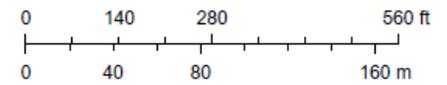
# Appendix B1 — Snohomish Contours Map



3/30/2021, 2:49:16 PM

 Snohomish\_Parcels\_Query result

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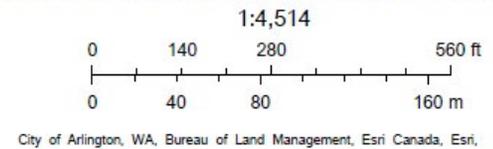
## Appendix B2 — NRCS Soil Survey Map



3/30/2021, 3:11:45 PM

- Snohomish\_Parcels\_Query result
- USA Soils Map Units

- 39: Norma loam
- 48: Pastik silt loam, 8 to 25 percent slopes
- 83: Water

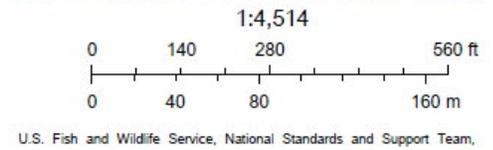


# Appendix B3 — USFWS NWI Map



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- |  |   |   |
|--|---|---|
| <span style="border: 2px solid red; display: inline-block; width: 15px; height: 10px;"></span> Snohomish_Parcels_Query result                              | <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Estuarine and Marine Wetland      | <span style="background-color: #ADD8E6; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Freshwater Pond |
| <b>Wetlands</b>  | <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Freshwater Emergent Wetland       | <span style="background-color: #00008B; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Lake            |
| <span style="background-color: #008080; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Estuarine and Marine Deepwater | <span style="background-color: #008000; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Freshwater Forested/Shrub Wetland | <span style="background-color: #D2B48C; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Other           |



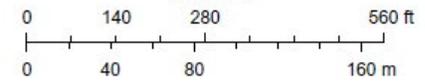
# Appendix B4 — Snohomish County Critical Areas Map



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- Snohomish\_Parcels\_Query result
- Remote Sensing-based Wetland Model
- Planning Development and Services Wetland Inventory
- Tulip Wetlands Moderate
- Critical
- Snohomish County Wetland Inventory
- High

1:4,514



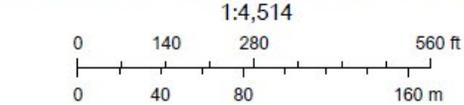
City of Arlington, WA, Bureau of Land Management, Esri Canada, Esri,

# Appendix B5 — DNR Stream Typing Map



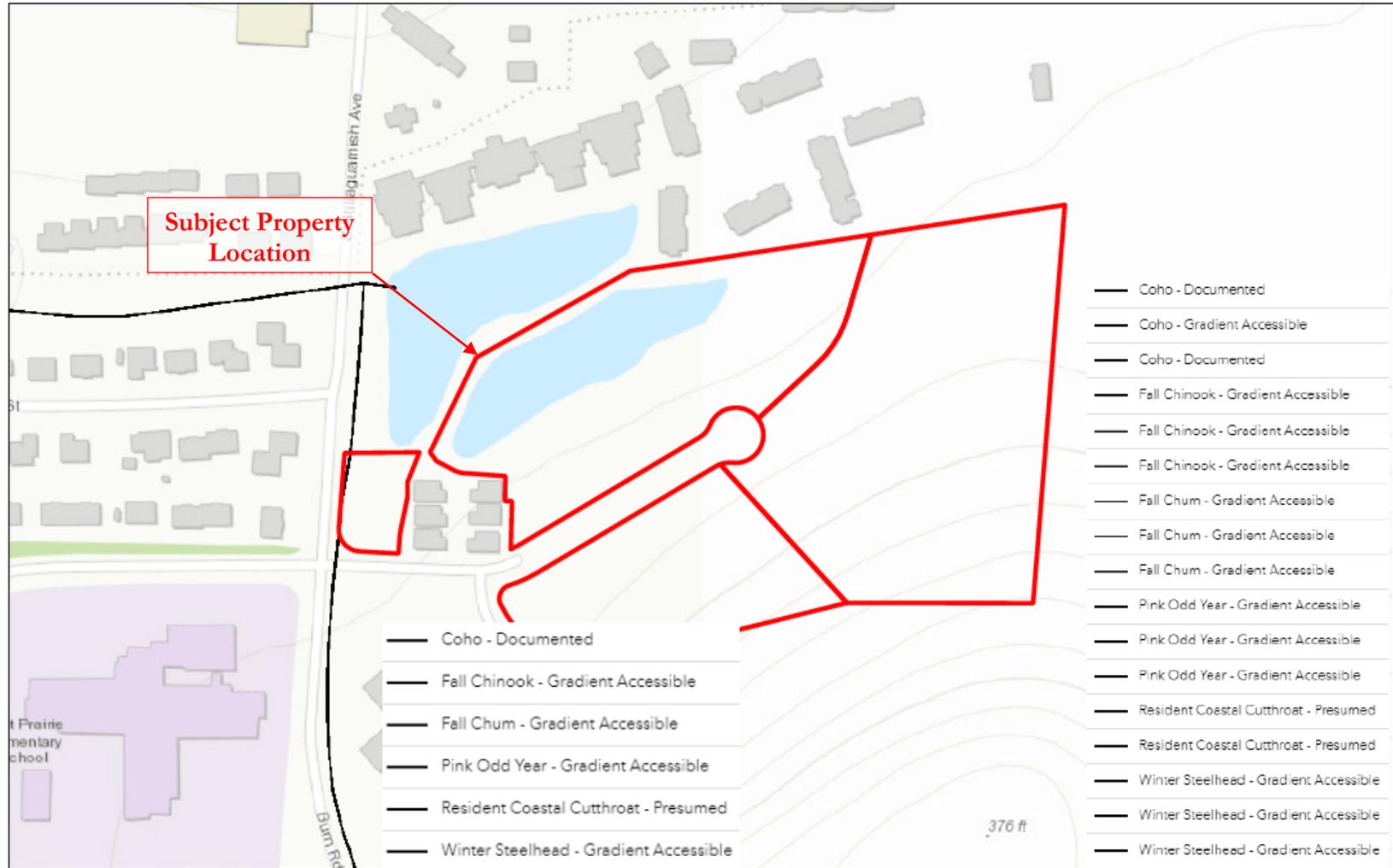
3/30/2021, 2:55:29 PM

- Snohomish\_Parcels\_Query result
- Type N, Np, Ns
- DNR - Stream Typing - Watercourses (DNR)  U, unknown
- Type F



City of Arlington, WA, Bureau of Land Management, Esri Canada, Esri, Soundview Consultants

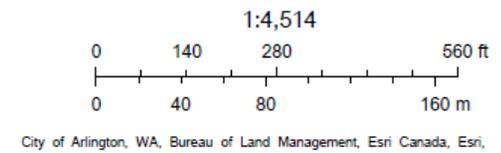
# Appendix B6 — WDFW SalmonScape Map



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Snohomish\_Parcels\_Query result

— All SalmonScape Species

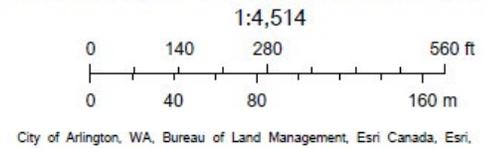


# Appendix B7 — WDFW PHS Map



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- |                     |                             |                     |
|---------------------|-----------------------------|---------------------|
| ● PHS Public Points | PHS Public Polygon Outlines | PHS Public Polygons |
| — PHS Public Lines  | AS MAPPED                   | AS MAPPED           |
|                     | Masked                      | SECTION             |



PHS Species/Habitats Overview:

Occurrence Name	Federal Status	State Status	Generalized Location
Coho	Candidate	N/A	No
Coho	N/A	N/A	No
Resident Coastal Cutthroat	N/A	N/A	No
Wetlands	N/A	N/A	No
Freshwater Emergent Wetland	N/A	N/A	No
Freshwater Forested/Shrub Wetland	N/A	N/A	No

PHS Species/Habitats Details:

Coho	
Scientific Name	<i>Oncorhynchus kisutch</i>
Priority Area	Occurrence
Accuracy	NA
Notes	LLID: 1221268481834, Stock Name: Stillaguamish Coho, Run: Unspecified, Status: Healthy
Source Record	3060
Source Dataset	SASI
Source Name	Not Given
Source Entity	WDFW Fish Program
Federal Status	Candidate
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	<a href="http://wdfw.wa.gov/wlm/diversity/soc/soc.htm">http://wdfw.wa.gov/wlm/diversity/soc/soc.htm</a>
Geometry Type	Lines

Coho	
Scientific Name	<i>Oncorhynchus kisutch</i>
Priority Area	Breeding Area
Accuracy	NA
Notes	LLID: 1221166481864, Fish Name: Coho Salmon, Run Time: Unknown or not Applicable, Life History: Anadromous
Source Record	30348
Source Dataset	SWIFD
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	<a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a>
Geometry Type	Lines

Coho	
Scientific Name	<i>Oncorhynchus kisutch</i>
Priority Area	Occurrence
Accuracy	NA
Notes	LLID: 1221166481864, Stock Name: Stillaguamish Coho, Run: Unspecified, Status: Healthy
Source Record	3060
Source Dataset	SASI
Source Name	Not Given
Source Entity	WDFW Fish Program
Federal Status	Candidate
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	<a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a>
Geometry Type	Lines

Resident Coastal Cutthroat	
Scientific Name	<i>Oncorhynchus clarki</i>
Priority Area	Occurrence/Migration
Accuracy	NA
Notes	LLID: 1221268481834, Fish Name: Cutthroat Trout, Run Time: Unknown or not Applicable, Life History: Unknown
Source Record	30948
Source Dataset	SWIFD
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	<a href="http://wdfw.wa.gov/wlm/diversity/soc/soc.htm">http://wdfw.wa.gov/wlm/diversity/soc/soc.htm</a>
Geometry Type	Lines

