

EXHIBIT G

Critical Area Information

- 1. Wetland and Stream Determination Report**
- 2. Peer Review**



WETLAND AND STREAM DETERMINATION REPORT
Entitle Fund Five, LLC - Noll Road NE
FOR

POULSBO, WA

Wetland Resources, Inc. Project #24334

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1.0 INTRODUCTION

Wetland Resources, Inc. (WRI) conducted a site visit on December 4, 2024, and again on March 11, 2025, to identify and evaluate wetlands, streams, and fish and wildlife habitat conservation areas (FWHCAs) on and in the vicinity of the subject property. No wetlands, streams, or FWHCAs were identified on the property. A previous site investigation was conducted in January 2009 by Wiltermood Associates, Inc. (*Wetland Analysis Report*, dated February 9, 2009) and the report documenting the 2009 assessment is included in Appendix A of this report.

The 15.05-acre site is comprised of Kitsap County parcel 132601-1-018-2008 and is located southwest of the intersection of Noll Road NE and NE Burk Way in Poulsbo, Washington. The parcel is located in the Puget Sound Sub-basin of the Olalla Valley-Frontal Puget Sound Watershed, Water Resources Inventory Area (WRIA) 15. The intent of this document is to characterize wetlands, streams, FWHCAs, and associated buffers on and in the vicinity of the subject property.

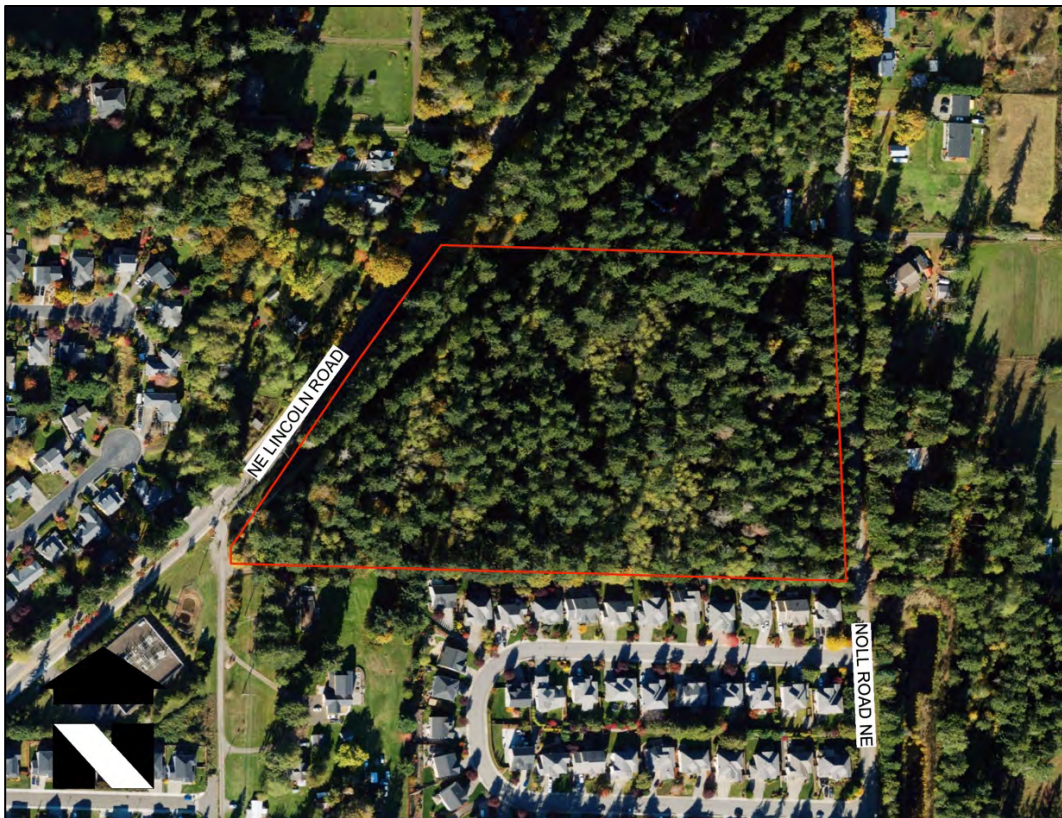


Figure 1 - Aerial view of the subject property and surrounding area.

1.1 SITE DESCRIPTION

The property is accessible via a shared gravel driveway off Noll Road NE along the northern parcel boundary. A power line easement with a maintained path crosses the northwestern corner. The remainder of the parcel is undeveloped with Douglas fir (*Pseudotsuga menziesii*), western red cedar

(*Thuja plicata*), red alder (*Alnus rubra*), big-leaf maple (*Acer macrophyllum*), western white pine (*Pinus monticola*), salmonberry (*Rubus spectabilis*), Himalayan blackberry (*Rubus armeniacus*), Nootka rose (*Rosa nutkana*), red elderberry (*Sambucus racemosa*), Pacific blackberry (*Rubus ursinus*), common sword fern (*Polystichum munitum*), salal (*Gaultheria shallon*), and lady fern (*Athyrium cyclosorum*). Land use surrounding the subject property is mixed residential and rural.

1.2 REVIEW OF EXISTING INFORMATION

Prior to conducting the site visit, public resource information was reviewed to gather background information on and in the vicinity of the subject property regarding wetlands, streams, and other critical areas. These sources include the following:

- USDA/NRCS Web Soil Survey: NRCS identifies three soil types underlying the subject property; Poulsbo gravelly sandy loam (0 to 6 percent slopes and 6 to 15 percent slopes) and Kapowsin gravelly ashy loam (0 to 6 percent slopes). Neither Poulsbo nor Kapowsin are considered a hydric soil.
- United States Fish and Wildlife Service National Wetlands Inventory (NWI): NWI maps a riverine (R4SBC) feature flowing through the center of the subject property.
- Department of Natural Resources Forest Practices Application Mapping Tool (FPAMT): FPAMT maps a Type N stream in the center of the subject property with a water type break approximately 0.3 miles downstream to the northwest. No other wetlands or streams are shown within 300 feet of the site.
- Washington Department of Fish and Wildlife (WDFW) SalmonScape Interactive Mapping System: SalmonScape shows a stream originating in the center of the property. The closest fish habitat is mapped downstream of the site, approximately 0.1 miles to the northwest. No other wetlands or streams are mapped within 300 feet of the site.
- WDFW Priority Habitat and Species (PHS) Interactive Map: PHS on the Web does not map any features on the subject property. The closest mapped feature is cutthroat trout (*Oncorhynchus clarki*) occurrence in a stream approximately 365 feet to the northwest of the parcel. No wetlands, streams, or priority habitats are mapped within 300 feet of the property.
- City of Poulsbo GIS Web Map: The City of Poulsbo maps a wetland in the center of the subject property and a stream flowing through the wetland and continuing northwest through the site. No other wetlands or streams are shown within 300 feet of the property.
- Kitsap County Interactive GIS Map: This resource shows a Type N stream in the center of the site and a culvert under NE Lincoln Road, approximately 185 feet north of the site. Approximately 0.23 miles northwest of the site, the stream is classified as a Type F stream. No other wetlands or streams are shown within 300 feet of the parcel.

2.0 WETLAND AND STREAM DETERMINATION

2.1 WETLAND DETERMINATION METHODOLOGY

Wetland conditions are evaluated and delineated using the approach described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (U.S. Army Corps of Engineers 2010). The following processes are used to conduct the wetland boundary determination:

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

2.1.1 Vegetation Criteria

The 2010 Regional Supplement defines hydrophytic vegetation as “the community of macrophytes that occur in areas where inundation or soil saturation is either permanent or of sufficient frequency and duration to exert a controlling influence of the plant species present.” Field indicators were used to determine whether the vegetation met the definition for hydrophytic vegetation.

2.1.2 Soils Criteria and Mapped Description

The National Technical Committee for Hydric Soils, as described in the 2010 Regional Supplement, defines hydric soils as “a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.” Field indicators were used to determine whether a given soil meets the definition for hydric soils.

2.1.3 Hydrology Criteria

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

2.2 STREAM DETERMINATION METHODOLOGY

Stream conditions are evaluated and delineated using the Ordinary High Water Mark (OHWM) methodology, as described in the Washington State Department of Ecology document *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Anderson et al. 2016).

3.0 DETERMINATION FINDINGS

3.1 CLIMATIC CONDITIONS

The U.S. Army Corps. Of Engineers' Antecedent Precipitation Tool (APT) indicates that precipitation conditions were at the high end of the normal range, i.e. on the wetter side of normal, during the January 2009 site investigation by Wiltermood Associates, Inc. The APT indicates that precipitation conditions were slightly drier than normal at the time of the December 2024 site investigation but returned to normal at the time of the March 2025 site investigation. These results indicate that the precipitation conditions at the time of the 2009 and 2025 site visits were normal for that time of year, therefore hydrology conditions observed on site would be considered normal conditions. The APT graphs are included in Appendix B of this report.

3.2 WETLAND DETERMINATION FINDINGS

The majority of the property is comprised of Douglas fir, western red cedar, red alder, big-leaf maple, western white pine, salmonberry, Himalayan blackberry, Nootka rose, red elderberry, Pacific blackberry, common sword fern, salal, and lady fern. Dominant vegetation across the site is rated as facultative upland (FACU) and therefore is not considered to be a hydrophytic plant community.



Figure 2 - Looking east in the eastern end of the property.

Soils observed across the site are generally dark brown and very dark brown (10YR 2/2 and 10YR3/3) in the upper layer and dark yellowish brown in the sublayer (10YR 4/4 and 10YR3/4). No hydric soil indicators were observed during the December 2024 or March 2025 site visits. No saturation or other wetland hydrology indicators were observed during the December 2024 or March 2025 site visits.

The area shown as a wetland on the City's map was carefully reviewed as part of the December 2024 and March 2025 investigations. Vegetation in this area includes red alder (FAC), bitter cherry (*Prunus emarginata*, FACU), Himalayan blackberry (FAC), twinberry (*Lonicera involucrata*, FAC), Nootka rose (FAC), red-osier dogwood (*Cornus sericea*, FACW), common sword fern (FACU), lady fern (FAC), and Pacific blackberry (FACU). While this area contains plants with varied indicator statuses, the dominant vegetation in this area is rated as facultative upland (FACU) and therefore it is not considered to be a hydrophytic plant community.



Figure 1 - Looking north through the area shown as wetland on the City of Poulsbo Interactive Zoning Map.

Soils observed in this area are generally a very dark grayish brown (10YR3/2) loam from zero to 12 inches below the soil surface. From 12 to 17 inches, soils are brown (7.5YR5/3) silty loam. Soil profiles examined during the December 2024 and March 2025 site visits did not meet any hydric soil indicators.

No saturation or any other wetland hydrology indicators were observed in the area of concern during the December 2024 or March 2025 site visits. Additionally, no inundation, saturation, or surface water was documented during the January 2009 site visit by Wiltermood Associates, Inc.

As the precipitation conditions during the March 2025 site visit were within the normal range, and the conditions were in the high end of the normal range during the January 2009 site visit, there is not sufficient hydrology in this area to meet the required wetland criteria.

With the lack of a hydrophytic plant community and the absence of hydric soil or wetland hydrology indicators, the area shown on the City's map as a wetland does not meet wetland criteria. No wetlands are present on the subject property.

The review of existing information in Section 1.2 above notes that there are no wetlands mapped within 300 feet of the property. In addition to that review, the downslope area off-site to the northwest was assessed from NE Lincoln Road. No flowing or standing water was observed adjacent to the road. The plant community in this area is primarily upland species and includes Douglas fir, big-leaf maple, western white pine, Himalayan blackberry, and sword fern. Given the lack of wetland hydrology and lack of a hydrophytic vegetation community observed from NE Lincoln Road, as well as the review of available resources, no wetlands are known to be within 300 feet of the subject property.

3.3 STREAM DETERMINATION FINDINGS

No flowing water, scoured areas, sorted streambed material, or other evidence of a stream were documented in the 2009 Wiltermood report, or observed during the December 2024 or March 2025 site visits.



Figure 2 - Looking south in the location of the mapped stream, Photo Point 1.



Figure 3 - Looking south in the location of the mapped stream, Photo Point 2.

Additionally, WRI assessed the off-site area where Kitsap County maps a culvert under NE Lincoln Road, approximately 185 feet north of the subject property. No flowing or standing water, sorted stream bed material, or defined channel were observed adjacent to the right-of-way. The required buffer width in PMC Table 16.20.315 for a Type F1 (salmonid) stream is 200 feet, for Type F2 (non-salmonids) it is 150 feet, and for a Type Np (non-fish perennial) it is 100 feet. Since no evidence of a stream was observed adjacent to NE Lincoln Road (185 feet from the site) and the closest documented salmonid presence is 365 feet northwest of the site (WDFW), any stream present northwest of NE Lincoln Road would not project a buffer onto the subject property.

4.0 WILDLIFE ASSESSMENT

Wetlands and their associated buffers contain a variety of resources for wildlife including food, water, thermal cover, and refuge. Several avian species were identified by sight and sound during the December 2024 site visit including Spotted Towhee (*Pipilo maculatus*), Chestnut-backed Chickadee (*Parus rufescens*), Black-capped Chickadee (*Parus atricapillus*), Red-breasted Nuthatch (*Sitta canadensis*), Golden-crowned Kinglet (*Regulus satrapa*), and woodpeckers (*Picoides pubescens*, *Leuconotopicus villosus*). Additional avian species expected to use the site include Anna's Hummingbird (*Calypte anna*), American Crow (*Corvus brachyrhynchos*), Steller's Jay (*Cyanocitta stelleri*), Northern Flicker (*Colaptes auratus*), Bewick's Wren (*Thryomanes bewickii*), brown creeper (*Certhia americana*), Pacific Wren (*Troglodytes pacificus*), Dark-eyed Junco (*Junco hyemalis*), American Robin (*Turdus migratorius*), and Song Sparrow (*Melospiza melodia*).

Black-tailed deer (*Odocoileus hemionus columbianus*) scat was observed across the parcel during the December 2024 site visit and coyote scat (*Canis latrans*) was observed during the March 2025 site visit. Additional mammals expected to use the site include raccoon (*Procyon lotor*), skunks (*Mephitis spp.*), squirrels (*Sciurus griseus*, *Tamiasciurus douglasii*), rats (*Rattus norvegicus*, *Rattus rattus*), northern flying squirrel (*Glaucomys sabrinus*), and Virginia opossum (*Didelphis virginiana*). Other wildlife that may be observed are the common garter snake (*Thamnophis sirtalis*) and Pacific tree frog (*Hyla regilla*).

These lists are not meant to be all-inclusive and may omit species that currently utilize or could utilize the site. No federal- or state-listed endangered, threatened, candidate, or sensitive species were observed on site or are expected to utilize the property.

5.0 CONCLUSION

The results of the site investigations indicate that there are no wetlands, streams, or FWHCAs on the subject property and no nearby critical areas that would project a regulatory buffer onto the property were observed. Therefore, any development of the subject property will not impact any wetlands, streams, fish and wildlife habitat conservation areas or their buffers.

6.0 USE OF THIS REPORT

This report is based largely on readily observable conditions and, to a lesser extent, on readily ascertainable conditions. No attempt has been made to determine hidden or concealed conditions.

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

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

Wetland Resources, Inc.



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7.0 REFERENCES

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APPENDIX A

WETLAND ANALYSIS REPORT; WILTERMOOD ASSOCIATES, INC.

WETLAND ANALYSIS REPORT

FOR A

15.05 Acre Parcel

Parcel No. 132601-1-018-2008

Poulsbo

Kitsap County Washington

**Prepared For:
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February 9, 2009

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INTRODUCTION

The delineated wetland discussed in this report is situated on a 15.05 acre parcel (Tax Parcel No. 132601-1-018-2008) located at the southeast corner of the intersection of NE Lincoln Road and Maranatha Lane NE (See Appendix A-1), Poulsbo, Washington in the SW ¼ of the NE ¼ of Sec 13, T 26 N, R 1 E. WM. The parcel is bordered to the northwest by Lincoln Road and the power line easement road with single family homes to the northeast and southwest. The east line is bordered by Noll Road NE, to the southeast by the Avondale Glen housing development and to the southwest a single family home surrounded by pasture. A 90 lot residential development is proposed on the east and west slopes surrounding the wetland.

Currently the property is undeveloped with the exception of the power line easement road that cuts across the northwest corner. An old foundation indicating an historic building was observed on the southwest corner but it is now overgrown with alder and a variety of other shrubs and herbs. The property consists of mixed coniferous and deciduous forest with moderate to dense shrub and herbaceous layers. Two ridge lines lie along the east and west sides that slope down moderately into a trough across the center of the property. The trough slopes gradually down to the north. A small depressional scrub/shrub wetland is located about midway through the trough with. Although it is a scrub/shrub wetland it is bordered by an overhanging forested canopy. The high shrub layer is dominated by red osier dogwood, hardhack and Nootka rose. The sparse herbaceous layer has low percentages of slough sedge and creeping buttercup. The overhanging forested canopy consists of Douglas fir, alder maple and cedar. The wetland is a scrub/shrub depressional Category III system that requires an 80 foot buffer according to the City of Poulsbo Critical Areas Ordinance (CAO). The City of Poulsbo requires a wetland analysis report be prepared to address the wetland and its buffers with respect to the proposed residential development. All of the mapping resources available identify a small stream starting in the center on the property and continuing to the north. No stream was observed or identified onsite during the site visit.

The delineation was completed on January 5, 2009, using the Department of Ecology Washington State Wetlands Identification and Delineation Manual in accordance with the Poulsbo Critical Areas Ordinance. The Department of Ecology Wetland Manual requires the use of the three wetland parameter methodology (wetland hydrology, hydrophytic vegetation, and hydric soils) when making determinations (see Appendix C for criteria used to make wetland determinations). All three parameters must be present for an area under normal circumstances to be considered wetland. Because this site is determined to be under normal circumstances, the Routine On-Site Method was used to make the on-site wetland boundary determination. This report discusses the on-site wetland with respect to data collected in the field used in conjunction with information obtained from the Kitsap County Soil Survey and National Wetlands Inventory. The report includes wetland categorization, classification, wetland functions assessment and discussion of the potential impacts of future development on the delineated wetland.