Coho	
Scientific Name	<i>Oncorhynchus kisutch</i>
Priority Area	Occurrence/Migration
Accuracy	NA
Notes	LLID: 1221268481834, Fish Name: Coho Salmon, Run Time: Unknown or not Applicable, Life History: Anadromous
Source Record	30951
Source Dataset	SWIFD
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	<a href="http://wdfw.wa.gov/wlm/diversity/soc/soc.htm">http://wdfw.wa.gov/wlm/diversity/soc/soc.htm</a>
Geometry Type	Lines

Resident Coastal Cutthroat	
Scientific Name	<i>Oncorhynchus clarki</i>
Priority Area	Occurrence/Migration
Accuracy	NA
Notes	LLID: 1221166481864, Fish Name: Cutthroat Trout, Run Time: Unknown or not Applicable, Life History: Unknown
Source Record	30345
Source Dataset	SWIFD
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
More Info	<a href="http://wdfw.wa.gov/wlm/diversty/soc/soc.htm">http://wdfw.wa.gov/wlm/diversty/soc/soc.htm</a>
Geometry Type	Lines

Wetlands	
Priority Area	Aquatic Habitat
Site Name	LOWER STILLAGUAMISH RIVER WETLANDS.
Accuracy	1/4 mile (Quarter Section)
Notes	VARIOUS TYPES OF WETLANDS ALONG THE STILLI., FROM ITS ESTUARY TO THE CITY OF ARLINGTON. INCLUDING THE TRIBUTARIES.
Source Record	902699
Source Dataset	PHSREGION
Source Name	MULLER, TED
Source Entity	WA Dept. of Fish and Wildlife
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	<a href="http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html">http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html</a>
Geometry Type	Polygons

Freshwater Emergent Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Emergent Wetland - NWI Code: PEM1C
Source Dataset	NWIIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	<a href="http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html">http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html</a>
Geometry Type	Polygons

Freshwater Forested/Shrub Wetland	
Priority Area	Aquatic Habitat
Site Name	N/A
Accuracy	NA
Notes	Wetland System: Freshwater Forested/Shrub Wetland - NWI Code: PSSCx
Source Dataset	NWIIWetlands
Source Name	Not Given
Source Entity	US Fish and Wildlife Service
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	N
Display Resolution	AS MAPPED
ManagementRecommendations	<a href="http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html">http://www.ecy.wa.gov/programs/sea/wetlands/bas/index.html</a>
Geometry Type	Polygons

# Appendix C — Existing Conditions Exhibit

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# PIONEER POINT - EXISTING CONDITIONS



	Culvert
	Data Point
	OHWM
	Wetland Flag
	Standard 100' Stream Buffer
	Standard 40' Wetland Buffer
	25' Green Belt Buffer
	OHW
	Wetland or Pond
	Offsite Wetland
	Site Boundary

**PRELIMINARY  
INFORMATION ONLY  
NOT FOR CONSTRUCTION**

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

0 70 140 280 Feet



**Soundview Consultants LLC**  
Environmental Assessment • Planning • Land Use Solutions  
2907 Harborview Dr., Suite D, Gig Harbor, WA 98335  
Phone: (253) 514-8952 Fax: (253) 514-8954  
www.soundviewconsultants.com

**PIONEER POINT**

SNOHOMISH COUNTY PARCEL NUMBERS:  
31051200301000, 31051200301400, 31051200301500

DATE:	10/14/2021
JOB:	2267.0001
BY:	DLS/DDS
SCALE:	1" = 140'
FIGURE NO.	1

# Appendix D — Data Forms

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

Project/Site: 2267.0001 Pioneer Point City/County: Arlington/Snohomish Sampling Date: 4/14/21  
 Applicant/Owner: Lavoy Inc. - Randy Brockway State: WA Sampling Point: DP-1U  
 Investigator(s): Lauren Templeton and Harry Richardson Section, Township, Range: 12, 31N, 5E  
 Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): Concave Slope (%): 1  
 Subregion (LRR): A2 Lat: 48.185720 Long: -122.11352184 Datum: WGS 84  
 Soil Map Unit Name: Pastik silt loam, 8 to 25 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 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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <b>Not all three wetland criteria met; only hydrophytic vegetation present. Data collected in northeast portion of the subject property. Precipitation levels for the prior 30 days were below statistical normal (54 percent of normal).</b>	

**VEGETATION – Use scientific names of plants.**

<u>Tree Stratum</u> (Plot size: <u>30 ft</u> )	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				<u>0</u> = Total Cover
Sapling/Shrub Stratum	(Plot size: <u>30 ft</u> )			
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
				<u>0</u> = Total Cover
Herb Stratum	(Plot size: <u>10 ft</u> )			
1. <u>Phalaris arundinacea</u>	<u>90</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Poa sp.*</u>	<u>6</u>	<u>No</u>	<u>FAC</u>	
3. <u>Cirsium arvense</u>	<u>1</u>	<u>No</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
				<u>97</u> = Total Cover
Woody Vine Stratum	(Plot size: <u>30 ft</u> )			
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
				<u>0</u> = Total Cover
% Bare Ground in Herb Stratum <u>3</u>				

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

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

**Hydrophytic Vegetation Indicators:**  
 Rapid Test for Hydrophytic Vegetation  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Wetland Non-Vascular Plants<sup>1</sup>  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: **Hydrophytic vegetation criteria met through the rapid test due to the presence of an aggressive FACW species known to colonize disturbed upland areas. \*Poa sp. considered FAC for scoring purposes.**



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

Project/Site: 2267.0001 Pioneer Point City/County: Arlington/Snohomish Sampling Date: 4/14/21  
 Applicant/Owner: Lavoy Inc. - Randy Brockway State: WA Sampling Point: DP-2U  
 Investigator(s): Lauren Templeton and Harry Richardson Section, Township, Range: 12, 31N, 5E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 2  
 Subregion (LRR): A2 Lat: 48.185876 Long: -122.11294766 Datum: WGS 84  
 Soil Map Unit Name: Pastik silt loam, 8 to 25 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 checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <b>Not all three wetland criteria met; lack of wetland hydrology early in growing season. Data collected in northeast portion of the subject property. Precipitation levels for the prior 30 days were below statistical normal (54 percent of normal).</b>	

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum (Plot size: 30 ft)</b>				
1. <u>Alnus rubra</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover				
<b>Sapling/Shrub Stratum (Plot size: 30 ft)</b>				
1. <u>Rubus armeniacus</u>	<u>100</u>	<u>Yes</u>	<u>FAC</u>	<b>Prevalence Index worksheet:</b> 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. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>100</u> = Total Cover				
<b>Herb Stratum (Plot size: 10 ft)</b>				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Woody Vine Stratum (Plot size: 30 ft)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>100</u>				

Remarks: **Hydrophytic vegetation criteria met through the Dominance Test.**



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

Project/Site: 2267.0001 Pioneer Point City/County: Arlington/Snohomish Sampling Date: 4/14/21  
 Applicant/Owner: Lavoy Inc. - Randy Brockway State: WA Sampling Point: DP-3U  
 Investigator(s): Lauren Templeton and Harry Richardson Section, Township, Range: 12, 31N, 5E  
 Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): Convex Slope (%): 3  
 Subregion (LRR): A2 Lat: 48.185562 Long: -122.11382972 Datum: WGS 84  
 Soil Map Unit Name: Pastik silt loam, 8 to 25 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 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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <b>Not all three wetland criteria met; only hydrophytic vegetation present. Data collected north of Wetland A. Precipitation levels for the prior 30 days were below statistical normal (54 percent of normal).</b>	

**VEGETATION – Use scientific names of plants.**

<u>Tree Stratum</u> (Plot size: <u>30 ft</u> )	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> 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 = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30 ft</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>10 ft</u> )				
1. <u>Schedonorus arundinaceus</u>	<u>75</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Poa sp.*</u>	<u>22</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Cirsium arvense</u>	<u>3</u>	<u>No</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>100</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>% Bare Ground in Herb Stratum</b> <u>0</u>				

**Hydrophytic Vegetation Indicators:**

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

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: **Hydrophytic vegetation criteria met through the Dominance Test. \*Poa sp. considered FAC for scoring purposes.**



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

Project/Site: 2267.0001 Pioneer Point City/County: Arlington/Snohomish Sampling Date: 4/14/21  
 Applicant/Owner: Lavoy Inc. - Randy Brockway State: WA Sampling Point: DP-4W  
 Investigator(s): Lauren Templeton and Harry Richardson Section, Township, Range: 12, 31N, 5E  
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5  
 Subregion (LRR): A2 Lat: 48.185479 Long: -122.11370601 Datum: WGS 84  
 Soil Map Unit Name: Pastik silt loam, 8 to 25 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 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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <b>All three wetland criteria met. Data collected in Wetland A. Precipitation levels for the prior 30 days were below statistical normal (54 percent of normal).</b>	

**VEGETATION – Use scientific names of plants.**

<u>Tree Stratum</u> (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix sp.*</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>5</u>	= Total Cover		
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30 ft</u> )				<b>Prevalence Index worksheet:</b> 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 = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
<u>Herb Stratum</u> (Plot size: <u>10 ft</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Juncus effusus</u>	<u>75</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Poa sp.*</u>	<u>3</u>	<u>No</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
	<u>78</u>	= Total Cover		
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u> )				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>22</u>				

Remarks: **Hydrophytic vegetation criteria met through the rapid test. \*Salix sp. considered FACW and Poa sp. considered FAC for scoring purposes.**

**SOIL**

Sampling Point: DP-4W

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

Depth (inches)	Matrix		Redox Features			Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>			
0 - 10	2.5Y 2/1	100	-	-	-	-	SiLo	Silty loam
10 - 15+	10YR 4/1	80	7.5YR 4/4	10	C	M	SiLo	Silty loam
-	-	-	2.5Y 5/1	10	C	M	-	-

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: 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)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>
<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) ( <b>except MLRA 1</b> )	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" 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)	

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

**Restrictive Layer (if present):**  
 Type: None  
 Depth (inches): --

**Hydric Soil Present? Yes  No**

Remarks:  
 Hydric soil criteria met through indicators A11 and F3.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

**Field Observations:**

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <u>None</u>	<b>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></b>
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>13</u>	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>10</u>	

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

Remarks:  
 Wetland hydrology criteria met through primary indicator A3.