BACKGROUND INFORMATION

Kitsap County Soil Survey

The onsite soils are mapped as 22 Kapowsin gravelly loam, 0-6% slopes in the center of the property with 39 Poulsbo gravelly sandy loam, 0-6% slopes and 40 Poulsbo gravelly sandy loam, 6-15% slopes on the east and west ridge lines according to the Natural Resources Conservation Service Web Soil Survey and the Soil Conservation Service, Soil Survey of Kitsap County Area, Washington; February 1980. Kapowsin and Poulsbo soils are not hydric and do not contain hydric inclusions. Both soil types can develop a perched water table for short periods during the rainy season in winter and spring where wetlands can sometimes develop. See Appendix A-3 for site located on soil survey and Appendix B for description of the mapped soil types.

National Wetland Inventory

The US Fish and Wildlife Service, National Wetland Inventory (NWI) On-Line Wetlands Mapper, Suquamish Quadrangle does not map any wetlands within 300 feet of the property. See Appendix A-4 for site located on the NWI.

Priority Species

There are no Washington State Priority 1, 2, or 3 plant or animal species known to exist on the parcel (Washington Natural Heritage Program, 1993/95 update) nor were any identified during our field survey. The presence of priority species was determined using the printed edition and a data base search was not completed at this time.

WETLAND ASSESSMENT

This section describes the delineated wetland with respect to the three parameters as collected in the field and recorded on the wetland data forms. The delineation revealed that the wetland encompasses a small area in the center of the property. It is a scrub/shrub depressional Category III wetland that is dominated on the south by red osier dogwood and by Nootka rose and hardhack on the north. There are no trees and very few emergent species in the wetland. A stream is mapped beginning near the center of the property heading north offsite under Lincoln Road but there is no defined channel, surface scouring or evidence of flowing water on this property. The wetland is delineated with 13 orange flags labeled WB A-1 through A-13. Thirteen test holes were conducted to verify the presence of wetland and non-wetland conditions on site. Test Holes 7 and 10 are located in the wetland and Test Holes 1, 2 and 12 were conducted in typical upland areas on the east and west edges and Test Holes 3-6, 8, 9, 11 and 13 are located in the low lying areas in and around the delineated wetland. See Appendix A-2 for wetland boundary flags and location of the wetland and upland test holes.

The following section describes the data collected at test holes in the wetland and adjacent upland and used to make the wetland boundary determination (See Appendix C for methods and criteria for additional information). The wetland and upland data is described in separate

sections and each section includes a description of the dominant plant species, the soil profile and whether hydric conditions are present, and the presence/absence of wetland hydrology and/or wetland hydrology indicators. The dominant plant species identified by common and botanical name along with the indicator status (OBL, FACW, FAC, etc. See Appendix D for Definition of Indicator Status) as listed on the back of each data form. The presence of hydric soil conditions is examined in a 16 inch soil holes conducted at each test hole. The chromas are determined using damp soil samples that are compared to a corresponding color chip in the Munsell Soil Color Charts. The chromas were then recorded on the data sheet using Hue (YR) and Value/Chroma. The hydric soil criteria is met when there is a low soil matrix chroma at 10 inches or just below the A horizons. Any Hue and Value with a low Chroma is typical of hydric (wetland) soils that have developed over time due to inundation or saturation by water. The presence or absence of wetland hydrology and/or wetland hydrology indicators includes the source of hydrology and direction of flow (if evident). Wetland Classification, Wetland Category and Required Buffers follow the description of the wetland and upland data.

Wetland A Data Description

Test Hole 7 is located along the southern edge of the wetland and Test Hole 10 is located in the northwest corner of the wetland. The shrub layer is dominated by red osier dogwood (*Cornus stolonifera*) FACW; Nootka rose (*Rosa nutkana*) FAC and hardhack (*Spiraea douglasii*) FACW with low percentages of black twinberry (*Lonicera involucrata*) FAC+; salmonberry (*Rubus spectabilis*) FAC and Himalayan blackberry (*Rubus armeniacus*) FACU. The sparse herbaceous layer contains generally low percentages of youth on age (*Tolmiea menziesii*) FAC and creeping buttercup (*Ranunculus repens*) FACW with trace amounts of lady fern (*Athyrium filix-femina*) FAC and slough sedge (*Carex obnupta*) OBL. The overhanging tree layer is dominated by red alder (*Alnus rubra*) FAC and western red cedar (*Thuja plicata*) FAC with a lower percentage of Western white pine (*Pinus monticola*) FACU- and Douglas fir (*Pseudotsuga menziesii*) FACU.

The soil holes at Test Holes 7 and 10 revealed single layer soil profiles of sandy loam and gravelly sandy loam with matrix chromas of 10 YR 2/1. Hydrology was not present during the January 2009 field visit but the wetland appears to be seasonally flooded as indicated by the dominant FACW vegetation. The main source hydrology appears to be surface water runoff with the potential for a perched water table. The data collected and observations made reveal that the wetland is perhaps beginning to dry up because of changes that have occurred in upstream areas. The wetland is fed mainly by surface water runoff that likely originated south of the site and the development to the south appears to have inadvertently re-routed runoff to a detention facility east of Noll Road. It appears to currently be receiving less water than is necessary to maintain the historic seasonally flooded hydrologic regime and may continue to dry up. It is also possible that there has been less than normal amounts of rainfall during this past winter so the exact cause of the change in hydrologic regime has not been precisely identified. Currently, it is meeting the wetland criteria as there are positive indicators present for all three wetland parameters and is a regulated wetland.

Upland Data Description

The upland forested vegetation around the wetland is dominated by a mixed coniferous and deciduous forest with moderate to sparse shrub and herbaceous layers. The topography consists of ridge lines on the east and west edges that slope down into the center trough through which the power line easement runs across the northwest corner with single family homes to the northeast and residential development and some pasture land to the southwest. Test Holes 3-6, 8, 9, 11 and 13 are located around the wetland and the low lying drainage swale and Test Holes 1, 2 and 12 are located in typical upland areas on the east and west hillsides. See Appendix A-2 for location of upland test holes and Appendix G for Upland and Non-wetland Data Forms 1-6, 8, 9, 11 and 13.

The tree layer is dominated by varying percentages of Douglas fir (*P. menziesii*) FACU and red alder (*A. rubra*) FAC with lower percentage of cascara (*Frangula purshiana*) FAC- and big leaf maple (*Acer macrophyllum*) FACU. The shrub layer is dominated by salal (*Gaultheria shallon*) FACU; Himalayan blackberry (*R. armeniacus*) FACU; red elderberry (*Sambucus racemosa*) FACU; salmonberry (*R. spectabilis*) FAC and Indian plum (*Oemlaria cerasiformis*) FACU with lower percentages of California huckleberry (*Vaccinium ovatum*) FACU; Nootka rose (*R. nutkana*) black twinberry (*L. involucrata*) FACW; red osier dogwood (*C. stolonifera*) FACW and evergreen blackberry (*Rubus laciniatus*) FACU+. The sparse herbaceous layer is dominated by sword fern (*Polystichum munitum*) FACU and bracken fern (*Pteridium aquilinum*) FACU and trailing blackberry (*Rubus ursinus*) FACU with areas of bare ground.

Test Holes 8, 9, and 11 are upland test holes completed around the wetland. The upland soil holes at Test Holes 8 and 9 revealed two layer sandy loam soil profiles. Test Holes 8 and 9 have 2 to 10 inch surface layers that have a matrix chroma of 10 YR 3/3. The subsurface horizons of each test hole have matrix chromas of 10 YR 4/4 and 10 YR 3/3 at Test Holes 8 and 9, respectively. Test Hole 11 has a three layer soil profile composed of a sandy loam. The 9 inch surface horizon has a matrix chroma of 10 YR 3/3, the intermediate layer (9-12") has a matrix chroma of 10 YR 6/3 and the bottom layer (13-16") has a matrix chroma of 10 YR 4/4. There was no hydrology and no evidence of wetland hydrology at any of these upland/non wetland test hole locations. The soil data indicates the absence of hydric soil conditions as the profiles each have high matrix chromas without mottling at a depth of 10 inches. There are no positive indicators present for wetland hydrology so the wetland hydrology parameter is not met.

Stream Determination

All of the available mapping obtained for this project indicate the presence of a stream extending north to south through the trough formed by the east and west ridgelines. The data collected in the mapped stream area revealed the absence of all three wetland parameters and revealed no distinct channel through the low trough or through the wetland. Test Hole 3 is located about midway along the south line, Test Holes 4-6 are in a low lying pocket roughly 60 feet south of Wetland A and Test Hole 13 is located north of the wetland near the north line. The vegetation in these areas is dominated by Douglas fir (*P. menziesii*)

FACU; red alder (*A. rubra*) FAC; western hemlock (*Tsuga heterophylla*) FACU; big leaf maple (*Acer macrophyllum*) FACU and western red cedar (*Thuja plicata*) FAC with lower percentages of Western white pine (*P. monticola*) FACU- and cascara (*F. purshiana*) FAC- in the tree canopy. The shrub layer is dominated by salal (*G. shallon*) FACU; Himalayan blackberry (*R. armeniacus*) FACU; red elderberry (*S. racemosa*) FACU; salmonberry (*R. spectabilis*) FAC and Indian plum (*O. cerasiformis*) FACU with lower percentages of California huckleberry (*V. ovatum*) FACU; Nootka rose (*R. nutkana*) and evergreen blackberry (*R. laciniatus*) FACU+. The sparse herbaceous layer is dominated by sword fern (*P. munitum*) FACU and bracken fern (*P. aquilinum*) FACU; trailing blackberry (*Rubus ursinus*) FACU and sparse patches of slough sedge (*Carex obnupta*) OBL with areas of bare ground.

The soil test holes revealed nearly identical two layer sandy loam soil profiles. The surface horizons are 7 to 13 inches thick and have a matrix chroma of 10 YR 3/3. The subsurface horizons extend to the bottom of the 16 inch soil hole and have matrix chromas ranging from 10 YR 3/4 to 10 YR 4/3.

There is no evidence or indicators of seasonal surface water flow through the lowest part of the trough during the January 2009 field visit even though it occurred after a period of heavy snow melt in December 2008. The snow melt would have contributed hydrology the stream and the presence of water flow would have been evident during the recent field visit. There is some indication that a historic stream was present through this area and it is likely that the source of hydrology from areas to the south was inadvertently re-routed as storm water into a detention facility. The possible historic stream was likely a Type 5 system with seasonal flow of water that depended mainly on surface water as its source of hydrology. No springs or seeps were identified during the field delineation to indicate that the stream would have been groundwater fed and there was no defined channel observed anywhere in the trough that would have indicated regular flow of water.

Typical Upland Data Discussion

Test Holes 1, 2 and 12 are in typical upland areas the southeast and southwest ridge tops with Test Hole 2 midway down slope to the east of Test Hole 1 which lies on the western ridge top. The upland forested vegetation is dominated by a mixed coniferous and deciduous forest with moderate to sparse shrub and herbaceous layers. Topography of these upland areas is moderately sloping down from the ridge lines on the east and west edges.

The tree layer in the forested uplands is dominated by Douglas fir (*P. menziesii*) FACU; western red cedar (*T. plicata*) FAC; western hemlock (*Tsuga heterophylla*) FACU and big leaf maple (*Acer macrophyllum*) FACU with lower percentage of Western white pine (*P. monticola*) FACU-; red alder (*A. rubra*) FAC and cascara (*Frangula purshiana*) FAC-. The shrub layer is dominated by salal (*Gaultheria shallon*) FACU; Himalayan blackberry (*R. armeniacus*) FACU; red elderberry (*Sambucus racemosa*) FACU; salmonberry (*R. spectabilis*) FAC and Indian plum (*Oemleria cerasiformis*) FACU with lower percentages of Oregon grape (*Mahonia aquifolium*) FACU; California huckleberry (*Vaccinium ovatum*) FACU; Scot's broom (*Cytisus scoparius*) FACU and evergreen blackberry (*Rubus*

laciniatus) FACU+. The sparse herbaceous layer is dominated by sword fern (*Polystichum munitum*) FACU and bracken fern (*Pteridium aquilinum*) FACU and trailing blackberry (*Rubus ursinus*) FACU.

Test Holes 1, 2 and 12 revealed one and two layer soil profiles consisting of a sandy loam to gravelly sand loam. The soil at Test Hole 1 consists of a single layer soil profile (0-16") with a matrix chroma of 10 YR 4/3. Test Holes 2 and 12 revealed two layer soil profiles with surface horizons that are 4 and 12 inches thick (0-4" & 0-12") with matrix chromas of 10 YR 4/3. The subsurface horizons have identical matrix chromas of 10 YR 4/4. There was no hydrology and no evidence of wetland hydrology at any of these upland/non wetland test hole locations. The soil data indicates the absence of hydric soil conditions as the profiles each have high matrix chromas and there are no positive indicators present for any of the three wetland parameters so a non wetland determination was made.

Wetland Classification

The wetland has been classified according to the U.S. Fish and Wildlife Service, Classification of Wetlands and Deepwater Habitats of the United States, Cowardin et al. December, 1979. This method of wetland classification divides wetlands into a hierarchy based on their specific attributes (system, class, hydrologic regime). System describes a wetland's association with a body of water (estuarine, Palustrine, Riverine, etc.), while the class refers to the dominant vegetation community (aquatic bed, emergent, forest). Hydrologic regime indicates wetland's relationship to the movement of water. The wetland is a freshwater scrub/shrub system that is seasonally flooded, which is described by Cowardin as a Palustrine Scrub/Shrub system with Seasonally Flooded Hydrology system and is abbreviated PSSC.

Wetland Category

The City of Poulsbo Critical Areas Ordinance (CAO) requires that identified and delineated wetlands be categorized using the *revised* 2004 Washington State Wetlands Rating System for Western Washington (Publication # 04-06-025). This system utilizes hydrogeomorphic characteristics to determine the potential and opportunity for a particular wetland to perform water quality, hydrologic and habitat functions. It differentiates wetlands into four categories ranging from Category I systems that typically have high potential and opportunity to perform these functions to Category IV systems that have low potential and opportunity to perform the functions. A rating form that asks a series of questions is used to identify the wetland's position in the landscape (sloping, depression, Riverine, etc.) and its specific characteristics that would indicate that it has potential to perform the water quality, hydrologic and habitat functions. When the wetland has opportunity to perform the functions, it receives a multiplier of 2. The scores are then added up and a category is assigned based on the number of points received as follows: Category I wetlands score 70 points or greater, Category II systems score between 51-69 points, Category III systems score 30-50 points and Category IV wetlands score less than 30 points. See Appendix E-1 for Wetland Rating Forms. See Appendix E for Wetland Rating Form.

Wetland A meets the criteria for a Depressional Category III system that scores a total of 36 points on the rating form (9 points for water quality functions, 16 points for hydrologic functions and 11 points for habitat functions). The wetland has potential for water quality functions because it is dominated by dense erect vegetation that slows the flow of water and allows the herbaceous vegetation to filter pollutants and has opportunity because there is residential development within 150 feet upslope that acts as a direct pollution source. It has potential and opportunity for hydrologic functions because the vegetation dominating the wetland slows water flow so any pollutants can drop down into the soils and be utilized for plant uptake. Wetland A scores 11 points for habitat because it is composed of a single vegetation class that has a few special habitat features such as large downed woody debris and no invasive plants species. The wetland doesn't score higher for habitat because it has low interspersed habitats and its north and south buffer edges are highly impacted by residential development, grazed pastures, single family homes, roads, ditches and fences. See Appendix E for the wetland definition and the required wetland buffers.

Required Wetland Buffers

The proposed subdivision will allow for 90 homes which is a high intensity land use. The City of Poulsbo CAO requires 80 foot buffers for Category III wetlands when the habitat score is less than 20 points and a high intensity land use is proposed. A 15 foot building and impervious surface setback required from the buffer edge. See Appendix E-1 for Wetland Rating Field Data Form for additional categorization information.

Off-Site Wetlands

There is a small depressional wetland offsite to the north that abuts Lincoln Road and has a seasonal flow north under the road. The wetland meets the criteria for a Category III wetland and an 80 foot buffer is required. It is a regularly disturbed wetland with a single vegetative class, no special habitat features and it is completely surrounded by development, roads and trails. The buffer from this offsite wetland will not extend onto this property because it is over 80 feet to the north.

WETLAND FUNCTION ASSESSMENT

The wetland functions discussed in this section are analyzed as they apply to the ability of the on-site wetlands to store excess storm or floodwaters, protect the water quality, provide significant groundwater discharge or recharge areas and whether they provide significant wildlife habitat and/or biological support. The functional values assessment of the on-site delineated wetlands is conducted using best professional judgment and knowledge and incorporates general information provided by WET (Wetland Evaluation Technique) and the 2004 Department of Ecology Wetland Rating System for Western Washington. See Appendix F for additional information concerning wetland functional values.

Function/Value	Rating
Storm and Flood Water Storage	LOW-MODERATE The wetland is a depressional system that receives hydrology from surrounding upland slopes and functions to store excess water. Storage is facilitated within the wetland but because of its small size it is limited on how much storage it can provide.
Water Quality Protection	MODERATE Wetland A has the potential and opportunity for water quality protection because it is a depressional system with a constricted outlet that detains some water and allows sediments to settle out. There is a dense shrub layer that slows and filters any water reaching the wetland.
Groundwater Discharge	LOW The system rates LOW for groundwater discharge because there were no seeps and springs identified during the site visit and it appears that the wetland is fed by surface water runoff rather than groundwater
Groundwater Recharge	MODERATE This wetland rates MODERATE for groundwater recharge because it is a small depressional wetland. It has an outlet and appears to have once flooded into the uplands during heavy rains, allowing water to infiltrate into the more permeable upland soils surrounding the wetland. Since it has a constricted outlet water exits the system in part, through percolation into the soil also facilitating groundwater recharge.
Biological Support	MODERATE It rates MODERATE for biological support because it is composed of a single vegetation community but it is part of the surrounding coniferous and deciduous forest that provides a habitat haven for local wildlife species that thrive in urban areas. The area is isolated by high intensity housing developments and roadways and there is no corridor to other habitat areas. It does not contain fish habitat and does not appear to have a surface water connection to a fish bearing stream.
Aesthetic Values Educational Values Recreational Values	LOW This system rates LOW for Aesthetic, Educational, and Recreational values because it does not provide much opportunity for educational or recreational activities. There is opportunity to use the system for such passive activities as bird watching and there is some aesthetic value to the wetland, since they can provide a vegetated sight and sound buffer between neighboring houses.

Faunal Conditions and Habitat Assessment

The site itself appears to function to provide good habitat for a variety of wildlife species because of the forested components that contain three vegetated layers with moderate species diversity. The wetland provides habitat for local wildlife because it is surrounded by development that restricts most larger wildlife from using this area. This forest likely provides habitat for a limited variety of semi urbanized wildlife species deer, coyote, raccoons, crows, opossums and other species that thrive in semi-urban areas although the only evidence of wildlife activity appeared to be from deer.

PROJECT DESCRIPTION AND POTENTIAL IMPACTS

A 90 lot subdivision is proposed and the lots are proposed around the delineated wetland and buffer. The development will be accessed from NE Noll Road and potentially NE Lincoln Road. The street and proposed lots will be located outside the wetland and wetland buffers while the existing utility easement will remain in place. The proposed development will have minimal impact on the wetland because an 80 foot buffer will be maintained and it is composed of very thick upland forest with good tree, shrub and herbaceous layers. The buffer vegetation is more than sufficient to minimize any noise and light impacts to wildlife habitat within the wetland. The wetland is not currently disturbed with regard to lack of vegetated buffer or filling but has been impacted recently by conveyance of surface water away from this system and into a different drainage basin during planning and construction of nearby developments. There is a possibility that conveyance of any additional surface water away from the wetland particularly on this property, could result in the ultimate elimination of wetland conditions (vegetation and wetland hydrology-soils will remain hydric appearing for many years). In the case of this wetland, it would seem appropriate to convey most if not all of the storm water from this site (after scouring in biofiltration swale and detention pond) be conveyed into the wetland system to restore the historic wetland hydrologic regime. The conveyance of storm water into the wetland will also allow restoration of the hydrologic and water quality functions of this wetland, which are not currently occurring to the highest potential.

SUMMARY

The delineated wetland discussed in this report is situated on a 15.05 acre parcel (Tax Parcel No. 132601-1-018-2008) located at the northeast corner of the intersection of NE Lincoln Road and Maranatha Lane NE, Poulsbo, Washington. A 90 lot housing development is proposed on the property with access from NE Noll Road and/or NE Lincoln Road. The streets and proposed lots will be located outside the wetland and its required buffers. The parcel is bordered to the north by NE Lincoln Road, the power line easement road and a single family home. It is bordered to the south by a residential development with NE Noll Road on the west side and Maranatha Lane on the west side. The topography consists of ridge lines along the east and west lines that slope down moderately towards the center of the property into a low lying trough. The parcel is dominated by a coniferous and deciduous

forest with moderate to sparse shrub and herbaceous layers. The forest is dominated by Douglas fir, red alder and western red cedar with the understory dominated by salal, salmonberry and Indian plum.

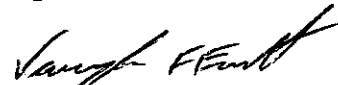
Wetland A is a depressional Palustrine Scrub/Shrub Seasonally Flooded wetland that used to drain offsite to the north but now only receives enough hydrology to support the wetland vegetation. The vegetation in Wetland A is dominated by a red osier dogwood hardhack and nootka rose. The herbaceous ground cover consists of low percentages of buttercup and lady fern. The wetland meets the criteria for a depressional Category III scrub/shrub system. Category III wetlands, according to the City of Poulsbo Critical Areas Ordinance, require an 80 foot buffer for scoring less than 20 points for habitat functions. There is some indication that a historic stream was present through this area and it is likely that the source of hydrology from areas to the south was inadvertently re-routed as storm water into a detention facility. The possible historic stream was likely a Type 5 system with seasonal flow of water that depended mainly on surface water as its source of hydrology. No springs or seeps were identified during the field delineation to indicate that the stream would have been groundwater fed and there was no defined channel observed anywhere in the trough that would have indicated regular flow of water.

LIMITATIONS

This report has been prepared for Leroy Christiansen et al, it is important to acknowledge that definition of plant community boundaries is not an exact science. Different agencies and individuals may often disagree on exact boundaries and/or plant community classifications. It is the responsibility of the various resource agencies that regulate development activities in wetlands to make the final determination of wetland boundaries. Therefore, the information presented in this report should be reviewed by the appropriate regulatory agencies prior to detailed site planning and/or construction activities.

Given the constraints of schedules and scope of work, Wiltermood Associates warrants that the work performed is in accordance with the technical guidelines and criteria in effect at the time this report was prepared. The results and recommendations of this report represent professional opinion based upon the information provided by the client, the client's consultants, and that gathered through the course of this wetland study. No other warranty, expressed or implied, is made.

Signed



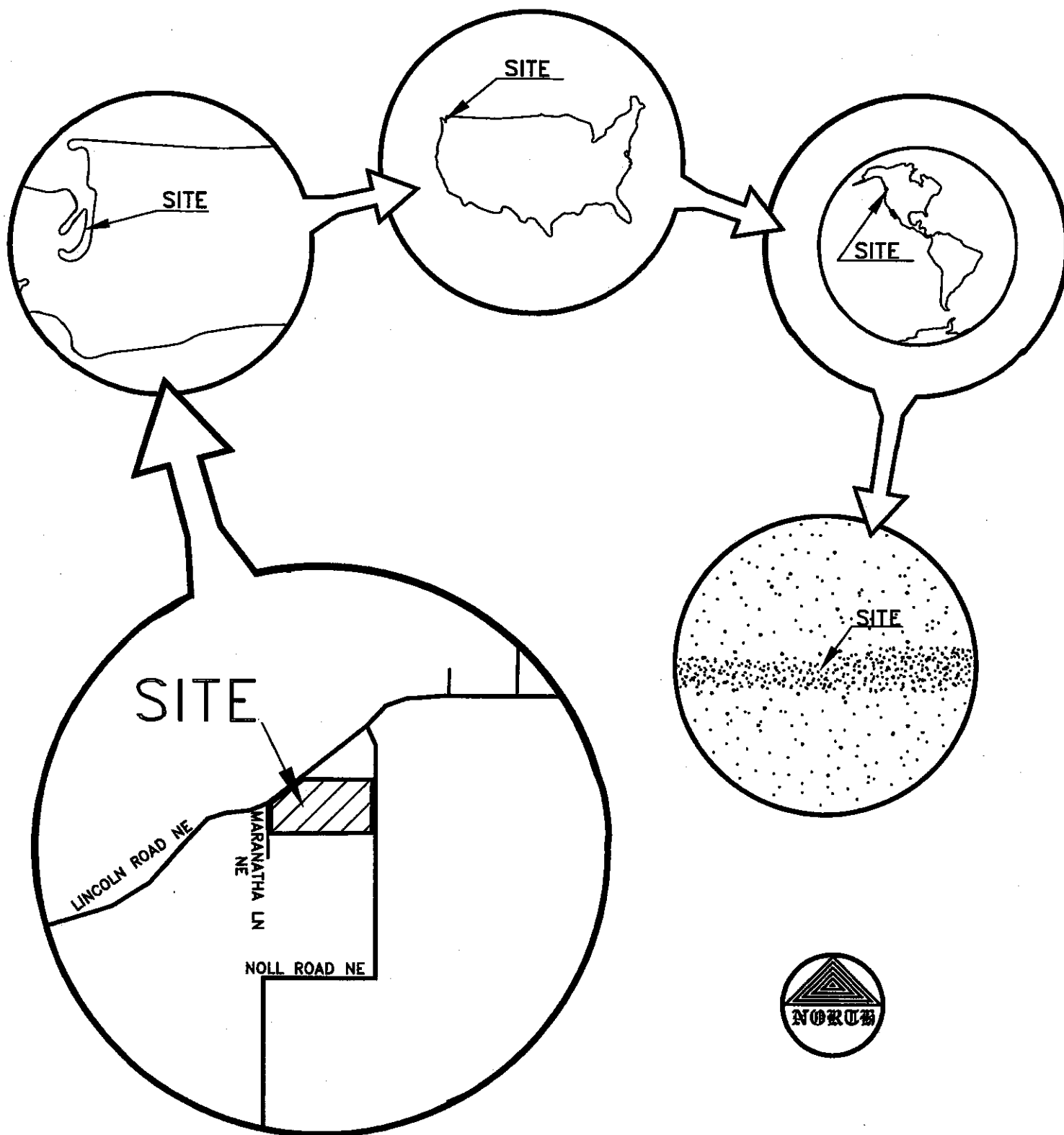
Vaughn Everitt
Wetland Specialist

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VICINITY MAP

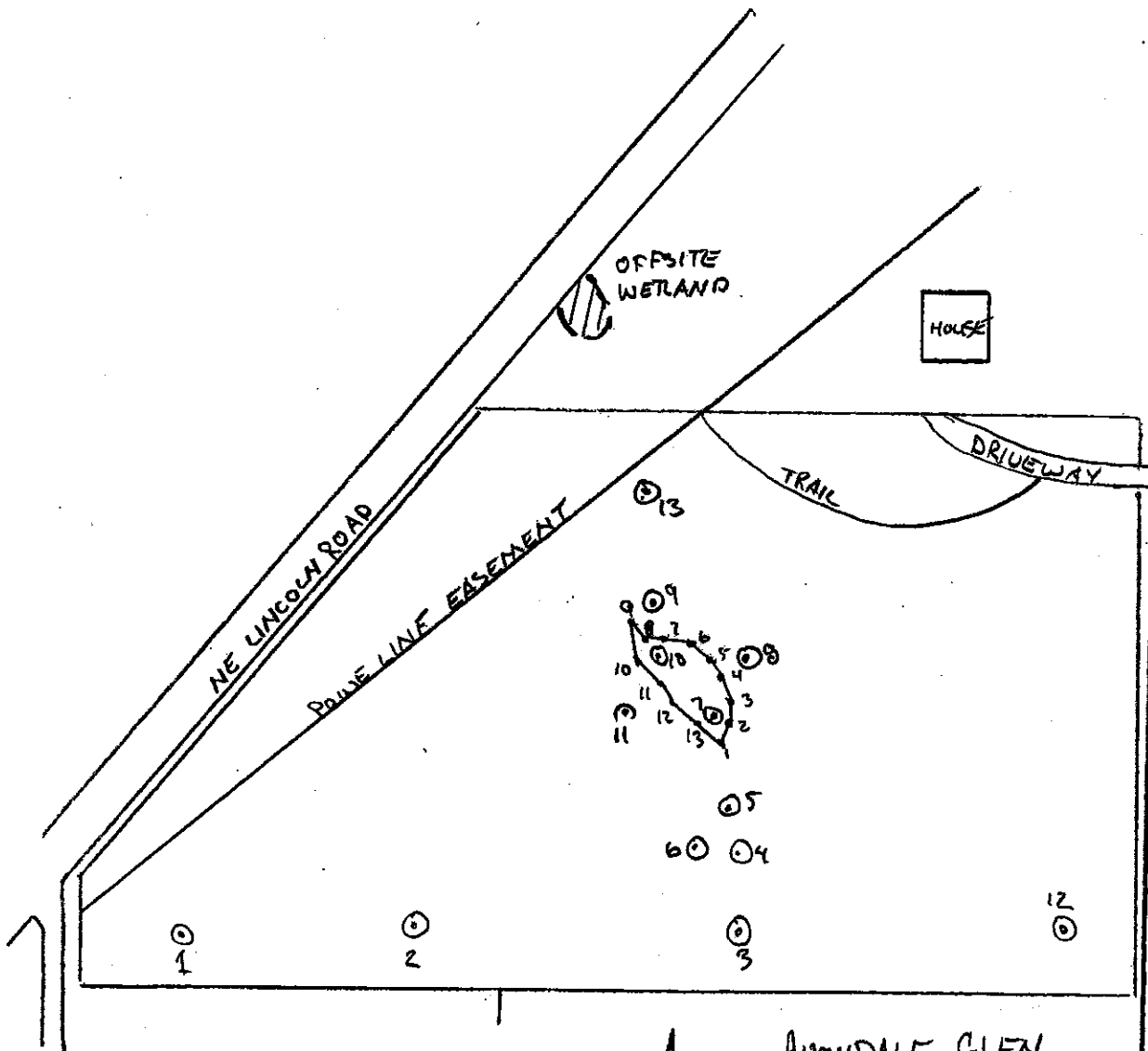


APPENDIX A-1



**Wiltermood
Associates, Inc.**

1015 SW Harper Rd.
Port Orchard, WA 98367
(360) 876-2403



NOT A SURVEY
NOT TO SCALE
ROUGH DRAWING
①=TEST HOLE LOCATIONS 13 TOTAL
13 WETLAND BOUNDARY FLAGS

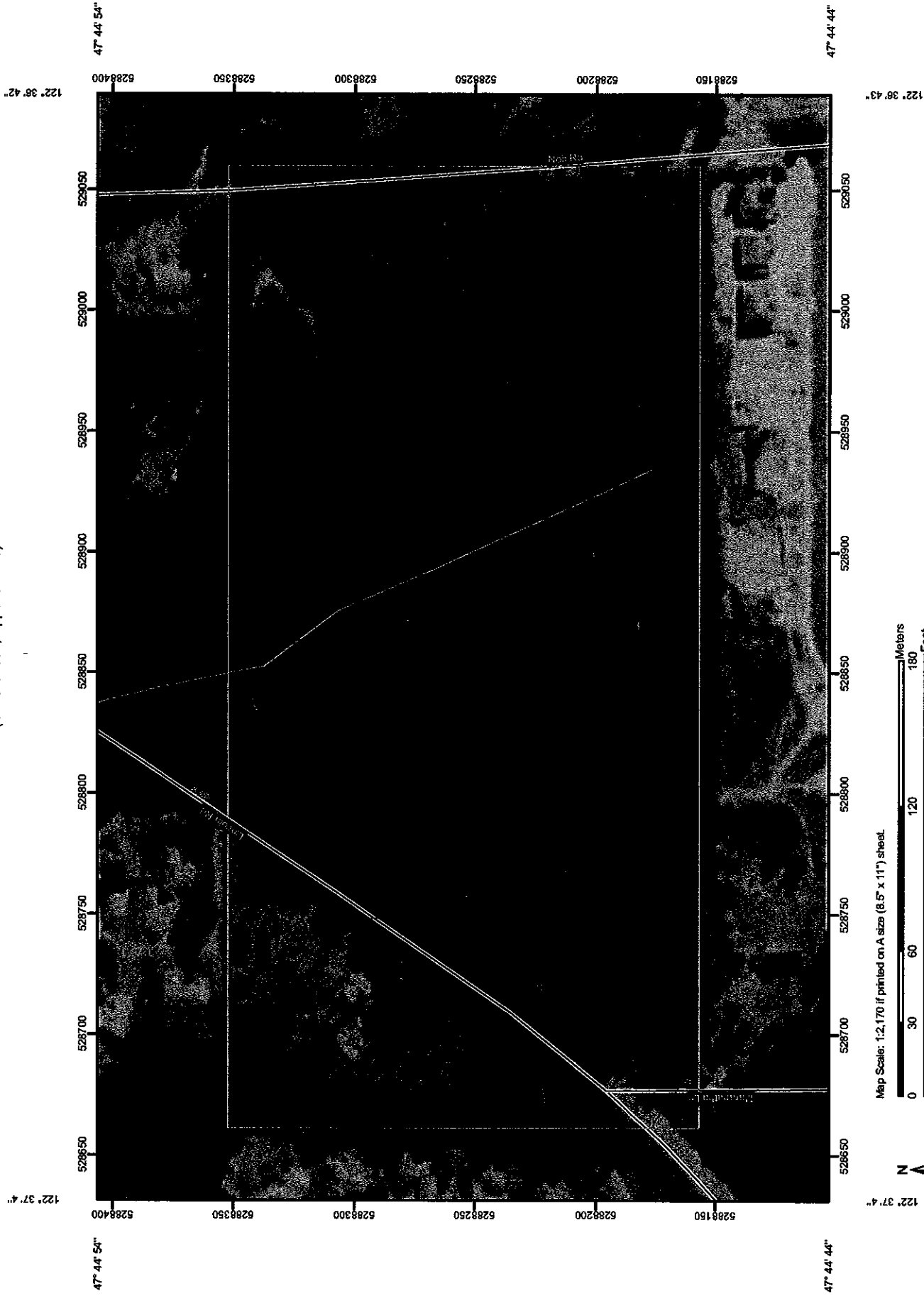
AVONDALE GLEN
HOUSING DEVELOPMENT

Appendix A2
1-8-09

Vaughn F. Fennell
Wiltermood Associates, Inc.