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

Project/Site: 2267.0001 Pioneer Point City/County: Arlington/Snohomish Sampling Date: 4/14/21  
 Applicant/Owner: Lavoy Inc. - Randy Brockway State: WA Sampling Point: DP-5U  
 Investigator(s): Lauren Templeton and Harry Richardson Section, Township, Range: 12, 31N, 5E  
 Landform (hillslope, terrace, etc.): Top of slope Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): A2 Lat: 48.185779 Long: -122.11416810 Datum: WGS 84  
 Soil Map Unit Name: Norma loam 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 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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <b>Not all three wetland criteria met; only hydrophytic vegetation present. Data collected in the north-central portion of the subject property. Precipitation levels for the prior 30 days were below statistical normal (54 percent of normal).</b>	

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: <u>30 ft</u> )				
1. <u>Alnus rubra</u>	<u>100</u>	<u>Yes</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)  Total Number of Dominant Species Across All Strata: <u>2</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>100</u>	= Total Cover			
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30 ft</u> )				
1. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> 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. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u>	= Total Cover			
<b>Herb Stratum</b> (Plot size: <u>10 ft</u> )				
1. <u>Equisetum hyemale</u>	<u>90</u>	<u>Yes</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Phalaris arundinacea</u>	<u>10</u>	<u>No</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>100</u>	= Total Cover			
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft</u> )				
1. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
<u>0</u>	= Total Cover			
<b>% Bare Ground in Herb Stratum</b> <u>0</u>				

Remarks: **Hydrophytic vegetation criteria met through the Dominance Test.**



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

Project/Site: 2267.0001 Pioneer Point City/County: Arlington/Snohomish Sampling Date: 4/14/21  
 Applicant/Owner: Lavoy Inc. - Randy Brockway State: WA Sampling Point: DP-6W  
 Investigator(s): Lauren Templeton and Harry Richardson Section, Township, Range: 12, 31N, 5E  
 Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): Concave Slope (%): 0  
 Subregion (LRR): A2 Lat: 48.185496 Long: -122.11518187 Datum: WGS 84  
 Soil Map Unit Name: Norma loam 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 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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <b>All three wetland criteria met. Data collected in Wetland B. Precipitation levels for the prior 30 days were below statistical normal (54 percent of normal).</b>	

**VEGETATION – Use scientific names of plants.**

<u>Tree Stratum</u> (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
				<u>0</u> = Total Cover
<u>Sapling/Shrub Stratum</u> (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
				<u>0</u> = Total Cover
<u>Herb Stratum</u> (Plot size: <u>10 ft</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Phalaris arundinacea</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
				<u>100</u> = Total Cover
<u>Woody Vine Stratum</u> (Plot size: <u>30 ft</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
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: \_\_\_\_\_ (A)  
 Total Number of Dominant Species Across All Strata: \_\_\_\_\_ (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A/B)

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

**Hydrophytic Vegetation Indicators:**  
 Rapid Test for Hydrophytic Vegetation  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Wetland Non-Vascular Plants<sup>1</sup>  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)  
<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No

Remarks: **Hydrophytic vegetation criteria met through the rapid test due to the presence of an aggressive FACW species known to colonize disturbed upland areas..**

**SOIL**

Sampling Point: DP-6W

<b>Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)</b>								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 6	7.5YR 3/2	100	-	-	-	-	SiLo	Silty loam
6 - 9	10YR 3/2	94	10YR 3/6	6	C	M	SiLo	Silty loam
9 - 14+	2.5Y 4/2	90	10YR 4/6	10	C	M	SaLo	Sandy loam
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.								
<b>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>		
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> 2 cm Muck (A10)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Red Parent Material (TF2)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) <b>(except MLRA 1)</b>			<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Other (Explain in Remarks)		
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)			<input checked="" type="checkbox"/> Depleted Matrix (F3)			<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<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)					
<b>Restrictive Layer (if present):</b>						<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Type: <u>None</u>								
Depth (inches): <u>--</u>								
Remarks: Hydric soil criteria met through indicators A11 and F3.								

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) <b>(except MLRA 1, 2, 4A, and 4B)</b>	<input type="checkbox"/> Water-Stained Leaves (B9) <b>(MLRA 1, 2, 4A, and 4B)</b>	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) <b>(LRR A)</b>	<input type="checkbox"/> Raised Ant Mounds (D6) <b>(LRR A)</b>	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)			
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches):	<u>None</u>
Water Table Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<u>7</u>
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches):	<u>5</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Wetland hydrology criteria met through primary indicators A2 and A3.			

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

Project/Site: 2267.0001 Pioneer Point City/County: Arlington/Snohomish Sampling Date: 4/14/21  
 Applicant/Owner: Lavoy Inc. - Randy Brockway State: WA Sampling Point: DP-7U  
 Investigator(s): Lauren Templeton and Harry Richardson Section, Township, Range: 12, 31N, 5E  
 Landform (hillslope, terrace, etc.): Top of slope Local relief (concave, convex, none): Concave Slope (%): 1  
 Subregion (LRR): A2 Lat: 48.185521 Long: -122.11510545 Datum: WGS 84  
 Soil Map Unit Name: Norma loam 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 checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <b>Not all three wetland criteria met; lacking wetland hydrology early in the growing season. Data collected east of Wetland B. Precipitation levels for the prior 30 days were below statistical normal (54 percent of normal).</b>	

**VEGETATION – Use scientific names of plants.**

<u>Tree Stratum</u> (Plot size: <u>30 ft</u> )	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> 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 = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30 ft</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>10 ft</u> )				
1. <u>Phalaris arundinacea</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>100</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				

Remarks: **Hydrophytic vegetation criteria met through the rapid test due to the presence of an aggressive FACW species known to colonize disturbed upland areas.**

**SOIL**

Sampling Point: DP-7U

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0 - 3	10YR 4/2	100	-	-	-	-	SaLo	Sandy loam
3 - 12	2.5Y 4/2	90	7.5YR 4/6	10	C	M	SaLo	Sandy loam
12 - 15+	2.5Y 4/1	87	10YR 3/6	10	C	M	SaLo	Sandy loam
-	-	-	2.5Y 5/6	3	C	M	-	-

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.      <sup>2</sup>Location: 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)	<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b> <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) ( <b>except MLRA 1</b> )	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input checked="" 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)	
<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		

**Restrictive Layer (if present):**  
Type: None  
Depth (inches): --

**Hydric Soil Present?**    Yes     No

Remarks:  
Hydric soil criteria met through indicator F3.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

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

**Field Observations:**

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <u>None</u>	<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <u>None</u>	
Saturation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <u>None</u>	
(includes capillary fringe)			

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

Remarks:  
No wetland hydrology criteria met early in the growing season. Soil pit left open for 30 minutes.

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

Project/Site: 2267.0001 Pioneer Point City/County: Arlington/Snohomish Sampling Date: 4/14/21  
 Applicant/Owner: Lavoy Inc. - Randy Brockway State: WA Sampling Point: DP-8U  
 Investigator(s): Lauren Templeton and Harry Richardson Section, Township, Range: 12, 31N, 5E  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 1  
 Subregion (LRR): A2 Lat: 48.185563 Long: -122.11476605 Datum: WGS 84  
 Soil Map Unit Name: Norma loam 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 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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <b>Not all three wetland criteria met; only hydrophytic vegetation present. Data collected west of Wetland C. Precipitation levels for the prior 30 days were below statistical normal (54 percent of normal).</b>	

**VEGETATION – Use scientific names of plants.**

<u>Tree Stratum</u> (Plot size: <u>30 ft</u> )	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	<b>Dominance Test worksheet:</b>
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)  Total Number of Dominant Species Across All Strata: _____ (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				<b>Prevalence Index worksheet:</b> 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 = _____
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30 ft</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
<b>Herb Stratum</b> (Plot size: <u>10 ft</u> )				
1. <u>Phalaris arundinacea</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>100</u> = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft</u> )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				

Remarks: **Hydrophytic vegetation criteria met through the rapid test due to the presence of an aggressive FACW species known to colonize disturbed upland areas.**



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

Project/Site: 2267.0001 Pioneer Point City/County: Arlington/Snohomish Sampling Date: 4/14/21  
 Applicant/Owner: Lavoy Inc. - Randy Brockway State: WA Sampling Point: DP-9W  
 Investigator(s): Lauren Templeton and Harry Richardson Section, Township, Range: 12, 31N, 5E  
 Landform (hillslope, terrace, etc.): Toe of slope Local relief (concave, convex, none): Concave Slope (%): 1  
 Subregion (LRR): A2 Lat: 48.185490 Long: -122.11459614 Datum: WGS 84  
 Soil Map Unit Name: Norma loam 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 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"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <b>All three wetland criteria met. Data collected in Wetland C. Precipitation levels for the prior 30 days were below statistical normal (54 percent of normal).</b>	

**VEGETATION – Use scientific names of plants.**

	Absolute % Cover	Dominant Species?	Indicator Status		
<b>Tree Stratum</b> (Plot size: <u>30 ft</u> )					
1. <u>Alnus rubra</u>	<u>75</u>	<u>Yes</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</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>75%</u> (A/B)	
2. <u>Salix sp.*</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>		
3. _____					
4. _____					
	<u>100</u>	= Total Cover		<b>Prevalence Index worksheet:</b> 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 = _____	
<b>Sapling/Shrub Stratum</b> (Plot size: <u>30 ft</u> )					
1. _____		<u>Yes</u>			
2. _____		<u>Yes</u>			
3. _____					
4. _____					
5. _____					
	<u>0</u>	= Total Cover			
<b>Herb Stratum</b> (Plot size: <u>10 ft</u> )					
1. <u>Phalaris arundinacea</u>	<u>30</u>		<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Poa sp.*</u>	<u>20</u>		<u>FAC</u>		
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
	<u>50</u>	= Total Cover			
<b>Woody Vine Stratum</b> (Plot size: <u>30 ft</u> )					
1. _____					
2. _____					
	<u>0</u>	= Total Cover			
<b>% Bare Ground in Herb Stratum</b> <u>50</u>					