1015 S.W. Harper Road
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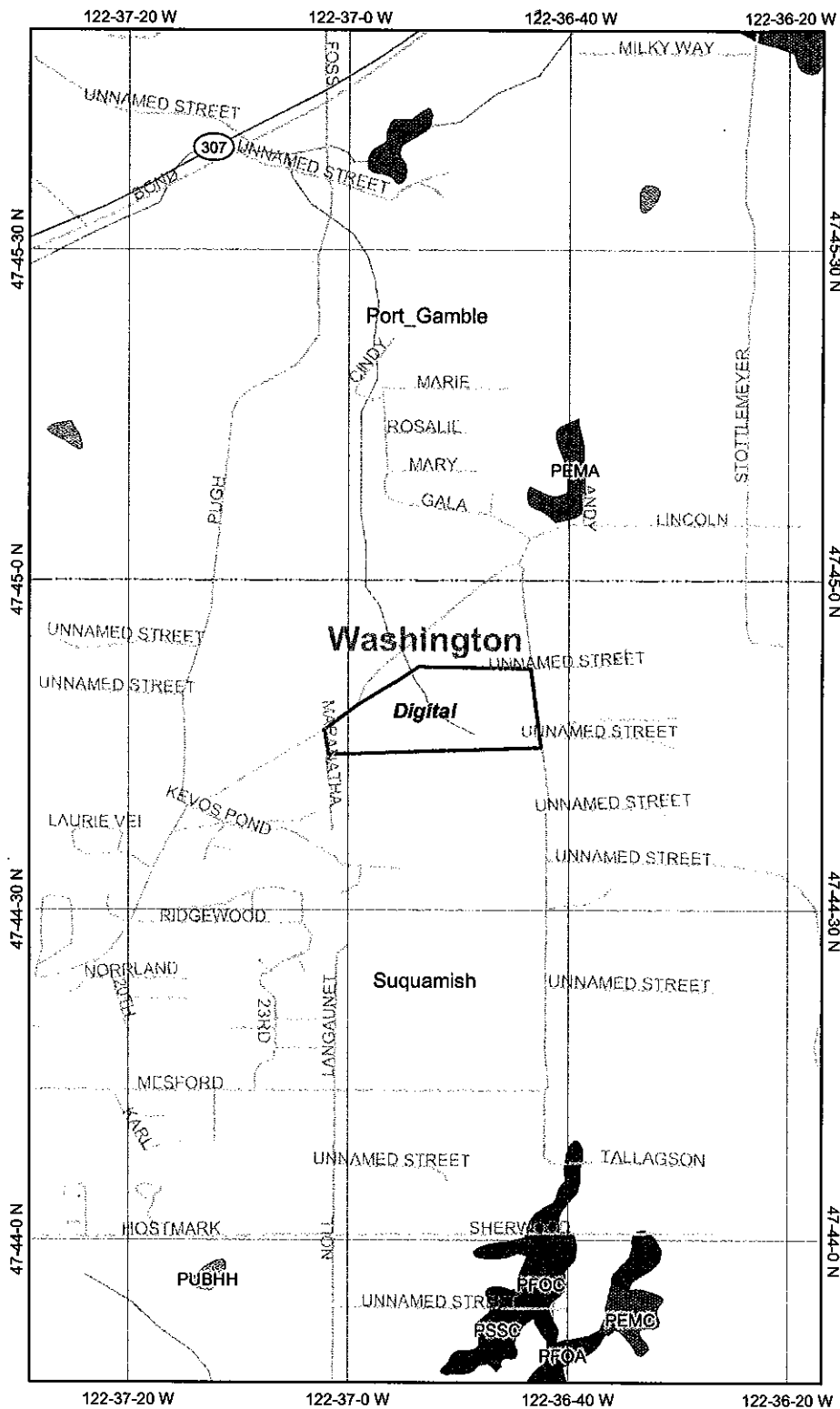
Soil Map—Kitsap County Area, Washington
(Christiansen, Appendix A-3)



Map Scale: 1:2,170 if printed on A size (8.5" x 11") sheet.



APPENDIX A-4



Legend

Ohio_wet_scan

- 0
- 1
- Out of range
- Interstate
- Major Roads
- Other Road
- Interstate
- State highway
- US highway
- Roads
- Cities
- USGS Quad Index 24K
- Lower 48 Wetland Polygons
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Lower 48 Available Wetland Data
- Non-Digital
- Digital
- No Data
- Scan
- NHD Streams
- Counties 100K
- States 100K
- South America
- North America

Map center: 47° 44' 49" N, 122° 36' 53" W



Scale: 1:18,237

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

APPENDIX B

KITSAP COUNTY SOIL SURVEY DESCRIPTION OF SOIL TYPES

The soils described in this appendix are excerpts, considered applicable to urban development, taken from the Soil Conservation Service, Soil Survey of Kitsap County Area, Washington; September, 1980. For further information, see page 22 & 23 of the soil survey.

22 Kapowsin gravelly loam, 0-6% slopes. This moderately deep, moderately well drained soil is on broad uplands and terraces. It formed on glacial till and mapped areas range from 5 to more than 300 acres. Included with this soil in mapping are as much as 10 percent Harstine and Poulsbo soils and about 5 percent Kapowsin Variant soil. Also included is up to 10 percent Kapowsin soils that have slopes of more than 6 percent. These soils are not classified as hydric. Permeability is moderate above the hardpan and very slow through the pan. The available water capacity is moderate, runoff is slow, and the hazard of water erosion is slight. A perched water table is at a depth of 1 to 2 feet during the rainy season. This Kapowsin soil is used mainly for woodland, cropland, and urban development. Depth to the cemented pan and wetness are the main limitations for urban development on this soil. Community sewage systems are needed because septic tank drainage fields fail or do not function properly during the rainy season. Excavation for basements, utility lines, and drainageways is difficult because of the cemented pan. Topsoil needs to be stockpiled and subsequently used to cover excavated soil material. Proper site preparation includes planning for the safe disposal of runoff.

39 Poulsbo gravelly sandy loam, 0 to 6% slopes. This moderately deep moderately well drained soil is on broad uplands. It formed in glacial till and is not classified as hydric. Included with this soil in mapping, and making up as much as 10 percent of the map unit, are Ragnar soils and small pockets of Sinclair soils. Also included is a soil similar to this Poulsbo soil that has a compact sandy till layer at a depth of about 30 inches. Permeability of this soil is moderately rapid above the hardpan and very slow through the pan and the available water capacity is low. Runoff is slow, and the hazard of water erosion is slight. A perched water table is at a depth of 1 to 2.5 feet during the rainy season. This Poulsbo soil is used mainly for woodland. some areas are used for cropland, hay, pasture, and urban development. This soil is suited to urban development if community sewage systems are built. Wetness and the cemented pan are the main limitations. In areas of moderate and high population density, on-site septic tank absorption systems often fail or do not function properly during periods of high rainfall because of wetness and depth to the pan.

40 Poulsbo gravelly sandy loam, 6 to 15% slopes. This moderately deep, moderately well drained soil is on broad uplands. It formed in glacial till and is not classified as hydric. Included with this soil in mapping are as much as 10 percent Ragnar soils and about 5 percent Poulsbo soils that have slope of more than 15 percent or less than 6 percent. Also included is a soil similar to this Poulsbo soil that has a compact sandy till layer at a depth of about 30 inches. Permeability of this Poulsbo soil is moderately rapid above the hardpan and very slow through

the pan. The available water capacity is low. Runoff is slow. and the hazard of water erosion is slight. A perched water table is at a depth of 1 to 2.5 feet during the rainy season. This Poulsbo soil is used mainly for woodland. Small areas are used for cropland, hay, pasture, and urban development. This soil is suited to urban development if community sewage systems are built. Slope, wetness, and the cemented pan are the main limitations. In areas of moderate and high population density, on-site septic tank absorption systems often fail or do not function properly during periods of high rainfall because of wetness and depth to the pan.

APPENDIX C: WETLAND DETERMINATION/DELINEATION METHODOLOGY

The definition for wetland established by the U.S. Army Corps of Engineers (COE) was used to determine the presence and extent of wetlands on this parcel. Section 404 of the Clean Water Act (1972) states that wetlands are:

"Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

This criteria is based on the Department of Ecology Washington State Wetland Identification and Delineation Manual, the 1987 Corps of Engineers (COE) Wetland Delineation Manual and the 1989 Federal Interagency Committee for Wetland Delineation (FICWD). This committee included representatives from the COE, U.S. Fish and Wildlife Service, Environmental Protection Agency, and Soil Conservation Service, to establish technical procedures and guidelines for wetland determination and delineation. These guidelines as set forth in both delineation manuals requires that three technical criterion: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology must all be met for an area to be identified as wetland. A general summary of these criterion or parameters as defined within the COE and FICWD manuals include:

Hydrophytic Vegetation Criterion: This criterion is met when, under normal circumstances 50 percent or more of the composition of the dominant species from all strata are obligate wetland (OBL), facultative wetland (FACW), and/or facultative (FAC).

Hydric Soil Criterion: This criterion is met for any area having soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part (USDA Soil Conservation Service, 1987).

Wetland Hydrology Criterion: This criterion is met for any area having permanent or periodic inundation, or soil saturation to the surface, at least seasonally.

These three criterion are the basis for all field work and wetland delineation performed on this parcel. The specific methodology used is outlined in the next section.

WETLAND DELINEATION METHODOLOGY

The wetland delineation followed the Routine On-site and Intermediate Determination Methods as outlined in each manual. A summary of this method includes:

Plant Community Assessment. The entire project site was initially walked to identify the plant community types present. This provided a rough picture of the type and extent of wetland(s) which exist on site. Also observed and noted were topographical features,

hydrologic flow patterns, and any significantly disturbed areas. It was then determined whether normal environmental conditions were present, or human modifications had occurred to the wetland.

Selection of Sample Area(s). A series of sample areas or points were selected and flagged to best characterize the plant communities of suspected wetland and non-wetland areas. The approximate location of these flagged sample points were noted on a map of the project site for subsequent survey.

Characterization of Plant Communities. At each sample point the dominant plant species within the tree, shrub, and herb stratum were identified and noted on a data form. Species were identified and noted according to Flora of the Pacific Northwest (Hitchcock & Cronquist, 1973). The estimated percent areal cover and the indicator status (as listed in the National List of Plant Species that Occur in Wetlands: 1988, Washington) were also noted on the data form. It was then determined whether the hydrophytic vegetation criteria was met. When 50% or more of the dominant species have an indicator status of OBL, FACW, or FAC, the vegetation is considered hydrophytic.

Characterization of Soils. At each sample point, a hole 16 to 18 inches in depth was dug using a spade (an existing soil perk hole was used if available). Soil characteristics (matrix color, mottles, etc.) were examined and noted. It was then determined whether the hydric soil criterion was met. Hydric soil criterion is outlined on page 6 of the FICWD manual and pages 26 to 34 of the COE manual.

Determination of Hydrology Criterion. At each sample point the presence of inundation by water, soil saturation by water, or other hydrologic field indicators was noted. It was then determined whether the wetland hydrology criterion was met.

Wetland Determination. The completed data forms were then examined for each selected sample point within the plant communities. Each plant community meeting the hydrophytic vegetation, hydric soil, and wetland hydrology criteria was considered wetland. Data forms are numbered correspondingly to the sample points located on the final survey drawing.

DETERMINATION OF WETLAND-NONWETLAND BOUNDARY

After completing the determination method summarized above, the actual boundary between wetland and non-wetland was delineated. This delineation was completed by:

1. recognizing obvious wetland and non-wetland areas,
2. identification of transitional areas between the two areas,
3. final determination of the boundary by further sampling of vegetation, soils, and hydrology.

The wetland Boundary was then flagged with numbered orange flags with WB (Wetland Boundary) written on them. The approximate location of these flags was then noted on a map, if available, for subsequent survey.

* Important Note: The exact location of the boundary between wetland and non-wetland areas may be difficult to determine, especially if transition areas are more gradual. In cases such as this the wetland boundary is determined, after further sampling, by using the best possible professional judgment.

APPENDIX D

DEFINITION OF PLANT INDICATOR STATUS

The following plant indicator status categories and their symbols are derived from the Wetland Plant List, Northwest Region, USFWS, Washington, D.C. (Reed, 1988)

<u>Symbol</u>	<u>Definition of Plant Indicator Status</u>
OBL	Obligate wetland plants are nearly always found in wetlands (estimated probability 99% or more)
FACW	Facultative wetland plants usually found in wetlands (estimated probability 67-99%)
FAC	Facultative plants are equally likely in wetlands and uplands (estimated probability 34-66%)
FACU	Facultative upland plants usually in uplands (estimated probability 67-99%)
UPL	Upland plants are nearly always in uplands (estimated probability 99% or more)
NI	Not indicated plant species are not determined due to lack of sufficient information
NL	Not listed in the "National List of Plant Species that Occur in Wetlands" indicating the lack of information for this species.

Note: The "National List of Plant species that Occur in Wetlands" uses a plus (+) or minus (-) sign to specify a higher or lower portion of a particular wetland indicator frequency for the three facultative-type indicators...). (from section 2.5, page 6, Federal Manual for Identifying and Delineating Jurisdictional Wetlands)

16.20.155 DEFINITIONS

Adjacent: Any development that includes a critical area or its buffer or any development proposal within 300 feet of a critical area.

Agricultural practices: Activities related to vegetation and soil management, such as tilling of soil, control of weeds, control of plant diseases and insect pests, soil maintenance and fertilization as well as animal husbandry. Agricultural practices shall not include removing trees, diverting or impounding water, excavation, ditching, draining, culverting, filling, grading, and similar activities that introduce new adverse impacts to wetlands.

Alteration: A human-induced action, which changes the existing condition of a critical area. Alterations include but are not limited to grading; grubbing; dredging; channelizing; cutting, clearing, relocating or removing vegetation, except noxious weeds identified by the Washington Department of Ecology or the Kitsap County Cooperative Extension; applying herbicides or pesticides or any hazardous or toxic substance; discharging pollutants; grazing domestic animals; modifying for surface water management purposes; or any other human activity that changes the existing vegetation, hydrology, wildlife or wildlife habitat.

Anadromous Fish: Fish whose life cycle includes time spent in both fresh and salt water.

Applicant: The person, party, firm, corporation or legal entity, or agent thereof, that proposes a development of property in the City of Poulsbo.

Aquaculture Practices: The harvest, culture or farming of food fish, shellfish, or other aquatic plants and animals including fisheries enhancement and the mechanical harvesting of shellfish and hatchery culture.

Aquifer: A saturated body of rock, sand, gravel or other geologic material that is capable of storing, transmitting and yielding water to a well.

Aquifer recharge: The process by which water is added to an aquifer. It may occur naturally by the percolation (infiltration) of surface water, precipitation, or snowmelt from the ground surface to a depth where the earth materials are saturated with water. The aquifer recharge can be augmented by "artificial" means through the addition of surface water or by the injection of water into the underground environment.

Aquifer Recharge Area: Those areas overlying aquifer(s) where natural or artificial sources of water can move downward to an aquifer(s).

Aquifer vulnerability: The combined effect of hydrogeological susceptibility to contamination and the contamination loading potential as indicated by the type of activities occurring on a project area.

Bank stabilization: Lake, stream and open water shoreline modification including vegetation enhancement, used for the purpose of retarding erosion, protecting channels or shorelines, and retaining uplands.

Bench (geologic): A relatively flat and wide landform along a valley wall.

Best Available Science: Scientifically valid information in accordance with WAC 365-195-905, now or as amended hereafter, that is used to develop and implement critical areas policies or regulations.

Best management practices: Conservation practices or systems of practices and management measures that:

- A. Control soil loss and reduce water quality degradation caused by nutrients, pathogens, bacteria, toxic substances, pesticides, oil and grease, and sediment; and,
- B. Minimize adverse impacts to surface water and groundwater flow, circulation patterns, and to the chemical, physical, and biological characteristics of critical areas.

Bog: Bogs are a type of wetland typically composed of acidic, low nutrient soils and waters, high organic matter and that support plants specifically adapted to such conditions that are not commonly found elsewhere. Bogs may have an overstory of spruce and may be associated with open water.

Buffer: A non-clearing native vegetation area which is intended to protect the functions and values of critical areas.

Candidate Species (state-listed): Species under review by the Department of Fish and Wildlife for possible listing as endangered, threatened or sensitive. A species will be considered for State Candidate designation if sufficient scientific evidence suggests that its status may meet criteria defined for endangered, threatened, or sensitive in WAC 232-12-297. Currently listed State Threatened or State Sensitive Species may also be designated as a State Candidate Species if their status is in question. State Candidate Species will be managed by the Department of Fish and Wildlife, as needed, to ensure the long-term survival of populations in Washington. They are listed in WDW Policy 4802.

Channel Migration Zone (CMZ): As defined by WAC 173-26-020(6), as now or hereafter amended, means the area along a river within which the channel(s) can be reasonably predicted to migrate over time as a result of natural and normally occurring hydrological and related processes when considered with the characteristics of the river and its surroundings.

Clearing: The destruction, disturbance or removal of vegetation by physical, mechanical, chemical or other means.

Compensation: Replacement of project-induced critical area (e.g. wetland) losses of acreage or functions, and includes, but is not limited to, restoration, creation, or enhancement.

Creation: Actions performed to intentionally attempt to establish a critical area at a site where it did not formerly exist.

Critical Area Buffer: An area of protection around a critical area.

Critical aquifer recharge areas: Those land areas which contain hydrogeologic conditions which facilitate aquifer recharge and/or transmitting contaminants to an underlying aquifer.

Critical areas: Include the following areas and ecosystems: (a) wetlands; (b) areas with a critical recharging effect on aquifers used for potable water; (c) fish and wildlife habitat conservation areas; (d) geologically hazardous areas; and (e) frequently flooded areas.

Danger trees: Any tree of any height, dead or alive, that presents a hazard to the public because of rot, root stem or limb damage, lean or any other observable condition created by natural process or man-made activity consistent with WAC 296-54.

Detention facilities: Stormwater facilities including all appurtenances associated with their designed functions, maintenance and security that are designed to store runoff while gradually releasing it at a pre-determined controlled rate.

Development proposal site: For purposes of this Chapter, the legal boundaries of the parcel or parcels of land on which an applicant has applied for authority from the City of Poulsbo to carry out a development proposal.

Director: "Director" shall mean the Director of the City of Poulsbo Planning Department or a duly authorized designee.

Draining (related to wetland): Any human activity that diverts or reduces wetland groundwater and/or surface water sources so that functions and values are lost or the area no longer meets the definition of a wetland.

Easement or Critical Area protection easement: Agreement conveyed through a deed, or shown on the face of a plat or site plan for the purpose of perpetual or long-term conservation.

Endangered species (state listed): A species native to the state of Washington that is seriously threatened with extirpation throughout all or a significant portion of its range within the state. Endangered species are legally designated in WAC 232-12-014.

Enhancement: Actions performed to improve the condition of existing degraded critical area (e.g. wetlands or streams) so that the functions they provide are of a higher quality, provided that this activity does not significantly degrade another existing function or value.

Erosion: The process whereby the land surface is worn away by the action of water, wind, ice or other geologic agents and by processes such as gravitational creep or events such as landslides. Natural or geologic erosion occurs as an ongoing process that acts on all land surfaces to some degree. Human activities such as removing vegetation, increasing stormwater runoff or decreasing slope stability often accelerate or aggravate natural erosion processes.

Excavation: Removal of earth material.

Existing Use or Structure: A use of land or structure which was lawfully established or built and which has been lawfully continued but which does not conform to the regulations of the zone in which it is located as established by the City of Poulsbo Zoning Ordinance, this Chapter, or amendments thereto.

Existing and ongoing agriculture: Includes those activities conducted on lands defined in RCW 84.34.020(2) or defined as agricultural practices in this Chapter, for example, the operation and maintenance of existing farm and stock ponds or drainage ditches, operation and maintenance of ditches, irrigation systems including irrigation laterals, canals, or irrigation drainage ditches, changes between agricultural activities, such as rotating crops or grasses used for grazing, and normal maintenance, repair, or operation of existing serviceable structures, facilities, or improved areas; provided, that alteration of the contour of wetlands or streams by leveling or filling other than that which results from normal cultivation, or draining of wetlands shall not be considered normal or necessary farming or ranching activities.

Exotic: Any species of plant or animal that is not indigenous (native) to an area.

Extraordinary hardship: This means that strict application of this Chapter and/or programs adopted to implement this Chapter by the regulatory authority would prevent all reasonable use of the parcel.

Farm Pond: An open-water habitat of less than five (5) acres and not contiguous with a stream, river, pond, lake or marine water created from a non-wetland site in connection with agricultural activities.

Feeder Bluff: An eroding and/or retreating shore bluff that is part of natural coastal processes yielding sediment to area beaches.

Fen: Wetlands which have the following characteristics: Peat soils 16 inches or more in depth, or any depth of organic soil over bedrock, and vegetation such as certain sedges, hardstem bulrush and cattails. Fens may have an overstory of spruce and may be associated with open water.

Filling or fill: A deposit of earth or other natural or man-made material placed by artificial means, including, but not limited to, soil materials, debris, or dredged sediments.

Fish and Wildlife Habitat: Those areas identified as being of critical importance to the maintenance of fish, wildlife, and plant species, including: areas within which endangered, threatened, and sensitive species have a primary association; habitats and species of local importance; commercial and recreational shellfish areas; kelp and eelgrass beds, forage fish spawning areas; naturally occurring ponds and their submerged aquatic beds that provide fish or wildlife habitat; waters of the State; lakes, ponds, streams or rivers planted with game fish by a government or tribal entity, or private organization; State natural area preserves and natural resources conservation areas.

Fisheries Biologist: A person with experience and formal training in the principles of fisheries management and with practical knowledge in fish population surveys, stream surveys and other related data analyses of fisheries resources. Qualifications of a fisheries biologist include but are not limited to:

- A. Certification by the American Fisheries Society;
- B. A Bachelor of Science degree in fisheries or the biological sciences from an accredited institution and two years of professional fisheries experience; or
- C. Five or more years of professional experience as a practicing fisheries biologist with a minimum three years professional field experience.

Floodplain: The floodway and the special flood hazard areas having the potential to flood once every 100 years, or having a 1% chance of being equaled or exceeded in any given year.

Floodway: The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

Forage Fish: Includes anchovy, herring, sand lance and smelt.

Forest practices: As defined in WAC 222-16-010 (21), as amended, any activity conducted on or directly pertaining to forest land and relating to growing, harvesting, or processing timber, including but not limited to:

- A. Road and trail construction,
- B. Harvesting, final and intermediate,
- C. Pre-commercial thinning,
- D. Reforestation,

- E. Fertilization,
- F. Prevention and suppression of diseases and insects,
- G. Salvage of trees, and
- H. Brush control.

Forest practices shall not include preparatory work such as tree marking, surveying and road flagging; or removal or harvest of incidental vegetation from forest lands such as berries, ferns, greenery, mistletoe, herbs, mushrooms, and other products which cannot normally be expected to result in damage to forest soils, timber or public resources.

Conversion Option Harvest Plan (COHP) means a plan for landowners who want to harvest their land but wish to maintain the option for conversion pursuant to WAC 222-20-050. Conversion to a use other than commercial timber operation shall mean a bona fide conversion to an active use which is incompatible with timber growing.

Frequently Flooded Areas: All lands, shorelands and waters which are identified as being within the 100-year floodplain (Floodway) as designated by the Federal Management Agency in Flood Insurance Rate and Boundary Maps.

Functions, beneficial functions, or valuable functions: The beneficial roles served by critical areas including, but not limited to, the following which are normally associated with wetlands: water quality protection and enhancement, fish and wildlife habitat, food chain support, flood storage, conveyance and attenuation, groundwater recharge and discharge, erosion control, wave attenuation, historical and archaeological value protection, aesthetic value, and recreation. These beneficial functions are not listed in order of priority.

Geologic Hazard Areas: Areas, as defined in WAC 365-190-030(8) and 365-190-080(4), that because of their susceptibility to erosion, sliding, earthquake, or other geological events, are not suited to siting commercial, residential or industrial development consistent with public health or safety concerns. Development in geologic hazard areas may be permitted when an approved geotechnical or geological report indicates that the development can be engineered to pose no significant threat to public health or safety.

Geologist: A person who is licensed by Washington State and has a Bachelor of Science degree in geologic sciences or a related field from an accredited college or university and/or has a minimum of five years experience under the direction of a professional geologist.

Geotechnical engineer: A practicing geotechnical/civil engineer licensed and bonded as a professional Civil Engineer with the State of Washington, with

professional training and experience in geotechnical engineering, including at least four years professional experience in evaluating Geologically Hazardous areas.

Geotechnical Report and Geological Report: A study of potential site development impacts related to retention of natural vegetation, soil characteristics, geology, drainage, groundwater discharge, and engineering recommendations relating to slope and structural stability. The geotechnical report shall be prepared by or in conjunction with a licensed geotechnical engineer meeting the minimum qualifications of this Chapter. Geological Reports may contain the above information with the exception of engineering recommendations, and may be prepared by a geologist (see Section 700, Special Reports).

Grading (construction): Any excavating, filling or removing of the surface layer or any combination thereof.

Grazed wet meadows: Grazed wet meadows are wetlands whose vegetative cover has been greatly modified as a result of grazing, seeding, or cutting for hay. They are typically dominated by a pasture species (such as blue grass, orchard grass, fescue, clovers, reed canary grass, etc.) as well as non-native wetland species such as soft rush and buttercup. They are saturated or have standing water during the wet season and part of the growing season but are dry during the summer months. Grazed wet meadows have been (within the last 5 years) or are being used for livestock grazing, seeding, or cutting for hay.

Groundwater: Water in a saturated zone or stratum beneath the surface of land or water.

Grubbing: The removal of vegetative matter from underground, such as sod, stumps, roots, buried logs, or other debris, and shall include the incidental removal of topsoil to a depth not exceeding 12 inches.

Habitat: The specific area or environment in which a particular type of plant or animal lives. An organism's habitat provides all the basic requirements for life.

Habitat Management Plan: A report prepared by a professional wildlife biologist or fisheries biologist which discusses and evaluates critical fish and wildlife habitat functions and evaluates the measures necessary to maintain, enhance and improve habitat conservation on a proposed development site.

Habitat of local importance: A seasonal range or habitat element with which a given species has a primary association, and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long-term. These might include areas of high relative density or species richness, breeding habitat, winter range, and movement corridors. These might also include habitats that are of limited availability or areas of high vulnerability to alteration, such as cliffs, talus, and wetlands.

Hazardous Substance(s): Any liquid, solid, gas or sludge, including any materials, substance, product, commodity or waste, regardless of quantity, that exhibits any of the characteristics or criteria of hazardous waste; and including waste oil and petroleum products.

Hydric Soils: Soils which are wet long enough to periodically produce anaerobic conditions, thereby influencing the growth of plants.

Hydrologist or Hydrogeologist: A person who has a Bachelor of Science degree in geologic sciences with an emphasis in hydrogeology from an accredited college or university and has a minimum of three years experience in groundwater investigations, modeling and remediation.

Infiltration rate: A general description of how quickly or slowly water travels through a particular soil type.

Investigation: Work necessary for land use application submittals such as surveys, soil logs, percolation tests or other related activities.

Landslide hazard area: Areas potentially subject to risk of mass movement due to a combination of geologic, topographic and hydrologic factors.

Liquefaction: A process in which a water-saturated soil, upon shaking, suddenly loses strength and behaves as a fluid.

Lot: A single parcel of land, legally severed from a larger parcel, which is described and delineated in a long or short plat or which is described in a real estate conveyance.

Low Impact Development: Low impact development is a stormwater management and land development strategy applied at the parcel and/or subdivision scale that emphasizes conservation and use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely mimic predevelopment hydrologic functions.

Mitigation: Avoiding, minimizing or compensating for adverse critical area impacts. Mitigation includes the following specific categories:

Mitigation, compensatory: replacing project-induced critical area losses or impacts, including, but not limited to, restoration, creation or enhancement;

Mitigation, creation: mitigation performed to intentionally establish a critical area (e.g. wetland) at a site where it does not currently exist.

Mitigation, enhancement: mitigation performed to improve the condition of existing degraded critical areas (e.g. wetland) so that the functions they provide are of a higher quality.

Mitigation, restoration: mitigation performed to reestablish a critical area (e.g. wetland), or its functional characteristics and processes, which have been lost by alterations, activities or catastrophic events within an area which no longer meets the definition of a critical area.

Native Vegetation: Vegetation indigenous to the Puget Sound Coastal lowlands.

Natural Environment: A natural environment is an area having a unique asset or feature considered valuable for its natural or original condition which is relatively intolerant of intensive human use.

Natural Systems: Physical features or phenomena of nature sensitive, in varying degrees, to man's disruptive activity.

Existing use or structure: A use of land or structure which was lawfully established or built and which has been lawfully continued but which does not conform to the regulations established by this Chapter or amendments thereto.

Normal maintenance: Includes those usual acts to prevent a decline, lapse or cessation from a lawfully established condition. Normal maintenance includes removing debris from, and cutting or manual removal of vegetation in, crossing and bridge areas. Normal maintenance does *not* include the use of fertilizer or pesticide application in wetlands, fish and wildlife habitat conservation areas, or their buffer areas or resource management areas. Maintenance does *not* include re-digging existing drainage ditches in order to drain land in or adjacent to a regulated wetland or its buffer.

Normal repair: Means to restore a development to a state comparable to its original conditions within a reasonable period after decay or partial destruction except where repair involves total replacement which is not common practice or causes substantial adverse effects to the critical area.

Open space: Land used for outdoor recreation, critical area or resource land protection, amenity, safety or buffer, including structures incidental to these open space uses, but excluding buffers, setbacks, etc. required by this Chapter and land occupied by dwellings or impervious surfaces not related to the open space uses.

Ordinary high water mark: That mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by local government or the department; provided, that in any area where the Ordinary High Water Mark cannot be found, the Ordinary High Water Mark adjoining salt water shall be the line of mean higher high tide and the Ordinary High Water Mark adjoining fresh water shall be the line of mean high water.

Out-of-kind compensation: Means to replace a critical area (e.g. wetland) with a substitute critical area (e.g. wetland) whose characteristics do not closely approximate those destroyed or degraded by a regulated activity. It does not refer to replacement "out-of-category," such as replacement of wetland loss with new stream segments.

Permeability: The capacity of an aquifer or confining bed to transmit water.

Permit: Any substantial development, variance, conditional use permit, or revision authorized under RCW 90.58 or City of Poulsbo Municipal Code requirements.

Pond: Is a naturally existing or artificially created body of standing water less than 20 acres in size and not defined as "Shorelines of the State" by RCW 90.58 (Shoreline Management Act).

Practicable alternative: An alternative that is available and capable of being carried out after taking into consideration cost, existing technology, and logistics in light of overall project purposes, and having less impact to critical areas. It may include an area not owned by the applicant which could reasonably have been or be obtained, utilized, expanded, or managed in order to fulfill the basic purpose of the proposed activity.

Priority habitat: Habitat type or elements with unique or significant value to one or more species as classified by the state Department of Fish and Wildlife. A priority habitat may consist of a unique vegetation type or dominant plant species, a described successional stage, or a specific structural element.

Priority species: Priority species include species requiring protective measures and/or management to ensure their persistence at genetically viable population levels. Priority species include state-listed or state proposed endangered, threatened, or sensitive species and candidate species.

Public access: Physical or visual admittance of the critical area environment.

Public facilities: Facilities which are owned, operated and maintained by a public agency.

Public project of significant importance: A project funded by a public agency, department or jurisdiction which is found to be in the best interests of the citizens of the City of Poulsbo and is so declared by the City of Poulsbo City Council in a resolution.

Public right-of-way: Any road, alley, street, avenue, arterial, bridge, highway, or other publicly owned ground or place used or reserved for the free passage of vehicular and/or pedestrian traffic or other services, including utilities.

Public utility: A business or service, either governmental or having appropriate approval from the State, which is engaged in regularly supplying the public with

some commodity or service which is of public consequence and need such as electricity, gas, sewer and/or wastewater, water, transportation or communications.

Ravine: A V-shaped landform generally having little to no floodplain and normally containing steep slopes and is deeper than 10 vertical feet as measured from the centerline of the ravine to the top of the slope. Ravines are created by the wearing action of streams.

Refuse: Material placed in a critical area or its buffer without permission from any legal authority. Refuse includes, but is not limited to, stumps, wood and other organic debris, as well as tires, automobiles, construction and household refuse. This does not include large woody debris used with an approved enhancement plan.

Reasonable alternative: An activity that could feasibly attain or approximate a proposal's objectives, but at a lower environmental cost or decreased level of environmental degradation.

Reasonable use: A property is deprived of all reasonable use when the owner can realize no reasonable return on the property or make any productive use of the property. Reasonable return does not mean a reduction in value of the land, or a lack of a profit on the purchase and sale of the property, but rather, where there can be no beneficial use of the property; and which is attributable to the implementation of this Chapter.

Reasonable use exception: The process by which the City determines allowable use of a property which cannot conform to the requirements of this Chapter.

Regulated use or activity: Any development proposal which includes or directly affects a critical area or its buffer or is occurring within 200 feet of a critical area.

Residential Development: The construction or exterior alteration of one or more buildings, structures or portions thereof which are designed for or used to provide a place of abode for human beings. Residential development includes one- and two-family detached structures, multi-family structures, condominiums, townhouses, mobile home parks, and other similar group housing, together with accessory uses and structures common to residential uses. Residential development does not include hotels, motels, bed and breakfasts, or any other type of overnight or transient housing or camping facilities.

Resource Management Area (RMA): an area that contains a natural resource (fish and wildlife habitat) and the contiguous area that most directly influences the functions and values of the natural resource. RMA are designated by City of Poulsbo map or description in this Chapter; descriptions in the Chapter take precedence over map boundaries.

Restoration: The return of a critical area to a state in which its functions and values approach its unaltered state as closely as possible.

Retention Facilities: Drainage facilities designed to store runoff for gradual release by evaporation, plant transpiration, or infiltration into the soil. Retention facilities shall include all such drainage facilities designed so that none or only a portion of the runoff entering the facility will be eventually discharged as surface water. Retention facilities shall include all appurtenances associated with their designed function, maintenance and security.

Riparian Area: An area that includes the land which supports riparian vegetation and may include some upland, depending on site conditions. These generally occur adjacent to water bodies where specific measures are needed to protect fish and wildlife habitat.

Road or Street: Any vehicular right-of-way which: (a) is an existing state, county or municipal roadway or (b) is a publicly owned easement or (c) is shown upon a plat or short plat approved pursuant to City of Poulsbo Code or (d) is a private access greater than 50 feet in length serving more than one property through right of use or easement. The road or street shall include all land within the boundaries of the road right-of-way which is improved.

Salmonid: A member of the fish family salmonidae. This family includes Chinook, Coho, chum, sockeye and pink salmon; rainbow, steelhead and cutthroat trout; brown trout; Brook and Dolly Varden char, kokanee, and whitefish.

Sensitive species (state listed): A species, native to the state of Washington, that is vulnerable or declining and is likely to become endangered or threatened in a significant portion of its range within the state without cooperative management or the removal of threats. Sensitive species are legally designated in WAC-232-12-011.

Shorelines: All of the water areas of the state, including reservoirs, and their associated wetlands, together with the lands underlying them; except (i) shorelines of state-wide significance; (ii) shorelines on segments of streams upstream of a point where the mean annual flow is twenty cubic feet per second or less and the wetlands associated with such upstream segments; and (iii) shorelines on lakes less than twenty acres in size and wetlands associated with such small lakes.

Shorelines of State-Wide Significance: Those areas designated under RCW 90.58.030(e) (see City of Poulsbo Shoreline Management Master Program).