Remarks: **Hydrophytic vegetation criteria met through the Dominance Test. \*Salix sp. considered FACW and poa sp. considered FAC for scoring purposes.**



# Appendix E — Wetland Rating Forms

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Wetland name or number A

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): A Date of site visit: 04/14/21  
 Rated by Lauren Templeton Trained by Ecology?  Yes  No Date of training 3/2021  
 HGM Class used for rating Slope 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** IV (based on functions  or special characteristics )

### 1. Category of wetland based on FUNCTIONS

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	L	L	L	
Landscape Potential	L	L	L	
Value	H	M	M	<b>TOTAL</b>
<b>Score Based on Ratings</b>	5	4	4	13

**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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> 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	



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

**SLOPE WETLANDS**

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

S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of the average slope of the wetland: <i>(a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)</i>		
Slope is 1% or less	points = 3	1
Slope is > 1%-2%	points = 2	
Slope is > 2%-5%	points = 1	
Slope is greater than 5%	points = 0	
S 1.2. <u>The soil 2 in below the surface (or duff layer)</u> is true clay or true organic <i>(use NRCS definitions)</i> : Yes = 3 No = 0		0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. <i>Dense means you have trouble seeing the soil surface (&gt;75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.</i>		
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	3
Dense, uncut, herbaceous plants > ½ of area	points = 3	
Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > ¼ of area	points = 1	
Does not meet any of the criteria above for plants	points = 0	
Total for S 1	Add the points in the boxes above	4

**Rating of Site Potential** If score is: 12 = H 6-11 = M X 0-5 = L

Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function of the site?		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	0
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1? Other sources _____	Yes = 1 No = 0	0
Total for S 2	Add the points in the boxes above	0

**Rating of Landscape Potential** If score is: 1-2 = M X 0 = L

Record the rating on the first page

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

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

Record the rating on the first page

Wetland name or number A

**SLOPE WETLANDS**

**Hydrologic Functions** - Indicators that the site functions to reduce flooding and stream erosion

S 4.0. Does the site have the potential to reduce flooding and stream erosion?

S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually &gt; 1/8 in), or dense enough, to remain erect during surface flows.</i>	0
Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland	
All other conditions	

points = 1  
points = 0

**Rating of Site Potential** If score is: 1 = M  0 = L

Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	0
---	---

Yes = 1 No = 0

**Rating of Landscape Potential** If score is: 1 = M  0 = L

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?

S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)	1
Surface flooding problems are in a sub-basin farther down-gradient	
No flooding problems anywhere downstream	

points = 2  
points = 1  
points = 0

S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	0
--	---

Yes = 2 No = 0

Total for S 6	1
---------------	---

Add the points in the boxes above

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

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

Wetland name or number A

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

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

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

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

0

H 1.2. Hydroperiods

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

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

0

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

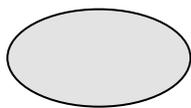
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

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

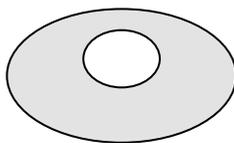
1

H 1.4. Interspersion of habitats

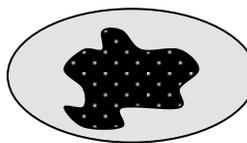
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



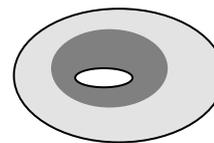
None = 0 points



Low = 1 point

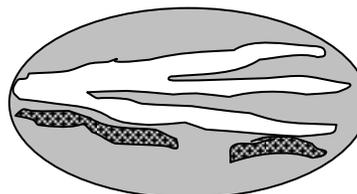
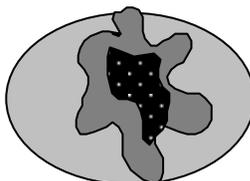
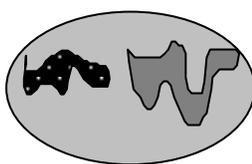


Moderate = 2 points



0

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 (&gt; 4 in diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> 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 (&gt; 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>	0
<p>Total for H 1</p>	<p>Add the points in the boxes above</p> <p>1</p>

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

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>	
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p>Calculate: <input type="text" value="0.74"/> % undisturbed habitat + [(% moderate and low intensity land uses) <input type="text" value="2.04"/> /2] = <u>1.76</u> %</p> <p>If total accessible habitat is:</p> <p>&gt; 1/3 (33.3%) of 1 km Polygon <span style="float: right;">points = 3</span></p> <p>20-33% of 1 km Polygon <span style="float: right;">points = 2</span></p> <p>10-19% of 1 km Polygon <span style="float: right;">points = 1</span></p> <p>&lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>	0
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: <input type="text" value="24.06"/> % undisturbed habitat + [(% moderate and low intensity land uses) <input type="text" value="24.15"/> /2] = <u>36.135</u> %</p> <p>Undisturbed habitat &gt; 50% of Polygon <span style="float: right;">points = 3</span></p> <p>Undisturbed habitat 10-50% and in 1-3 patches <span style="float: right;">points = 2</span></p> <p>Undisturbed habitat 10-50% and &gt; 3 patches <span style="float: right;">points = 1</span></p> <p>Undisturbed habitat &lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>	1
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>&gt; 50% of 1 km Polygon is high intensity land use <span style="float: right;">points = (- 2)</span></p> <p>≤ 50% of 1 km Polygon is high intensity <span style="float: right;">points = 0</span></p>	-2
<p>Total for H 2</p>	<p>Add the points in the boxes above</p> <p>-1</p>

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

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>	
<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: <span style="float: right;">points = 2</span></p> <p>— It has 3 or more priority habitats within 100 m (see next page)</p> <p>— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p>— It is mapped as a location for an individual WDFW priority species</p> <p>— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p>— 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 <span style="float: right;">points = 1</span></p> <p>Site does not meet any of the criteria above <span style="float: right;">points = 0</span></p>	1

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

Wetland name or number   A  

## WDFW Priority Habitats

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

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

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

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

Wetland name or number A

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

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

Wetland name or number A

<p><b>SC 4.0. Forested Wetlands</b></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? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <ul style="list-style-type: none"> <li>— <b>Old-growth forests</b> (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.</li> <li>— <b>Mature forests</b> (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).</li> </ul> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category I</b>   <input checked="" type="checkbox"/> No = <b>Not a forested wetland for this section</b></p>	
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></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"> <li>— 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</li> <li>— The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 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>)</li> </ul> <p style="text-align: right;"><input type="checkbox"/> Yes – Go to <b>SC 5.1</b>   <input checked="" type="checkbox"/> No = <b>Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> <li>— 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).</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> <li>— The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</li> </ul> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category I</b>   <input type="checkbox"/> No = <b>Category II</b></p>	
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> <li>— Long Beach Peninsula: Lands west of SR 103</li> <li>— Grayland-Westport: Lands west of SR 105</li> <li>— Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul> <p style="text-align: right;"><input type="checkbox"/> Yes – Go to <b>SC 6.1</b>   <input checked="" type="checkbox"/> No = <b>not an interdunal wetland for rating</b></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)? <span style="float: right;"><input type="checkbox"/> Yes = <b>Category I</b>   <input type="checkbox"/> No – Go to <b>SC 6.2</b></span></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? <span style="float: right;"><input type="checkbox"/> Yes = <b>Category II</b>   <input type="checkbox"/> No – Go to <b>SC 6.3</b></span></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? <span style="float: right;"><input type="checkbox"/> Yes = <b>Category III</b>   <input type="checkbox"/> No = <b>Category IV</b></span></p>	
<p><b>Category of wetland based on Special Characteristics</b></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 C

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): C Date of site visit: 04/14/21  
 Rated by Lauren Templeton Trained by Ecology?  Yes  No Date of training 3/2021  
 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** IV (based on functions  or special characteristics )

### 1. Category of wetland based on FUNCTIONS

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	M	L	L	
Landscape Potential	M	M	L	
Value	H	M	L	<b>TOTAL</b>
<b>Score Based on Ratings</b>	7	5	3	15

**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 C

## 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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> 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	



Wetland name or number C

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 C

<b>DEPRESSIONAL AND FLATS WETLANDS</b>		
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>		
<b>D 1.0. Does the site have the potential to improve water quality?</b>		
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). Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.	points = 3 points = 2 points = 1 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 Wetland has persistent, ungrazed, plants > ½ of area Wetland has persistent, ungrazed plants > 1/10 of area Wetland has persistent, ungrazed plants < 1/10 of area	points = 5 points = 3 points = 1 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 > ½ total area of wetland Area seasonally ponded is > ¼ total area of wetland Area seasonally ponded is < ¼ total area of wetland	points = 4 points = 2 points = 0	2
Total for D 1		7

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

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>		
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		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

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>		
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		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 C

**DEPRESSIONAL AND FLATS WETLANDS**

**Hydrologic Functions** - Indicators that the site functions to reduce flooding and stream degradation

<b>D 4.0. Does the site have the potential to reduce flooding and erosion?</b>		
<b>D 4.1. Characteristics of surface water outflows from the wetland:</b>		
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	
<b>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.</b>		
Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	0
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	
<b>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.</b>		
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	
<b>Total for D 4</b>	<b>Add the points in the boxes above</b>	<b>2</b>

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

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

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

<b>D 6.0. Are the hydrologic functions provided by the site valuable to society?</b>		
<b>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.</b>		
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	
<b>D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</b>	Yes = 2 No = 0	0
<b>Total for D 6</b>	<b>Add the points in the boxes above</b>	<b>1</b>

**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 C

**These questions apply to wetlands of all HGM classes.**

**HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat

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

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

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

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*).