Single family dwelling: A building or structure which is intended or designed to be used, rented, leased, let or hired out to be occupied for living purposes by one family and including accessory structures and improvements.

Slope, measurement: A slope is delineated by establishing its toe and top and measured by averaging the inclination over at least ten feet of vertical relief.

Special flood hazard areas: The area adjoining the floodway which is subject to a one percent or greater chance of flooding in any year, as determined by engineering studies acceptable to the City of Poulsbo. The Coastal High Hazard Areas are included within special flood hazard areas.

Species of Concern: Are species classified as endangered, threatened, sensitive, candidate, or monitored by the Washington Department of Fish and Wildlife.

Streams: Those areas in the City of Poulsbo where the surface water flow is sufficient to produce a defined channel or bed. A defined channel or bed is an area which demonstrates clear evidence of the passage of water and includes but is not limited to bedrock channels, gravel beds, sand and silt beds and defined-channel swales. The channel or bed need not contain water year-round. This definition is not meant to include irrigation ditches, canals, storm or surface water runoff devices or other artificial watercourses unless they are used by salmon or used to convey streams naturally occurring prior to construction.

Susceptibility (groundwater): The potential an aquifer has for groundwater contamination, based on factors which include but are not limited to depth of aquifer, soil permeability, topography, hydraulic gradient and conductivity, and precipitation.

Swale: A shallow drainage conveyance with relatively gentle side slopes, generally with flow depths less than 1 foot.

Threatened species (state listed): A species, native to the state of Washington, that is likely to become endangered in the foreseeable future throughout a significant portion of its range within the state without cooperative management or the removal of threats. Threatened species are legally designated in WAC 232-12-011.

Toe of slope: A distinct topographic break in slope. Where no distinct break exists, this point shall be the lower most limit of the landslide hazard area as defined and classified in Section 400 of this Chapter.

Top of slope: A distinct topographic break in slope. Where no distinct break in slope exists this point shall be the uppermost limit of the landslide hazard area as defined and classified in Section 400 of this Chapter.

Unavoidable and necessary impacts: Are those impacts to critical areas that remain after an applicant proposing to alter such an area has demonstrated that no practicable alternative exists for the proposed project.

Utilities: Services which produce or carry electric power, gas, sewage, water, communications, oil, etc.

Utility corridor or easement: Public right-of-way or other dedicated utility easements on which one or more utility lines are located. Utilities include electric, gas, sewer, and water lines.

Vegetation: Any and all living plant species growing at, below, or above the soil surface.

Water-Dependent Use: A use or portion of a use which requires direct contact with the water and cannot exist at a non-water location due to the intrinsic nature of its operations. Examples of water-dependent uses may include ship cargo terminal loading areas, ferry and passenger terminals, barge loading facilities, ship building and dry docking, marinas, aquaculture, float plane facilities, and sewer outfalls.

Water-Related Use: A use or a portion of a use which is not intrinsically dependent on a waterfront location but whose operation cannot occur economically without a waterfront location. Examples of water-related uses may include warehousing of goods transported by water, seafood processing plants, hydroelectric generating plants, gravel storage when transported by barge, oil refineries where transport is by tanker, and log storage.

Wetlands: Wetlands are those areas that are inundated or saturated by surface 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, but are not limited to wetlands, marshes, bogs, ponds, including their submerged aquatic beds and similar areas. Wetlands do not include those artificial wetlands intentionally created from non wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, stormwater 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 include those artificial wetlands intentionally created from non wetland areas to mitigate the conversion of wetlands.

Wetlands, Isolated: Wetlands which 1) are outside of, and not contiguous to, any 100-year flood plain of a lake, river, or stream; and 2) have no contiguous hydric soil or hydrophytic vegetation between the wetland and any surface water or other wetland.

Wetlands, Mosaic: Groups of isolated wetlands, any of which may be smaller than any of the regulated categories, but which in aggregate may be as valuable as any of the regulated categories.

Wetland Report: A wetland delineation characterization and analysis of potential impacts to wetlands utilizing the most recent edition of the Department of Ecology Washington State Wetland Rating System for Western Washington consistent with applicable provisions of this Chapter.

Wetlands of Regional Significance: Those regulated wetlands determined by the Director, or otherwise determined, to have characteristics of exceptional resource value which should be afforded the highest levels of protection.

Wetlands Specialist: A person with experience and formal training in wetland issues and with practical knowledge in wetland delineations, classifications, functional assessments and mitigation plans. Qualifications of a wetlands specialist include but are not limited to:

- A. Certification as a Professional Wetland Scientist (PWS) or Wetland Professional In Training (WPIT) through the Society of Wetland Scientists;
- B. Bachelor of Science degree in the biological sciences from an accredited institution and two years of professional field experience; or
- C. Five or more years of professional experience as a practicing wetlands biologist with a minimum three years professional experience delineating wetlands.

Wetlands of Statewide Significance: Those regulated wetlands recommended by the Washington State Department of Ecology and determined by the Department to have characteristics of exceptional resource value which should be afforded the highest levels of protection.

Wildlife Biologist: A person with experience and formal training in the principles of wildlife management and with practical knowledge in the habits, distribution and environmental management of wildlife. Qualifications of a wildlife biologist include but are not limited to:

- A. Certification as a Professional Wildlife Biologist through the Wildlife Society;
- B. Bachelor of Science or Bachelor of Arts degree in wildlife management, wildlife biology, ecology, zoology, or a related field, from an accredited institution and two years of field experience; or,
- C. Five or more years of experience as a practicing wildlife biologist with a minimum of three years of practical field experience.

SECTION 200: WETLANDS

16.20.205 PURPOSE

This section applies to all regulated uses within, or adjacent to, areas designated as wetlands, as categorized in Section 215 below. Under the conditions of this Section, the City may deny development proposals that would irreparably impact regulated wetlands. The intent of this Section is to:

- A. Achieve no net loss of wetland acreage, functions and values. Mitigation measures, as conditions of permits, must have a reasonable expectation of success;
- B. Plan wetland uses and activities in a manner that allows property holders to benefit from wetland property ownership wherever allowable under the conditions of this Section and Ordinance; and
- C. Preserve natural flood control, stormwater storage and drainage or stream flow patterns.

16.20.210 WETLAND CATEGORIES

Wetlands are those areas that are inundated or saturated by surface 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 saturation soil conditions. Wetlands generally include swamps, estuaries, marshes, bogs, and similar areas. For regulatory purposes, wetland delineations shall be determined by using the Washington State Wetland Identification and Delineation Manual, March 1997, or as amended hereafter.

The City of Poulsbo uses the Department of Ecology's Washington State Wetland Rating System for Western Washington, 2004, or as amended hereafter to categorize wetlands for the purposes of establishing wetland buffer widths, wetland uses and replacement ratios for wetlands. This system consists of four wetland categories generally designated as follows:

16.20.215 REGULATED AND NON-REGULATED WETLANDS
CLASSIFICATION

A. Regulated Wetlands:

1. **Category I Wetlands:** Category I wetlands are those that 1) represent unique or rare wetland type; or 2) are more sensitive to disturbance than most wetlands; or 3) are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime; or 4) provide a high level of function. Category I wetlands include estuarine wetlands larger than one acre, bogs, mature and old-growth wetlands over one acre, wetlands in coastal lagoons and wetlands that perform many functions very well as demonstrated by a score of over 70 points using the DOE rating system.
2. **Category II Wetlands:** Category II wetlands are difficult, though not impossible, to replace, and provide a high level of function. Category II wetlands include estuarine wetlands smaller than one acre or disturbed and larger than one acre and wetlands that perform functions well as demonstrated by a score of 51-69 using the DOE rating system.
3. **Category III Wetlands:** Category III wetlands are wetlands with a moderate level of function as demonstrated by a score of 30-50 points using the DOE rating system.
4. **Category IV Wetlands:** Category IV wetlands have the lowest level of function as demonstrated by a score of less than 30 points on the DOE rating system and are often heavily disturbed.
5. **Wetlands intentionally created from non-wetland areas to mitigate conversion of other wetlands.**

B. Non-Regulated Wetlands:

1. **Created Wetlands.** Wetlands created intentionally from a non-wetland site that were not required to be constructed as mitigation for adverse wetland impacts. These may include, but are not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment ponds, farm ponds not contiguous, as defined in this Ordinance, and landscape amenities.
2. **Recent Road Construction Related Wetlands.** Wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. The applicant shall bear the burden of proving that the wetland meets these criteria.

16.20.220 APPLICATION REQUIREMENTS

Application Procedures for New Development. Any new development containing a regulated wetland or its buffer, or proposed within the largest potential wetland buffer width, shall provide the special reports listed below, as required by the department, prior to any development authorization by the department.

- A. Wetland delineation report (16.20);
- B. Wetland mitigation report (16.20); and,
- C. Erosion and sedimentation control measures as required by Poulsbo Municipal Code Construction and Development Standards contained in Chapter 12.02.

The Director may require additional reports or information to further identify potential impacts to any part of the environment.

16.20.225 DETERMINATION OF WETLAND BOUNDARIES

- A. The applicant shall be responsible for hiring a certified wetlands specialist to determine the wetland boundary through a field survey. This specialist shall stake or flag the wetland boundary. For all new development, and as required by the Director, this line shall be surveyed by a professional land surveyor licensed in the State of Washington or recorded using a differential global positioning system. In the event that a global positioning system is used, wetland boundary information shall be provided to the City in an electronic data format acceptable to the City. The regulated wetland boundary and regulated buffer shall be identified on all grading, landscaping, site, utility or other development plans submitted in support of the project.
- B. Where the applicant has provided a delineation of a wetland boundary, the Director may verify the wetland boundary at the cost of the applicant, and may require that adjustments to the boundary be made by a wetland specialist.

16.20.230 DEVELOPMENT STANDARDS

For the purpose of this Ordinance, a regulated wetland and its buffer is a critical area.

- A. **Buffers:** Buffers shall remain as undisturbed natural vegetation areas except where the buffer can be enhanced to improve its functional values.

Any buffer enhancement and/or limited view clearing activity must be reviewed and approved by the Director. No refuse shall be placed in the buffer.

- B. **Buffer Widths:** All regulated wetlands shall be surrounded by a buffer as follows:

Table 1: Wetland Development Standards

Wetland Category and Characteristics	Buffer Width Standard	Other Development Standards
Category I		See subsections E, F, G and H below relating to buffer reduction, averaging, decreased buffer provisions and increased buffer provisions.
Natural Heritage Wetlands	250 feet	
Bog	250 feet	
Estuarine	200 feet	
Coastal Lagoon	200 feet	
Habitat Score from 29 to 36 points	300 feet	
Habitat Score from 20 to 28 points	150 feet	
Category I wetlands not meeting any of the criteria above with a habitat score less than 20 points	100 feet	
Category II		
Estuarine	150 feet	
Habitat Score from 29 to 36 points	300 feet	
Habitat Score from 20 to 28 points	150 feet	
Category II wetlands not meeting any of the criteria above with a habitat score less than 20 points	100 feet	
Category III		
Habitat Score from 20 to 28 points	150 feet	
Category III wetlands not meeting any of the criteria above with a habitat score less than 20 points	80 feet	
Category IV	50 feet	
Small Isolated Wetlands		
Wetlands less than or equal to 1000 square feet provided that the wetland is not associated with a riparian corridor or is not part of a wetland mosaic, or does not contain habitat identified as essential for local populations of priority species identified by the Washington State Department of Fish and Wildlife.	No required buffer, except as needed to protect wetland functions. Wetland may be impacted provided that mitigation is provided to assure no net loss of critical area function. Wetland delineation and mitigation reports required. Mitigation may be provided on or off site, provided mitigation must occur within the same watershed.	

- D. **Buffer Measurement:** All buffers shall be measured on a horizontal plane from the regulated wetland edge as marked in the field by the wetland specialist.
- E. **Special Conditions for Reduction in Buffer Width:** Buffers for Category IV wetlands and Category I, II, or III wetlands that score less than 20 points for habitat may be reduced by 25% if all of the determined

mitigation measures or alternate mitigation measures, as applicable and as approved by the Director, are applied to address the types of disturbances listed in Table 2:

Table 2: Examples of measures to minimize impacts to wetlands from different types of activities.

Examples of Disturbances	Activities and Uses that Cause Disturbances	Examples of Measures to Minimize Impacts
Lights	Parking lots, warehouses, commercial, manufacturing, residential	Direct lights away from wetland
Noise	Manufacturing, commercial, residential	Locate activity that generates noise away from wetland
Toxic runoff*	Parking lots, roads, manufacturing, commercial, residential areas, landscaping	Route all new untreated runoff away from wetland while ensuring wetland is not dewatered. Establish covenants limiting use of pesticides within 150 feet of wetland. Apply integrated pest management.
Stormwater runoff	Parking lots, roads, manufacturing, residential areas, commercial, landscaping	Retrofit stormwater detention and treatment for roads and existing adjacent development. Prevent channelized flow from lawns that directly enter the buffer.
Change in water regime	Impermeable surfaces, lawns, clearing and grading	Infiltrate or treat, detain and disperse into buffer new runoff from impervious surfaces and new lawns
Pets and human Disturbance	Residential areas	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
Dust	Clearing and grading	Use best management practices to control dust
*These examples are not necessarily adequate for minimizing toxic runoff if threatened or endangered species are present.		

- F. Buffer Width Averaging:** Buffer widths for Category I, II, and III wetlands may be modified by the Director for a development proposal by averaging buffer widths. The Director may allow wetland buffer averaging where all of the following can be demonstrated through a wetland report:

1. That the wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation, and the wetland would benefit from a wider buffer in places and would not be adversely impacted by a narrower buffer in other places;
 2. All of the mitigation measures included in Table 2 are applied. Alternate mitigation measures, as approved by the Director, may be applied to address the types of disturbances described in Table 2;
 3. That the total area contained within the buffer after averaging is not less than that contained within the buffer prior to averaging;
 4. The buffer width has not been reduced by more than 25% of the required buffer width at any point; and
 5. Width averaging will not reduce the functions and values of the wetland.
- G. **Decreasing Buffer Widths:** The Director may decrease the buffer widths for Category I, II, and III wetlands where all of the following can be demonstrated through a wetland report:
1. Wetland buffer width averaging as set forth in this chapter is unfeasible. Decreasing wetland buffer widths cannot be used in conjunction with wetland buffer averaging;
 2. All of the mitigation measures included in Table 2 are applied. Alternate mitigation measures, as approved by the Director, may be applied to address the types of disturbances described in Table 2;
 3. The project application includes, as applicable, a wetland report or habitat management plan using native vegetation and other mitigations as appropriate for the proposed project which substantiates that an enhanced buffer will improve the functional attributes of the buffer to provide additional protection for functions and values. The following actions shall be considered in combination with a buffer reduction:
 - a. Infiltration of stormwater where soils permit;
 - b. Retention of existing native or equivalent vegetation or revegetation on other portions of the site in order to off set habitat loss from buffer reduction; and
 - c. Fencing and signage of the buffer edge.
 4. Under no circumstances shall required buffer widths be reduced by more than 25%.

- H. **Increasing Buffer Widths:** The Director may increase buffer zone widths for a development project on a case-by-case basis when a larger buffer is necessary to protect wetland functions and values. This determination shall be made only when the Director demonstrates any one of the following through appropriate documentation:
1. The wetland site has known locations of endangered or threatened species for which a habitat management plan indicates a larger buffer is necessary to protect habitat values for such species;
 2. The adjacent land is susceptible to severe erosion and erosion control measures alone will not effectively prevent adverse wetland impacts; and
 3. The adjacent land on the development proposal site has minimal vegetative cover or slopes greater than 30%.
- I. **Building or Impervious Surface Setback Lines:** A building or impervious surface setback line of 15 feet is required from the edge of any wetland buffer. Minor structural or impervious surface intrusions into the areas of the setback such as fire escapes, open-uncovered porches, landing places, outside walkways, outside stairways and patios may be permitted if the department determines that such intrusions will not adversely impact the wetland. The setback shall be identified on a site plan.
- J. **Signs and Fencing of Wetlands:** This section applies to those wetlands and their buffers that are within 300 feet of regulated development activities:
1. Wetland buffers shall be temporarily fenced or otherwise suitably marked, as required by the Director, between the area where the construction activity occurs and the buffer. Fences shall be made of a durable protective barrier and shall be highly visible. Silt fences and plastic construction fences may be used to prevent encroachment on wetlands or their buffers by construction. Temporary fencing shall be removed after the site work has been completed and the site is fully stabilized per City approval.
 2. The Director may require that permanent signs and/or fencing be placed on the common boundary between a wetland buffer and the adjacent land. Such signs will identify the wetland buffer. The Director may approve an alternative method of wetland and buffer identification if it provides adequate protection to the wetland and buffer.

16.20.235 ADDITIONAL DEVELOPMENT STANDARDS

In addition to meeting the Development Standards above, the regulated uses identified below shall also comply with the standards of this section and other applicable state, federal and local ordinances.

- A. **Docks:** Construction of a dock, pier, moorage, float or launch facility may be permitted subject to criteria in the City of Poulsbo Shoreline Master Program, and where no existing buffer or wetland vegetation would be significantly altered.
- B. **Forest Practice, Class IV General, and Conversion Option Harvest Plans (COHPs):** All timber harvesting and associated development activity, such as construction of roads, shall comply with the provisions of this Ordinance, including the maintenance of buffers around regulated wetlands.
- C. **Agricultural Restrictions:** In all development proposals which would permit introduction of agricultural uses, damage to Category I, II and III regulated wetlands shall be avoided. These restrictions shall not apply to those regulated wetlands defined as grazed wet meadows, regardless of their classification only where grazing has occurred within the last five (5) years. Wetlands shall be protected by installation of fencing located not closer than the outer buffer edge.
- D. **Road/Street Repair and Construction:** Public road or street repair, maintenance, expansion or construction may be allowed in wetlands or wetland buffers subject to the following development standards:
 - 1. No other reasonable or practicable alternative exists and the road or street crossing serves multiple properties wherever possible;
 - 2. Publicly owned or maintained road or street crossings provide for other purposes, such as utility crossings, pedestrian or bicycle easements, viewing points, etc;
 - 3. The road or street repair and construction are the minimum necessary to provide safe roads and streets; and
 - 4. Mitigation shall be performed in accordance with specific project mitigation plan requirements.
- E. **Surface Water Management:** Surface water discharges from stormwater facilities or structures may be allowed in wetland buffers when they are in accordance with the City's Stormwater Management Ordinance. The discharge shall not significantly increase or decrease the rate of flow and/or hydro-period, nor decrease the water quality of the

wetland. Pre-treatment of surface water discharge through biofiltration or other best management practices (BMPs) shall be required.

- F. **Low Impact Development (LID)** . LID activities, may be allowed within the buffer of Category III or IV wetlands only, provided that:

1. No other location is feasible; and
2. The location of such facilities will not degrade the functions or values of the wetland.

- G. **Trails and Trail-Related Facilities:** Construction of public trails and trail-related facilities, such as benches and viewing platforms, may be allowed in wetlands or wetland buffers pursuant to the following guidelines:

1. Trails and related facilities shall, to the extent feasible, be placed on existing road grades, utility corridors, or any other previously disturbed areas.
2. Trails and related facilities shall be planned to minimize removal of trees, soil disturbance and existing hydrological characteristics, shrubs, snags and important wildlife habitat.
3. Viewing platforms and benches, and access to them, shall be designed and located to minimize disturbances of wildlife habitat and/or critical characteristics of the affected wetland.
4. Trails and related facilities shall generally be located outside required buffers. Where trails are permitted within buffers, they should be located on the outer portion of the buffer and as far as possible from the wetland edge, except where wetland crossings or viewing areas have been approved.
5. Trails shall generally be limited to pedestrian use unless other more intensive uses, such as bike or horse trails have been specifically allowed and mitigation has been provided. Trail width shall not exceed five feet unless there is a demonstrated need, subject to review and approval by the Director. Trails shall be constructed with pervious materials unless otherwise approved by the Director.

- H. **Utilities in Wetland or Wetland Buffers:**

1. The utility development authorized in Section 16.20.120 shall be allowed, subject to best management practices in wetlands and wetland buffers.
2. Construction of new utilities outside the road right-of-way or existing utility corridors or easements may be permitted in wetlands or wetland

buffers, only when no reasonable alternative location is available and the utility corridor or easement meets the requirements for installation, replacement or vegetation and maintenance outlined below, and as required in the filing and approval of applicable permits and Special Reports (Section 700) required by this Chapter.

3. **Sanitary Sewer or On-Site Sewage Utility:** Construction of sanitary sewer lines or on-site sewage systems may be permitted in regulated wetland buffers only when: 1) the applicant demonstrates it is necessary to meet state and/or local health code minimum design standards (not requiring a variance for either horizontal setback or vertical separation), and/or 2) There are no other practicable or reasonable alternatives available and construction meets the requirements of this section. Joint use of the sanitary sewer utility easement by other utilities may be allowed.
4. New utility corridors or easements shall not be allowed when the regulated wetland or buffer has known locations of federal or state listed endangered, threatened or sensitive species, heron rookeries or nesting sites of raptors which are listed as state candidate or state monitor, except in those circumstances where an approved Habitat Management Plan indicates that the utility corridor or easement will not significantly impact the wetland or wetland buffer.
5. New utility corridor or easement construction and maintenance shall protect the regulated wetland and buffer environment by utilizing the following methods:
 - a. New utility corridors or easements shall be aligned when possible to avoid cutting trees greater than 12 inches in diameter at breast height (four and one-half feet), measured on the uphill side.
 - b. New utility corridors or easements shall be revegetated with appropriate native vegetation at pre-construction densities or greater, immediately upon completion of construction, or as soon thereafter as possible, if due to seasonal growing constraints. The utility shall ensure that such vegetation survives.
 - c. Any additional utility corridor or easement access for maintenance shall be provided as much as possible at specific points, rather than by parallel roads. If parallel roads are necessary, they shall be of a minimum width but no greater than 15 feet; and shall be contiguous to the location of the utility corridor on the side away from the wetland. Mitigation will be required for any additional access through restoration of vegetation in disturbed areas.
 - d. The Director may require other additional mitigation measures.

6. Utility corridor maintenance shall include the following measures to protect the regulated wetland and buffer environment:
 - a. Where feasible, painting of utility equipment such as power towers shall not be sprayed or sandblasted, nor should lead-based paints be used.
 - b. No pesticides, herbicides or fertilizers may be used in wetland areas or their buffers except those approved by the EPA and the Department of Ecology. Where approved, herbicides must be applied by a licensed applicator in accordance with the safe application practices on the label.

16.20.240 WETLAND MITIGATION REQUIREMENTS

- A. **Mitigation.** All regulated development activities proposed to impact wetlands or buffers shall be mitigated according to this title subject to the following order:
 1. Avoiding the impact altogether by not taking a certain action or parts of an action;
 2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;
 3. Using one of the following mitigation types, listed in order of preference:
 - a. Rectifying the impact by reestablishing, rehabilitating, or restoring the affected environment;
 - b. Compensating for the impact by replacing or providing substitute resources or environments; or
 - c. Compensating for the impact by improving the environmental processes that support wetland systems and functions.
 4. Monitoring the impact and compensation and taking appropriate corrective measures; or
 5. Combining any of the above measures to mitigate for individual actions.
- B. **Mitigation for Regulated Activities in Wetland Buffers.** A specific mitigation plan is required and the requirements are provided in

16.20.725. Approval of the mitigation plan shall be signified by a notarized memorandum of agreement signed by the applicant and Department Director or designee, and recorded with the Kitsap County Auditor. The agreement shall refer to all requirements for the mitigation project.

C. Mitigation for Regulated Activities in Wetlands. Compensatory mitigation shall be required for regulated activities that result in the loss of wetland acreage. A specific mitigation plan is required and the requirements are provided in 16.20.725.

1. A compensatory mitigation plan shall be completed. The applicant shall submit a detailed mitigation plan for compensatory mitigation to the department.
2. The detailed mitigation plan shall be prepared, signed, and dated by the wetland specialist to indicate that the plan is in accordance with specifications as determined by the wetland specialist. A signed original mitigation plan shall be submitted to the department.
3. Approval of the detailed mitigation plan shall be signified by a notarized memorandum of agreement signed by the applicant and department director or designee, and recorded with the Kitsap County Auditor. The agreement shall refer to all requirements for the mitigation project.
4. The mitigation project shall be completed according to a schedule agreed upon between the department and the applicant as included in the wetland mitigation plan.
5. Wetland mitigation shall occur according to the approved wetland mitigation plan and shall be consistent with provisions of this chapter and title.
6. A wetland specialist shall be on-site during construction and plant installation phases of all mitigation projects.
7. On completion of construction for the wetland mitigation project, the wetland specialist shall submit an as-built report to the department for review and approval.

D. Wetland Replacement Ratios.

1. The ratios presented here are based on the type of compensatory mitigation proposed (restoration, establishment, or enhancement). These types of compensatory mitigation are defined as follows:
 - a. Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former or degraded wetland. For the

purpose of tracking net gains in wetland acres, restoration is divided into:

- i. **Re-Establishment:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural or historic functions to a former wetland. Activities could include removing fill material, plugging ditches, or breaking drain tiles. Re-establishment results in a gain in wetland acres.
 - ii. **Rehabilitation:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural or historic functions of a degraded wetland. Activities could involve breaching a dike to reconnect wetlands to a floodplain or return tidal influence to a wetland. Rehabilitation results in a gain in wetland function but does not result in a gain in wetland acres.
 - b. **Establishment (Creation):** The manipulation of the physical, chemical, or biological characteristics present to develop a wetland on an upland or deepwater site, where a wetland did not previously exist. Activities typically involve excavation of upland soils to elevations that will produce a wetland hydroperiod, create hydric soils, and support the growth of hydrophytic plant species. Establishment results in a gain in wetland acres.
 - c. **Enhancement:** The manipulation of the physical, chemical, or biological characteristics of a wetland site to heighten, intensify or improve specific function(s) or to change the growth stage or composition of the vegetation present. Enhancement is undertaken for specified purposes such as water quality improvement, flood water retention or wildlife habitat. Activities typically consist of planting vegetation, controlling non-native or invasive species, modifying site elevations or the proportion of open water to influence hydroperiods, or some combination of these. Enhancement results in a change in some wetland functions and can lead to a decline in other wetland functions, but does not result in a gain in wetland acres.
2. The following ratios appearing below in Table 3 "Wetland Mitigation Replacement Ratios," as well as consideration of the factors listed in this section, shall be used to determine the appropriate amounts of restored, established, or enhanced wetland that will be required to replace impacted wetlands. The first number specifies the amount of wetland area requiring restoration, establishment, or enhancement and the second number specifies the amount of wetland area altered.

Table 3: Wetland Mitigation Replacement Ratios

Wetland Category	Re-establishment or Creation	Rehabilitation	1:1 Re-establishment or Creation (R/C) and Enhancement (E)	Enhancement only
All Category IV	1.5:1	3:1	1:1 R/C and 2:1 E	6:1
All Category III	2:1	4:1	1:1 R/C and 2:1 E	8:1
Category II Estuarine	Case-by-case	4:1 rehabilitation of an estuarine wetland	Case-by-case	Case-by-case
All other Category II	3:1	8:1	1:1 R/C and 4:1 E	12:1
Category I Forested	6:1	12:1	1:1 R/C and 10:1 E	24:1
Category I other	4:1	8:1	1:1 R/C and 6:1 E	16:1
Category I Natural Heritage site	Prohibited	6:1 rehabilitation of a Natural Heritage site	Not Considered Possible	Case-by-case
Category I Bog	Prohibited	6:1 rehabilitation of a bog	Not Considered Possible	Case-by-case
Category I Estuarine	Prohibited	6:1 rehabilitation of an estuarine wetland	Case-by-case	Case-by-case

3. The director may increase or decrease the ratios based on one or more of the following:
 - a. Replacement ratios may be increased under the following circumstances:
 - i. Uncertainty exists as to the probable success of the proposed restoration or creation;
 - ii. A significant period of time will elapse between impact and establishment of wetland functions at the mitigation site;
 - iii. Proposed compensation will result in a lower category wetland or reduced functions relative to the wetland being impacted; or

iv. The impact was an unauthorized impact.

b. Replacement ratios may be decreased under the following circumstances:

- i. Documentation by the applicant provides more certainty that the proposed compensation actions will be successful. For example, demonstrated prior success with similar compensation actions as those proposed, and/or extensive hydrologic data to support the proposed water regime;
- ii. Documentation by the applicant demonstrates that the proposed compensation actions will provide functions and values that are significantly greater than the wetland being impacted; or
- iii. The proposed mitigation actions are conducted in advance of the impact and are shown to be successful.

E. Off-Site Compensatory Mitigation.

1. Consideration for determining whether off-site mitigation is preferable includes, but is not limited to:
 - a. On-site conditions do not favor successful establishment of the required vegetation type, or lack the proper soil conditions, or hydrology;
 - b. On-site compensation would result in an aquatic habitat that is isolated from other natural habitats or severely impaired by the effects of the adjacent development;
 - c. Off-site location is crucial to one or more species that is threatened, endangered, or otherwise of concern, and the on-site location is not;
 - d. Off-site location is crucial to larger ecosystem functions, such as providing corridors between habitats, and the on-site location is not; and
 - e. Off-site compensation has a greater likelihood of success or will provide greater functional benefits.

2. When determining whether off-site mitigation is preferable, the value of the site-specific wetland functions at the project site, such as flood control, nutrient retention, sediment filtering, and rare or unique habitats or species, should be fully considered.
 3. When conditions do not favor on-site compensation, off-site compensatory mitigation should be located as close to the impact site as possible, at least within the same watershed, while still replacing lost functions.
- F. **Monitoring Requirements.** The City of Poulsbo shall require monitoring reports on an annual basis for a minimum of five years and up to ten years, or until the director determines that the mitigation project has achieved success. The wetlands mitigation plan shall provide specific criteria for monitoring the mitigation project. Criteria shall be project-specific and use best available science to aid the director in evaluating whether or not the project has achieved success.

**SECTION 300: FISH AND WILDLIFE HABITAT CONSERVATION
CRITICAL AREAS**

16.20.305 PURPOSE

This section applies to all uses and activities regulated under this Chapter within or adjacent to areas designated as Fish and Wildlife Habitat Conservation Areas or Resource Management Areas, as categorized in Section 310 below. The purpose of this Chapter is to:

- A. Preserve existing ecological functions of fish and wildlife habitat conservation areas normally associated with stream, nearshore, riparian areas (freshwater and marine), wetland and upland wildlife habitat;
- B. Preserve natural flood control, stormwater storage and drainage or stream flow patterns;
- C. Control siltation, protect nutrient reserves and main stream flows and stream quality; and
- D. Prevent turbidity and pollution of streams.

**16.20.310 FISH AND WILDLIFE HABITAT CONSERVATION AREA
DESIGNATIONS**

The following designations shall be used in classifying Fish and Wildlife Habitat Conservation Areas:

- A. **South Fork of Dogfish Creek Stream/Riparian Corridor Conservation Areas.** The following reaches of stream channel and riparian area of the South Fork of Dogfish Creek:
 - 1. Headwater: between the northernmost extent of the drainage north of NE Lincoln and Wilderness Park;
 - 2. Canyon: between the east end of Wilderness Park and SR 305;
 - 3. Urban/Commercial: between SR 305 (culvert south of NE Lincoln Road) and culvert north of NE Liberty Road;
 - 4. Lower Forested: between SR 305 culvert north of NE Liberty Road and the confluence with Dogfish Creek mainstem, north of Bond Road; and
 - 5. Tidewater/Estuarine: Dogfish Creek between the junction of South Fork and Liberty Bay, including commercial and recreational shellfish areas, marine riparian areas, tidewater/estuarine habitats (herring, sand lance, and smelt spawning areas, kelp, and eelgrass), and juvenile salmonid rearing and feeding areas.

- B. **Streams:** All streams which meet the criteria for Type 1, 2, 3, 4 and 5 waters as set forth in WAC 222-16-031 of the DNR Water Typing System.
- C. **Saltwater Shorelines, and Lakes 20 Acres and Greater in Surface Area:** Those saltwater shorelines and lakes defined as Shorelines of the State in the Shoreline Management Act of 1971 and the City of Poulsbo Shoreline Master Program, as now or hereafter amended. Shorelines include: Type 1 waters as set forth in WAC 222-16-030, (DNR Water Typing System) as now or hereafter amended; commercial and recreational shellfish areas; riparian areas (freshwater and marine), shoreline feeder bluffs, kelp and eelgrass beds; and herring, sand lance, and smelt spawning areas, and juvenile salmonid migratory corridors.
- D. **Lakes less than 20 Acres in Surface Area:** Those lakes which meet the criteria for Type 2, 3, 4, and 5 waters as set forth in WAC 222-16-030, as now or hereafter amended. This includes lakes and ponds less than twenty (20) acres in surface area and their submerged aquatic beds, and lakes and ponds planted with game fish by a governmental or tribal authority.
- E. **Wildlife Habitat Conservation Areas:**
 - 1. **Class 1 Wildlife Habitat Conservation Areas:**
 - a. Habitats recognized by Federal or State agencies for Federal and/or State listed endangered, threatened and sensitive species which presence is documented in maps or data bases available to City of Poulsbo;
 - b. Areas targeted for preservation by the federal, state and/or local government which provide fish and wildlife habitat benefits, such as important waterfowl areas identified by the U.S. Fish and Wildlife Service; and
 - c. Areas that contain habitats and species of local importance.
 - 2. **Class 2 Wildlife Habitat Conservation Areas:**
 - a. Habitats for state listed candidate and monitored species which presence is documented in maps or data bases available to City of Poulsbo; and
 - b. Habitats which include attributes such as comparatively high wildlife density; high wildlife species richness; significant wildlife breeding habitat, seasonal ranges or movement corridors of limited availability and/or high vulnerability. These habitats may include caves, cliffs, islands, meadows, old-growth/mature forest, snag-rich areas, talus slopes, and urban natural open space.
- F. **Areas of Rare Plant Species and High Quality Ecosystems:** Areas of rare plant species and high quality ecosystems as identified by the

Washington State Department of Natural Resources through the Natural Heritage Program.

16.20.315 DEVELOPMENT STANDARDS

The following development standards shall apply to Fish and Wildlife Habitat Conservation Areas:

A. Buffers, Resource Management Areas (RMA) and Setbacks:

1. Buffers or Resource Management Areas, and Setbacks shall be maintained along all identified Habitat Conservation Areas. Distances shall be measured from the ordinary high water mark (OHWM) or from the top of the bank where the OHWM cannot be identified. Two systems of Riparian buffers or RMA dimensions are specified below, Standard Riparian Buffers and Stream Reach Specific RMA based on characteristics and ecological functions of specific stream reaches.
 - a. Standard Riparian Buffers shall be utilized for all streams for which there are no Reach Specific Riparian RMA.
 - b. The use of the Stream Reach Specific RMA is subject to reach specific protection measures. The letters listed after the RMA width correspond to the required protections listed at the end of Table 4.
2. Buffers and RMA shall be retained in at least the quality of their existing condition; or they may be enhanced by planting indigenous vegetation as approved by the Director. Refuse shall not be placed in the buffer or RMA.
3. Alteration of Buffers or RMA may be allowed for water dependent and water related activities subject to section 16.20.315(B)(3) below, and for development authorized by Section 100 of this Chapter.
4. The Buffers or RMA shall include streamside wetlands and/or functional floodplains which provide overflow storage for stormwaters, provide groundwater recharge or discharge functions, or provide seasonal shelter and food for fish. In braided channels, the OHWM or Top of Bank shall be defined so as to include the entire stream feature.
5. Where such features occur on the site, refer to Sections 200 Wetlands and 400 Geologically Hazardous Areas for additional development standards. In cases of differing standards, the more restrictive buffer or setback shall apply.
6. If applicable, the required buffers or RMA may meet specific yard setback requirements of the zoning ordinance.
7. Minor structural or impervious surface intrusions into the areas of the setback may be permitted if the Director determines that such intrusions will not adversely impact the stream or riparian corridor. The Director may require submittal of a special report that provides

evidence that a proposed intrusion will not adversely impact the stream or riparian corridor.