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

1

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

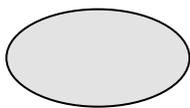
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

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

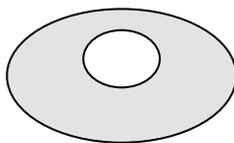
1

H 1.4. Interspersion of habitats

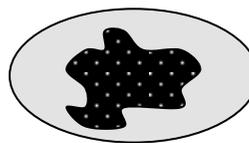
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



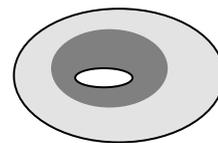
None = 0 points



Low = 1 point

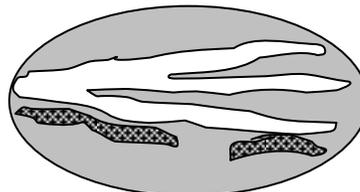
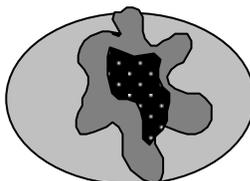
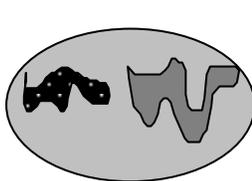


Moderate = 2 points



1

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



Wetland name or number C

<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 (&gt; 4 in diameter and 6 ft long).</p> <p><input type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> 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 (&gt; 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>	1
<p>Total for H 1</p>	<p>Add the points in the boxes above</p> <p>5</p>

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

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>	
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p>Calculate: <input type="text" value="0.74"/> % undisturbed habitat + [(% moderate and low intensity land uses) <input type="text" value="2.04"/> /2] = <u>1.76</u> %</p> <p>If total accessible habitat is:</p> <p>&gt; 1/3 (33.3%) of 1 km Polygon <span style="float: right;">points = 3</span></p> <p>20-33% of 1 km Polygon <span style="float: right;">points = 2</span></p> <p>10-19% of 1 km Polygon <span style="float: right;">points = 1</span></p> <p>&lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>	0
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: <input type="text" value="24.06"/> % undisturbed habitat + [(% moderate and low intensity land uses) <input type="text" value="24.15"/> /2] = <u>36.135</u> %</p> <p>Undisturbed habitat &gt; 50% of Polygon <span style="float: right;">points = 3</span></p> <p>Undisturbed habitat 10-50% and in 1-3 patches <span style="float: right;">points = 2</span></p> <p>Undisturbed habitat 10-50% and &gt; 3 patches <span style="float: right;">points = 1</span></p> <p>Undisturbed habitat &lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>	1
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>&gt; 50% of 1 km Polygon is high intensity land use <span style="float: right;">points = (- 2)</span></p> <p>≤ 50% of 1 km Polygon is high intensity <span style="float: right;">points = 0</span></p>	-2
<p>Total for H 2</p>	<p>Add the points in the boxes above</p> <p>-1</p>

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

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>	
<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: <span style="float: right;">points = 2</span></p> <p>— It has 3 or more priority habitats within 100 m (see next page)</p> <p>— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p>— It is mapped as a location for an individual WDFW priority species</p> <p>— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p>— 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 <span style="float: right;">points = 1</span></p> <p><input checked="" type="checkbox"/> Site does not meet any of the criteria above <span style="float: right;">points = 0</span></p>	0

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

Wetland name or number C

## 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 C

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<p><b>SC 1.0. Estuarine wetlands</b></p> <p>Does the wetland meet the following criteria for Estuarine wetlands?</p> <p><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 <span style="float: right;"><input type="checkbox"/> Yes –Go to <b>SC 1.1</b> <input checked="" type="checkbox"/> No= <b>Not an estuarine wetland</b></span></p>	
<p>SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?  <span style="float: right;"><input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No - Go to <b>SC 1.2</b></span></p>	
<p>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i>, see 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. <span style="float: right;"><input type="checkbox"/> Yes = <b>Category I</b> <input type="checkbox"/> No = <b>Category II</b></span></p>	
<p><b>SC 2.0. Wetlands of High Conservation Value (WHCV)</b></p> <p>SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? <span style="float: right;"><input type="checkbox"/> Yes – Go to <b>SC 2.2</b> <input checked="" type="checkbox"/> No – Go to <b>SC 2.3</b></span></p> <p>SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  <span style="float: right;"><input type="checkbox"/> Yes = <b>Category I</b> <input checked="" type="checkbox"/> No = <b>Not a WHCV</b></span></p> <p>SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?  <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a>  <span style="float: right;"><input type="checkbox"/> Yes – <b>Contact WNHP/WDNR and go to SC 2.4</b> <input checked="" type="checkbox"/> No = <b>Not a WHCV</b></span></p> <p>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?  <span style="float: right;"><input type="checkbox"/> Yes = <b>Category I</b> <input checked="" type="checkbox"/> No = <b>Not a WHCV</b></span></p>	
<p><b>SC 3.0. Bogs</b></p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i></p> <p>SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <span style="float: right;"><input type="checkbox"/> Yes – Go to <b>SC 3.3</b> <input checked="" type="checkbox"/> No – Go to <b>SC 3.2</b></span></p> <p>SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? <span style="float: right;"><input type="checkbox"/> Yes – Go to <b>SC 3.3</b> <input checked="" type="checkbox"/> No = <b>Is not a bog</b></span></p> <p>SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? <span style="float: right;"><input type="checkbox"/> Yes = <b>Is a Category I bog</b> <input type="checkbox"/> No – Go to <b>SC 3.4</b></span>  <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.</p> <p>SC 3.4. Is an area with peats or mucks forested (&gt; 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?  <span style="float: right;"><input type="checkbox"/> Yes = <b>Is a Category I bog</b> <input type="checkbox"/> No = <b>Is not a bog</b></span></p>	

Wetland name or number C

<p><b>SC 4.0. Forested Wetlands</b></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? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <ul style="list-style-type: none"> <li>— <b>Old-growth forests</b> (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.</li> <li>— <b>Mature forests</b> (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).</li> </ul> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category I</b>   <input checked="" type="checkbox"/> No = <b>Not a forested wetland for this section</b></p>	
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></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"> <li>— 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</li> <li>— The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 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>)</li> </ul> <p style="text-align: right;"><input type="checkbox"/> Yes – Go to <b>SC 5.1</b>   <input checked="" type="checkbox"/> No = <b>Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> <li>— 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).</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> <li>— The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</li> </ul> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category I</b>   <input type="checkbox"/> No = <b>Category II</b></p>	
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> <li>— Long Beach Peninsula: Lands west of SR 103</li> <li>— Grayland-Westport: Lands west of SR 105</li> <li>— Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul> <p style="text-align: right;"><input type="checkbox"/> Yes – Go to <b>SC 6.1</b>   <input checked="" type="checkbox"/> No = <b>not an interdunal wetland for rating</b></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)? <span style="float: right;"><input type="checkbox"/> Yes = <b>Category I</b>   <input type="checkbox"/> No – Go to <b>SC 6.2</b></span></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? <span style="float: right;"><input type="checkbox"/> Yes = <b>Category II</b>   <input type="checkbox"/> No – Go to <b>SC 6.3</b></span></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? <span style="float: right;"><input type="checkbox"/> Yes = <b>Category III</b>   <input type="checkbox"/> No = <b>Category IV</b></span></p>	
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	

Wetland name or number C

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Wetland name or number D

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): D Date of site visit: 04/14/21  
 Rated by Lauren Templeton Trained by Ecology?  Yes  No Date of training 3/2021  
 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	
<i>Circle the appropriate ratings</i>				
Site Potential	M	L	M	
Landscape Potential	M	M	M	
Value	H	M	M	<b>TOTAL</b>
<b>Score Based on Ratings</b>	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 D

## 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 <b>dense</b> trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of <b>dense, rigid</b> 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	



Wetland name or number D

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 D

<b>DEPRESSIONAL AND FLATS WETLANDS</b>	
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>	
<b>D 1.0. Does the site have the potential to improve water quality?</b>	
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). Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.	points = 3 points = 2 points = 1 points = 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 Wetland has persistent, ungrazed, plants > ½ of area Wetland has persistent, ungrazed plants > 1/10 of area Wetland has persistent, ungrazed plants < 1/10 of area	points = 5 points = 3 points = 1 points = 0
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 > ½ total area of wetland Area seasonally ponded is > ¼ total area of wetland Area seasonally ponded is < ¼ total area of wetland	points = 4 points = 2 points = 0
<b>Total for D 1</b>	<b>Add the points in the boxes above</b> 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

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>	
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 No = 0 1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0 0
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
<b>Total for D 2</b>	<b>Add the points in the boxes above</b> 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

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>	
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
<b>Total for D 3</b>	<b>Add the points in the boxes above</b> 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 D

**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	0
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	3
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	1
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	0
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 D

**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 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 checked="" type="checkbox"/> Saturated only  | 1 type present: points = 0          |
| <input checked="" 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"/> <b>Lake Fringe wetland</b>   | <b>2 points</b>                     |
| <input type="checkbox"/> <b>Freshwater tidal wetland</b>  | <b>2 points</b>                     |

2

H 1.3. Richness of plant species

Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>.

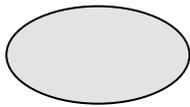
*Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle*

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

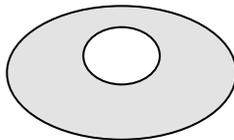
1

H 1.4. Interspersion of habitats

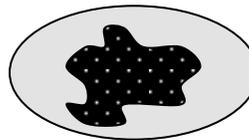
Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always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



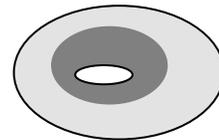
None = 0 points



Low = 1 point

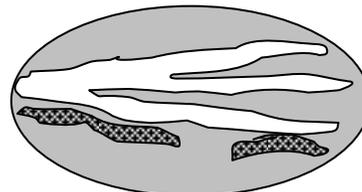
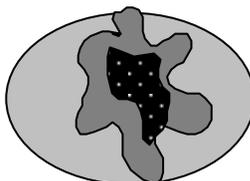
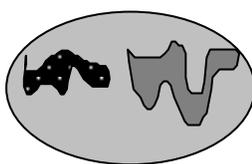


Moderate = 2 points



1

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



Wetland name or number D

<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 (&gt; 4 in diameter and 6 ft long).</p> <p><input checked="" type="checkbox"/> Standing snags (dbh &gt; 4 in) within the wetland</p> <p><input type="checkbox"/> Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> 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 (&gt; 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
<p>Total for H 1</p>	7

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

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>	
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>).</p> <p>Calculate: <input type="text" value="22.85"/> % undisturbed habitat + [(% moderate and low intensity land uses) <input type="text" value="6.87"/> /2] = <u>26.285</u> %</p> <p>If total accessible habitat is:</p> <p>&gt; 1/3 (33.3%) of 1 km Polygon <span style="float: right;">points = 3</span></p> <p>20-33% of 1 km Polygon <span style="float: right;">points = 2</span></p> <p>10-19% of 1 km Polygon <span style="float: right;">points = 1</span></p> <p>&lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>	2
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.</p> <p>Calculate: <input type="text" value="24.06"/> % undisturbed habitat + [(% moderate and low intensity land uses) <input type="text" value="24.15"/> /2] = <u>36.135</u> %</p> <p>Undisturbed habitat &gt; 50% of Polygon <span style="float: right;">points = 3</span></p> <p>Undisturbed habitat 10-50% and in 1-3 patches <span style="float: right;">points = 2</span></p> <p>Undisturbed habitat 10-50% and &gt; 3 patches <span style="float: right;">points = 1</span></p> <p>Undisturbed habitat &lt; 10% of 1 km Polygon <span style="float: right;">points = 0</span></p>	1
<p>H 2.3. Land use intensity in 1 km Polygon: If</p> <p>&gt; 50% of 1 km Polygon is high intensity land use <span style="float: right;">points = (- 2)</span></p> <p>≤ 50% of 1 km Polygon is high intensity <span style="float: right;">points = 0</span></p>	-2
<p>Total for H 2</p>	1

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

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>	
<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: <span style="float: right;">points = 2</span></p> <p>— It has 3 or more priority habitats within 100 m (see next page)</p> <p>— It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</p> <p>— It is mapped as a location for an individual WDFW priority species</p> <p>— It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</p> <p>— 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><input checked="" type="checkbox"/> Site has 1 or 2 priority habitats (listed on next page) within 100 m <span style="float: right;">points = 1</span></p> <p>Site does not meet any of the criteria above <span style="float: right;">points = 0</span></p>	1

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

Wetland name or number   D  

## 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 D

**CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

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

Wetland name or number D

<p><b>SC 4.0. Forested Wetlands</b></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? <b><i>If you answer YES you will still need to rate the wetland based on its functions.</i></b></p> <ul style="list-style-type: none"> <li>— <b>Old-growth forests</b> (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.</li> <li>— <b>Mature forests</b> (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).</li> </ul> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category I</b>   <input checked="" type="checkbox"/> No = <b>Not a forested wetland for this section</b></p>	
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></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"> <li>— 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</li> <li>— The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 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>)</li> </ul> <p style="text-align: right;"><input type="checkbox"/> Yes – Go to <b>SC 5.1</b>   <input checked="" type="checkbox"/> No = <b>Not a wetland in a coastal lagoon</b></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> <li>— 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).</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> <li>— The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</li> </ul> <p style="text-align: right;"><input type="checkbox"/> Yes = <b>Category I</b>   <input type="checkbox"/> No = <b>Category II</b></p>	
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <b><i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></b></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> <li>— Long Beach Peninsula: Lands west of SR 103</li> <li>— Grayland-Westport: Lands west of SR 105</li> <li>— Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul> <p style="text-align: right;"><input type="checkbox"/> Yes – Go to <b>SC 6.1</b>   <input checked="" type="checkbox"/> No = <b>not an interdunal wetland for rating</b></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)? <span style="float: right;"><input type="checkbox"/> Yes = <b>Category I</b>   <input type="checkbox"/> No – Go to <b>SC 6.2</b></span></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? <span style="float: right;"><input type="checkbox"/> Yes = <b>Category II</b>   <input type="checkbox"/> No – Go to <b>SC 6.3</b></span></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? <span style="float: right;"><input type="checkbox"/> Yes = <b>Category III</b>   <input type="checkbox"/> No = <b>Category IV</b></span></p>	
<p><b>Category of wetland based on Special Characteristics</b></p> <p>If you answered No for all types, enter "Not Applicable" on Summary Form</p>	

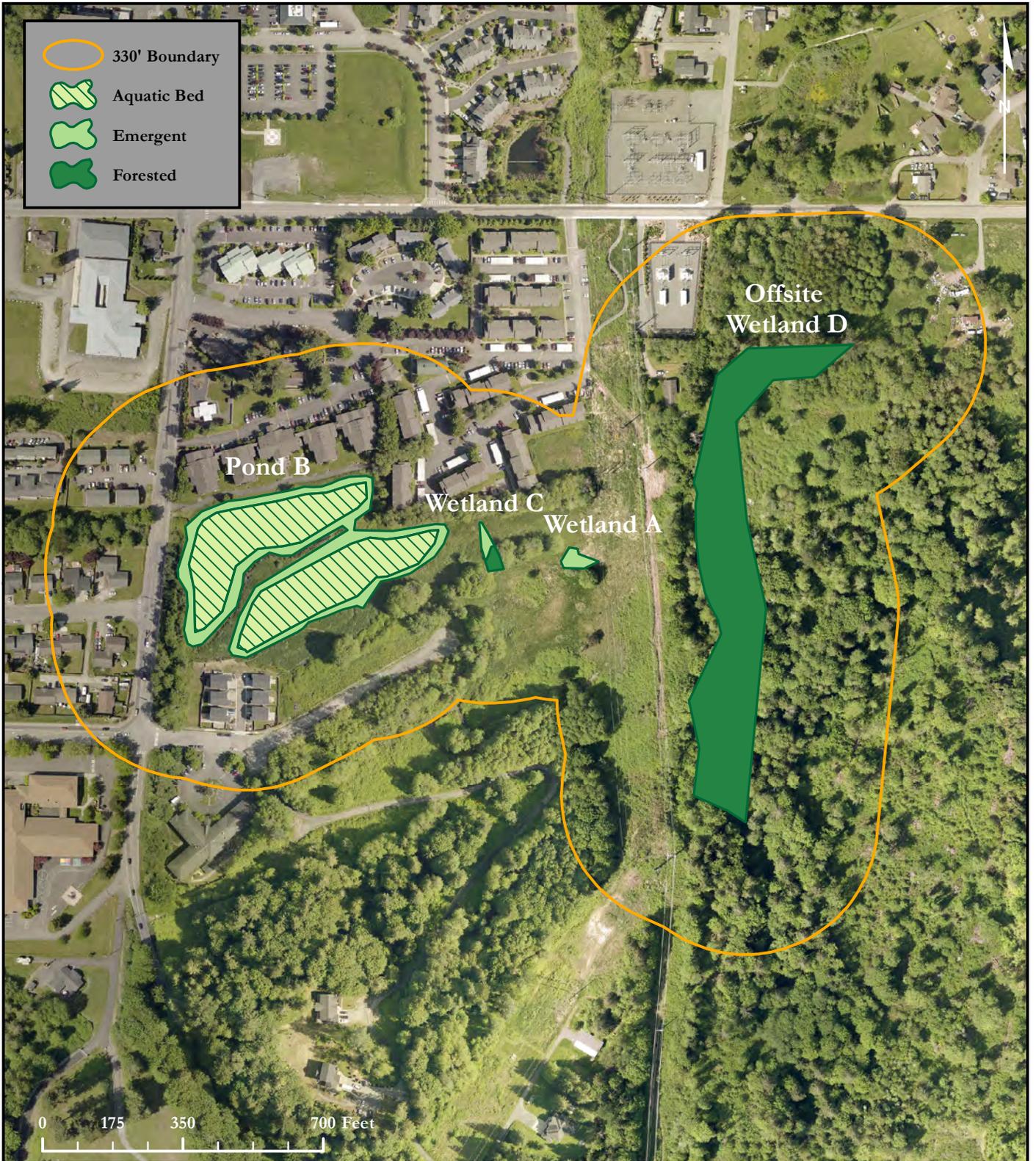
Wetland name or number D

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# Appendix F — Wetland Rating Maps

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# PIONEER POINT - COWARDIN CLASS



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 Phone: (253) 514-8952 Fax: (253) 514-8954  
[www.soundviewconsultants.com](http://www.soundviewconsultants.com)

## PIONEER POINT

SNOHOMISH COUNTY PARCEL NUMBERS:  
 31051200301000, 31051200301400,  
 & 31051200301500

DATE: 8/19/2021

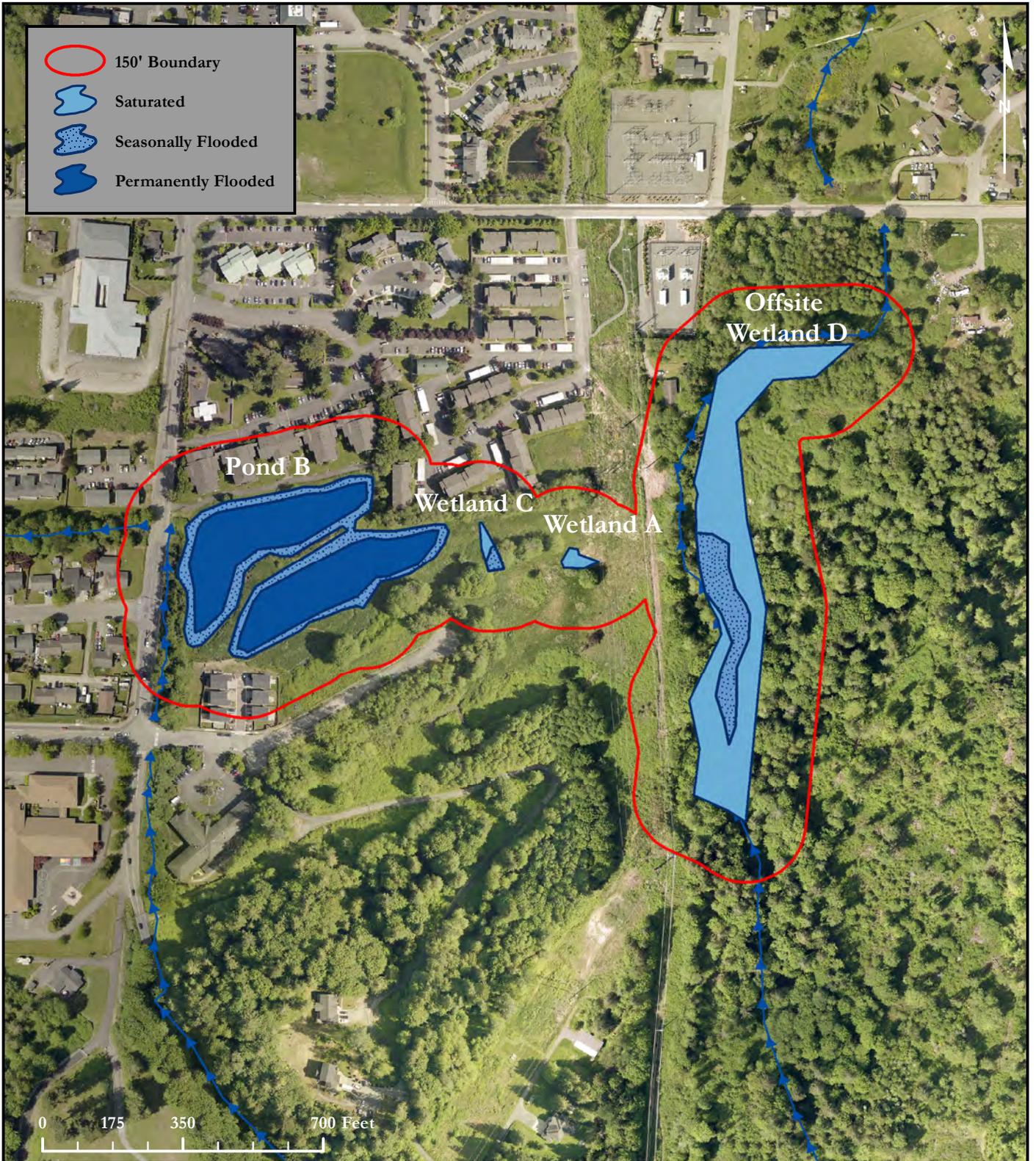
JOB: 2267.0001

BY: JML

SCALE: 1" = 350'

FIGURE NO. 1 OF 5

# PIONEER POINT - HYDROPERIOD




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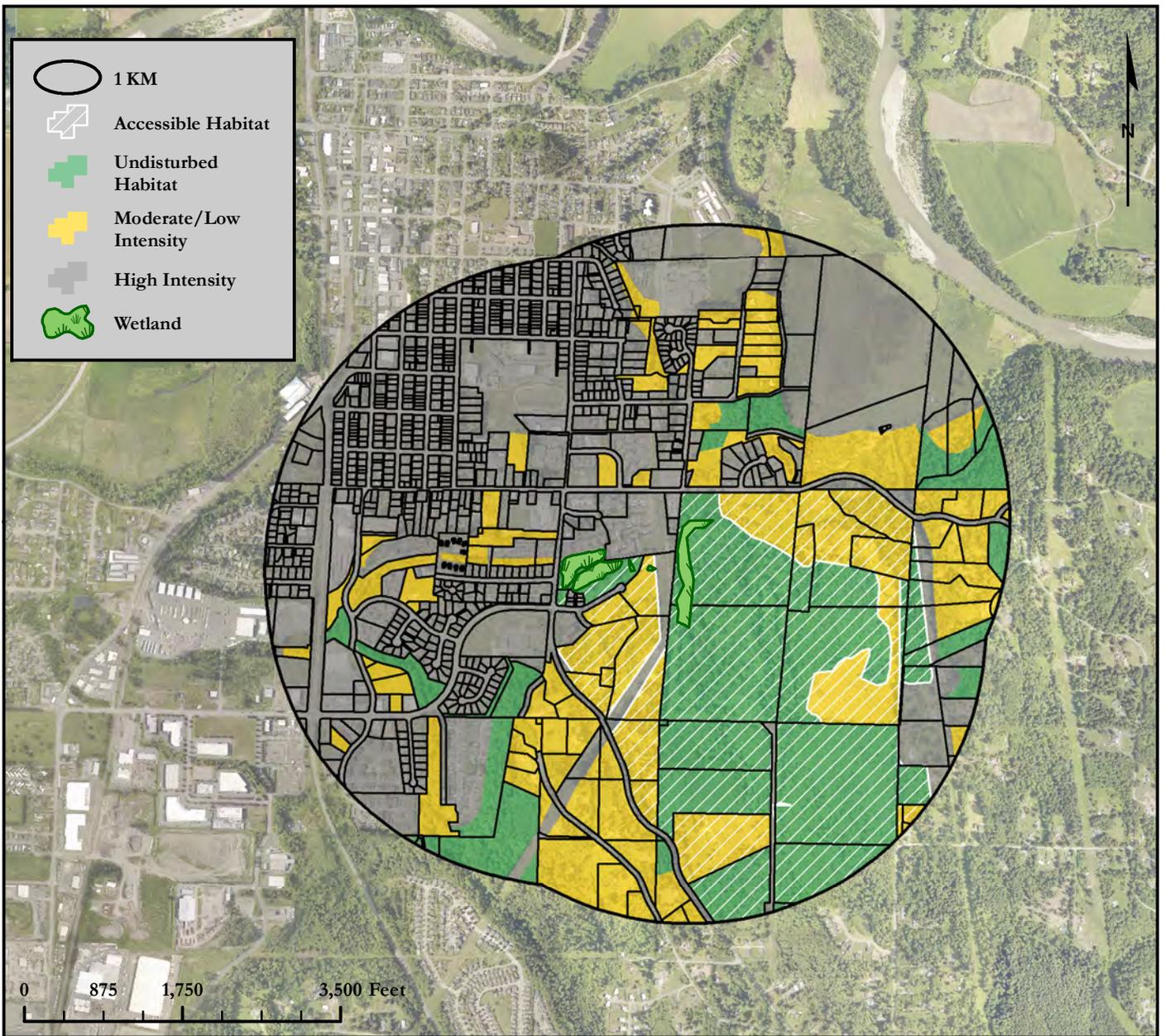
PIONEER POINT

SNOHOMISH COUNTY PARCEL NUMBERS:  
 31051200301000, 31051200301400,  
 & 31051200301500

DATE: 8/19/2021
JOB: 2267.0001
BY: JML
SCALE: 1" = 350'
FIGURE NO. 2 OF 5



# PIONEER POINT - HABITAT



H.2.0 Wetland A, C, Pond B		
H.2.1		
	Abutting Undisturbed Habitat	0.74%
	Abutting Moderate & Low Intensity Land Uses	2.04%
	<b>Accessible Habitat</b>	<b>1.76%</b>
H.2.2		
	Undisturbed Habitat	24.06%
	Moderate & Low Intensity Land Uses	24.15%
	<b>Undisturbed Habitat in 1 KM Polygon</b>	<b>36.13%</b>
H.2.3		
	<b>High Intensity Land Use in 1 KM Polygon</b>	<b>51.79%</b>

H.2.0 Offsite Wetland D		
H.2.1		
	Abutting Undisturbed Habitat	22.85%
	Abutting Moderate & Low Intensity Land Uses	6.87%
	<b>Accessible Habitat</b>	<b>26.29%</b>
H.2.2		
	Undisturbed Habitat	24.06%
	Moderate & Low Intensity Land Uses	24.15%
	<b>Undisturbed Habitat in 1 KM Polygon</b>	<b>36.13%</b>
H.2.3		
	<b>High Intensity Land Use in 1 KM Polygon</b>	<b>51.79%</b>



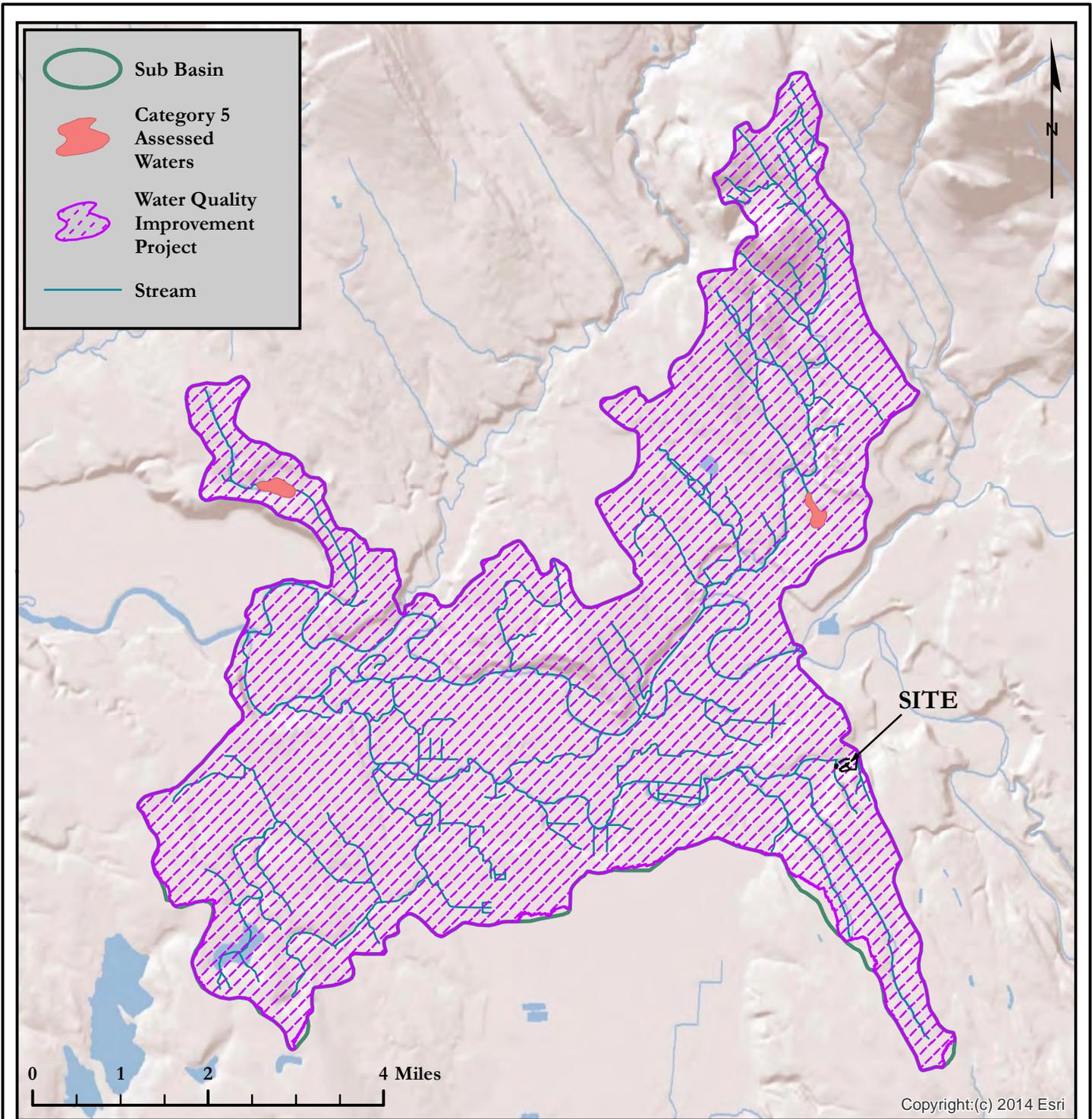
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**PIONEER POINT**

SNOHOMISH COUNTY PARCEL NUMBERS:  
 31051200301000, 31051200301400,  
 & 31051200301500

DATE: 8/19/2021  
 JOB: 2267.0001  
 BY: JML  
 SCALE: 1" = 1,750'  
 FIGURE NO. **4** OF 5

# PIONEER POINT - 303(D)



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Name	Pollutants	TMDL ID	WRIA
Stillaguamish River Watershed Temperature TMDL	Temperature	73	5
Stillaguamish River Watershed Multiparameter TMDL	Bacteria, Dissolved Oxygen, pH, Mercury, Arsenic	75	5



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**PIONEER POINT**

SNOHOMISH COUNTY PARCEL NUMBERS:  
 31051200301000, 31051200301400,  
 & 31051200301500

DATE: 8/19/2021
JOB: 2267.0001
BY: JML
SCALE: 1" = 2 mi
FIGURE NO. <b>5</b> OF 5

# Attachment G – Site Photographs

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General site conditions of the property, looking south.



General site conditions of the property, looking north.



**General site conditions of the property, looking northwest.**



**Eastern subject property boundary, looking east toward Stream Z.**



**View of Pond B, looking east.**



## Appendix H – Qualifications

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All field inspections, habitat assessments, and supporting documentation, including this *Wetland and Fish and Wildlife Habitat Assessment* prepared for *Pioneer Point* were prepared by, or under the direction of, Jon Pickett of SVC. The site investigations were performed by Lauren Templeton, report preparation was completed by Mae Ancheta, and additional project oversight and final quality assurance/quality control was completed by Kyla Caddey.

### Jon Pickett

Associate Principal

Professional Experience: 10+ years

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Jon Pickett is an Associate Principal and Senior Scientist with a diverse background in environmental and shoreline compliance and permitting, wetland and stream ecology, fish and wildlife biology, mitigation compliance and design, and environmental planning and land use due diligence. Jon oversees a wide range of large-scale industrial, commercial, and multi-family residential projects throughout Western Washington, providing environmental permitting and regulatory compliance assistance for land use entitlement projects from feasibility through mitigation compliance. Jon performs wetland, stream, and shoreline delineations and fish & wildlife habitat assessments; conducts code and regulation analysis and review; prepares reports and permit applications and documents; provides environmental compliance recommendation; and provides restoration and mitigation design.

Jon earned a Bachelor of Science degree in Natural Resource Sciences from Washington State University and Bachelor of Science and Minor in Forestry from Washington State University. Jon has received 40-hour wetland delineation training (Western Mountains, Valleys, & Coast and Arid West Regional Supplements) and regularly performs wetland, stream, and shoreline delineations. Jon is a Whatcom County Qualified Wetland Specialist and Wildlife Biologist and is a Pierce County Qualified Wetland Specialist. He has been formally trained by WSDOE in the use of the Washington State Wetland Rating System 2014, How to Determine the Ordinary High-Water Mark (Freshwater and Marine), Using Field Indicators for Hydric Soils, and the Using the Credit-Debit Method for Estimating Mitigation Needs.

### Lauren Templeton

Environmental Scientist

Professional Experience: 3 years

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Lauren Templeton is an Environmental Scientist with three plus years of experience in conducting wetland delineations, biological surveys, and in-situ water quality monitoring. Lauren has a background in wetland and biological assessments in various states, most notably Washington, Montana, Oregon, and New Mexico. Her project experience includes residential land use and developments, transportation, and water resources projects, working for federal, state, tribal, and private agencies. Lauren has experience developing various environmental documentation including environmental assessments, biological evaluations, environmental assessment, mitigation reports, and permit applications at the federal, state and tribal levels. Additionally, Lauren has experience utilizing desktop and remote GIS software and equipment to collect and process data, perform data analysis, and develop delineation exhibits. Lauren currently performs wetland delineations, conducts

environmental code analysis, and prepares various environmental compliance documentation including fish and wildlife habitat assessments, biological evaluations, and permit applications.

Lauren graduated from Western Washington University with a Bachelor of Arts in Environmental Science and Policy where she gained hands-on experience associated with water quality, statistical analysis, CERCLA projects, and ecological biomonitoring. Lauren has completed Basic Wetland Delineator Training with the Wetland Training Institute and received 40-hour USACE wetland delineation training. Additionally, Lauren has been trained through the Shipley Group on the National Environmental Policy Act, Endangered Species Act, National Historic Preservation Act, and Administrative Record.

## **Kyla Caddey**

Environmental Scientist & Certified Ecologist

Professional Experience: 7 years

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Kyla Caddey is a senior-level Environmental Scientist with a diverse background in stream and wetland ecology, wildlife ecology and conservation, wildlife and natural resource assessments and monitoring, and riparian habitat restoration at various public and private entities. Kyla has field experience performing in-depth studies in both the Pacific Northwest and Central American ecosystems which included various environmental science research and statistical analysis. Kyla has advanced expertise in federal- and state-listed endangered, threatened, and sensitive species surveys and assessment of aquatic and terrestrial systems throughout the Puget Sound region. She has completed hundreds of wetland delineations and has extensive knowledge and interest in hydric soil identification. As the senior writer, she provides informed project oversight and performs final quality assurance / quality control on various types of scientific reports for agency submittal, including: Biological Assessments/Evaluations; Wetland, Shoreline, and Fish and Wildlife Habitat Assessments; Mitigation Plans, and Mitigation Monitoring Reports. She currently performs wetland, stream, and shoreline delineations and fish and wildlife habitat assessments; prepares scientific reports; and provides environmental permitting and regulatory compliance assistance to support a wide range of commercial, industrial, and multi-family residential land use projects.

Kyla earned a Bachelor of Science degree in Environmental Science and Resource Management from the University of Washington, Seattle with a focus in Wildlife Conservation and a minor in Quantitative Science. She has also completed additional coursework in Comprehensive Bird Biology from Cornell University. Ms. Caddey is a Certified Ecologist through the Ecological Society of America. She has received 40-hour wetland delineation training (Western Mtns, Valleys, & Coast and Arid West Regional Supplement), is a Pierce County Qualified Wetland Specialist and Wildlife Biologist, and is a USFWS-approved Mazama pocket gopher survey biologist. Kyla has been formally trained through the Washington State Department of Ecology, Coastal Training Program, and the Washington Native Plant Society in winter twig and grass, sedge, and rush identification for Western WA; Using the Credit-Debit Method in Estimating Wetland Mitigation Needs; How to Determine the Ordinary High Water Mark; Using Field Indicators for Hydric Soils; How to Administer Development Permits in Washington Shorelines; Puget Sound Coastal Processes; and Forage Fish Survey Techniques. Additionally, she has received formal training in preparing WSDOT Biological Assessments.

## **Megan Mae Ancheta**

Staff Scientist

Professional Experience: 2 years

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Megan (Mae) Ancheta is a Staff Scientist with a background in wildlife and conservation biology in Washington state. Mae earned her Bachelor of Science degree in Environmental Science with a focus in Conservation Biology and Ecology and a certificate in Restoration Ecology from University of Washington, Tacoma. There she gained extensive, hands-on experience working in lab and field settings, and studying socio-ecological restoration and wildlife conservation in old growth forests, historic Puget lowland prairies, and wetland and riparian areas. Mae has applied her studies working in the local government at the city and county level as well as within federal entities conducting wetland mitigation planning, stream habitat monitoring, habitat restoration for federally listed species, and thorough site analyses for natural resource management utilizing ArcGIS and model analyses.

Mae 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.