8. New development or Redevelopment. Standard Buffers and Resource Management Areas and setbacks for Fish and Wildlife Habitat Conservation Areas shall be required as per the following table and text:

**Table 4: Fish and Wildlife Habitat Conservation Area
Development Standards**

Standard Buffers and Setback Requirements		
Freshwater Streams		
Stream Water Type	Buffer Width (feet, each side of stream)	Setback from RMA
2	200	25
3	150	25
4	100	25
5	75	25
Saltwater Shorelines and Lakes		
Shoreline Environment	Buffer Width (feet above ordinary high water mark)	Setback from RMA
Urban, Semi-Rural, Conservancy, and lakes	100	25
Stream Reach Specific Resource Management Area and Setback Requirements		
Additional protections are required for development subject to the following RMA Requirements. Letters listed after the RMA width in parentheses indicate which protections are applicable to the particular stream reach. Protections are listed below.		
Stream Reach	Resource Management Area (feet, each side of stream)	Setback from RMA
South Fork Dogfish Creek RMA determined by stream reach as follows:		
Tidewater/Estuary	100 (a, b)	25
Lower Forested	75, or top of adjacent slope, whichever is greater (a, b, c, d)	25
Urban/Commercial	50 for new development and redevelopment; extent of existing constraints for existing development (b, e)	25

City of Poulsbo
Critical Area Ordinance

Canyon	Park boundary or top of slope, whichever is closest to stream, otherwise 100 ft or top of steep slope, whichever is greater (a, b, f, g)	25
Headwater	50 (b, h, i)	25
Additional Protections Required for Properties within 300 feet of the South Fork of Dogfish Creek:		
(a) Maintain a 50 foot no-cut area on both sides of stream, measured from outer edge of riparian area. Edge of riparian area shall be determined in the field by a qualified Biologist where there is existing forest. (b) Maximum stormwater treatment required for new construction; retrofit existing impervious areas with minimum storm water treatment when expansions or alterations trigger a major site plan amendment. (c) Maintain vegetation on hill slopes adjacent to stream. (d) Retain curb along SR 305 to direct stormwater runoff, and provide stormwater treatment facilities prior to runoff entering creek. (e) Pruning of riparian vegetation is prohibited. Removal of invasive species and replanting of existing buffer areas with native riparian vegetation may be required at the time of major site plan amendments or redevelopment. (f) No tree cutting (except for removal of danger trees in accordance with PMC 16.20.120(H)) on canyon side slopes and bottom in Wilderness Park. (g) No tree cutting (except for removal of danger trees in accordance with PMC 16.20.120(H)) or land clearing along both sides of stream between Wilderness Park and SR 305. (h) Retain forested wetland at downstream side of Lincoln Road. (i) Require on-site infiltration of stormwater, where soils are appropriate, for new construction; establish downspout disconnection program for existing development.		
Wildlife Habitat Conservation Areas		
Class 1	RMA widths and setbacks will be determined through mandatory Habitat Plan.	
Class 2	Site specific conditions will determine the need for preparation of a Habitat Plan for RMA widths and setbacks.	
Areas of Rare Plant Species and High Quality Ecosystems		
RMA widths and setbacks will be determined through mandatory Habitat Plan.		

B. Changes to Standard Buffers:

1. Provisions for decreasing the Standard Buffers to a RMA recommended through a Habitat Management Plan:

- a. The Director may decrease the standard buffer or setback to a RMA as recommended by a Habitat Management Plan after consultation with the Washington State Department of Fish and Wildlife and the Suquamish Tribe, and determines that conditions are sufficient to protect the affected habitat. A Habitat Management Plan shall be required. The Director may reduce the RMA width by up to 25%, but the RMA width shall not be less than 50 feet;
- b. RMA reductions may be made following adoption of a detailed stream report that documents the existing functions and values of the stream including stream reaches downstream from the subject property. Detailed stream reports shall be reviewed as a Type IV permit and shall require a public hearing before council. Such reports shall incorporate Best Available Science for the particular stream. Accepted reports shall be adopted by resolution. Projects proposing to utilize a RMA authorized under this provision shall comply with all of the following standards:
 - i. The reduction from the standard buffer to the recommended RMA contained in an adopted detailed stream report shall be supported by a Habitat Management Plan and shall be consistent with the recommended protections in the adopted report; and
 - ii. Reductions under this provision shall not reduce RMA below 50 feet or below the recommended RMA in the detailed stream study accepted by the City.

2. Provisions for increasing Standard Buffers or RMA: The Director may increase the buffer or RMA width whenever a specific development proposal has known locations of endangered or threatened species for which a Habitat Management Plan indicates a larger RMA is necessary to protect habitat values for such species, or is located within a landslide or erosion hazard area.

3. Conditional Alterations: The Director may alter the standard buffer, RMA and setback for water dependent structures and utilities when no other reasonable or practical alternative exists and the development is consistent with the City Shoreline Master Program. Any alteration of a buffer or RMA shall be the least necessary and shall require a Habitat Management Plan which identifies and adequately protects any affected fish and wildlife conservation area.

C. Streams in Ravines: For streams in ravines with ravine sides 10 feet or greater in height, the minimum RMA width shall be the minimum required

or a width which extends 25 feet beyond the top of the slope, whichever is greater.

D. Wildlife Habitat Conservation Areas:

1. **Class 1 Wildlife Habitat Conservation Areas:** All development permits on sites with known locations of Class 1 Wildlife Habitat Conservation Areas or sites within 200 feet to known locations of Class 1 Wildlife Habitat Conservation Areas, shall submit a Habitat Management Plan as specified in Section 700 (Special Reports), for approval. In the case of bald eagles, an approved Bald Eagle Management Plan by the Washington State Department of Fish and Wildlife, meeting the requirements and guidelines of the bald eagle protection rules (WAC 232-12-292), as now or hereafter amended shall satisfy the requirements for a Habitat Management Plan. The Habitat Management Plan shall consider measures to retain and protect the wildlife habitat and shall consider effects of land use intensity, buffers, setbacks, impervious surfaces, erosion control and retention of natural vegetation.
2. **Class 2 Wildlife Habitat Conservation Areas:** All major new development within Class 2 Wildlife Habitat Conservation Areas may require the submittal of a Habitat Management Plan. The Plan shall consider measures to retain and protect the wildlife habitat and shall consider effects of land use intensity, buffers, setbacks, impervious surfaces, erosion control and retention of natural vegetation. The requirement for a Habitat Management Plan shall be determined during the development project review.

E. Signs and Fencing of RMAs: As a project condition of approval, the Director or Review Authority may require the Fish and Wildlife Habitat Conservation Area RMA be permanently fenced, signed or an acceptable alternative, to further protect the conservation area. Timing, location and type of installation shall be identified in the condition of approval.

F. Provisions for Expansions of Existing Development along Poulsbo Creek: Existing development adjacent to Poulsbo Creek which was lawfully constructed, approved or established prior to the effective date of this Chapter, but which does not conform to present regulations or standards may be expanded as follows:

1. A nonconforming single-family residence or mobile home may be enlarged up to 50 percent of its existing size as long as:
 - a. The new construction extends away from the critical area and related buffer or RMA and setback, is located over an existing impervious area, or is a second/third story addition located over the existing structure and;

- b. The reconstruction and/or enlargement shall be appropriately mitigated to ensure the existing value and function of the critical area is not degraded;
 - c. mitigation and enhancement is required as per subsection 2 below;
 - d. the structure(s) are located outside of a flood hazard area and active landslide hazard area; and
 - e. the reconstruction and/or enlargement meets all other dimensional standards and requirements contained in the PMC.
2. Requirements for mitigation and enhancement will be determined based on historic site impacts to the critical area, and the scope of proposed alterations. Possible mitigation and enhancement may include, but shall not be limited to: prohibiting or limiting pruning of riparian vegetation; invasive plant removal and re-establishment of native trees and shrubs within existing buffer areas; instream habitat improvements such as spawning gravel or large woody debris; requiring minimum stormwater treatment for new construction, and retrofitting existing impervious areas with minimum stormwater treatment where feasible. In certain instances off-site mitigation and/or enhancement may also be required to benefit the watershed.
 3. Proposals that proposed to utilize these requirements shall require a Critical Area Permit, a Type 2 review.

16.20.320 ADDITIONAL DEVELOPMENT STANDARDS

- A. **Stream Crossings:** Any private or public road expansion or construction which is allowed and must cross streams classified within this Chapter, shall comply with the following minimum development standards:
 1. Bridges or bottomless culverts shall be required for all streams which support salmonids, unless a Habitat Management Plan is submitted which demonstrates that other alternatives would not result in significant impacts to the Fish and Wildlife Habitat Conservation area and as determined appropriate through the Hydraulics Permit Approval process administered by the Washington State Department of Fish and Wildlife.
 2. Crossings shall not occur in salmonid spawning areas unless no other feasible crossing site exists. For new development proposals, if existing crossing are determined to adversely impact salmon spawning or passage areas, new or upgraded crossings shall be located as determined necessary through coordination with the Department of Fish and Wildlife.
 3. Bridge piers or abutments shall not be placed in either the floodway or between the ordinary, high water marks unless no other feasible alternative placement exists;

4. Crossing shall not diminish flood carrying capacity;
 5. Crossings shall serve multiple properties whenever possible;
 6. Where there is no reasonable alternative to providing a conventional culvert, the culvert shall be the minimum length necessary to accommodate the permitted activity.
- B. **Stream Relocations:** Stream relocations for the purpose of flood protection and/or fisheries restoration shall only be permitted when adhering to the following minimum performance standards and when consistent with Washington State Department of Fish and Wildlife Hydraulic Project Approval:
1. The channel, bank and RMA areas should be replanted with native vegetation that replicates a natural, undisturbed riparian condition; and
 2. For those shorelands and waters prone to flooding, a professional engineer licensed in the State of Washington shall provide information demonstrating that the equivalent base flood storage volume and function will be maintained.
 3. Relocated stream channels shall be designed to meet or exceed the functions and values of the stream to be relocated.
- C. **Pesticides, Fertilizers and Herbicides:** No pesticides, herbicides or fertilizers may be used in Fish and Wildlife Habitat Conservation Areas or their RMAs, except those approved by the EPA and approved under a DOE Water Quality Modification Permit for use in Fish and Wildlife Habitat Conservation Area environments. Where approved, herbicides must be applied by a licensed applicator in accordance with the safe application practices on the label.
- D. **Land Divisions and Land Use Permits:** All proposed divisions of land and land use applications which include Fish and Wildlife Habitat Conservation Areas shall comply with the following:
1. The land division approvals shall be conditioned so that all required buffers are dedicated as open space tracts, an easement or covenant encumbering the buffer. Such dedication, easement or covenant shall be recorded together with the land division and represented on the final plat, short plat or binding site plan.
- E. **Agricultural Restrictions:** In all development proposals which would permit introduction of agriculture to Fish and Wildlife Habitat Conservation Areas, damage to the area shall be avoided by installation of fencing located not closer than the outer buffer edge.
- F. **Poulsbo Shoreline Master Program:** All development along the Saltwater Shoreline and lakes defined as shorelines of the state, shall be consistent with the City of Poulsbo Shoreline Master Program, as now or hereafter amended.

- G. Trails and Trail-Related Facilities:** Construction of public and private trails and trail-related facilities, such as benches, interpretative centers, and viewing platforms, may be allowed in Fish and Wildlife Habitat Conservation Areas or their RMAs pursuant to the following standards:
1. Trails and related facilities shall, to the extent feasible, be placed on existing road grades, utility corridors, or other such previously disturbed areas;
 2. Trails and related facilities shall be planned to minimize removal of trees, shrubs, snags and important wildlife habitat;
 3. Viewing platforms, interpretive centers, benches and access to them, shall be designed and located to minimize disturbance of wildlife habitat and/or critical characteristics of the affected conservation area;
 4. Trails and related facilities shall generally be located outside required buffers. Where trails are permitted within buffers they should be located on the outer portion of the buffer and as far as possible from the stream edge, except where stream crossings or viewing areas have been approved;
 5. Trails shall generally be limited to pedestrian use unless other more intensive uses, such as bike or horse trails have been specifically allowed and mitigation has been provided. Trail width shall not exceed five feet unless there is a demonstrated need, subject to review and approval by the Planning Director. Trails shall be constructed with pervious materials unless otherwise approved by the Planning Director.
- H. Utilities:** Placement of utilities within designated Fish and Wildlife Habitat Conservation Areas and buffers may be allowed pursuant to the following standards:
1. The utility development authorized in Section 120 shall be allowed, subject to best management practices in fish and wildlife habitat conservation areas and buffers.
 2. Construction of new utilities outside the road right-of-way or existing utility corridors or easements may be permitted in fish and wildlife habitat conservation areas or their buffers, only when no reasonable alternative location is available and the utility corridor or easement meets the requirements for installation, replacement or vegetation and maintenance outlined below, and as required in the filing and approval of applicable permits and Special Reports (Section 700) required by this Chapter.
 3. **Sewer or On-Site Sewage Utility:** Construction of sewer lines or on-site sewage systems may be permitted in fish and wildlife habitat conservation areas or their buffers when the applicant demonstrates it is necessary to meet state and/or local health code requirements, there are no other practicable alternatives available, and the construction

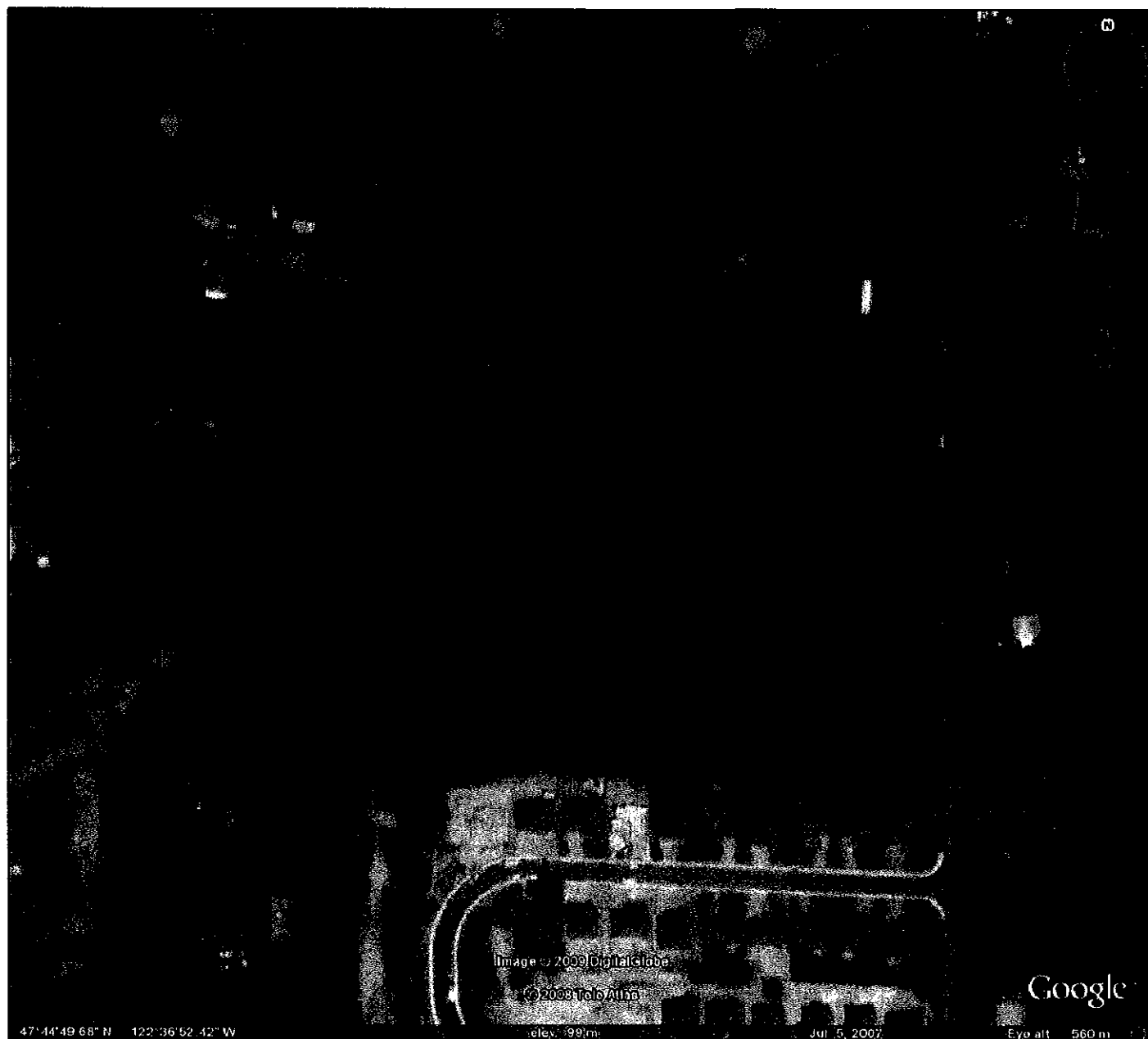
meets the requirements of this section. Joint use of the sewer utility corridor by other utilities may be allowed.

4. New utility corridors or easements shall not be allowed in fish and wildlife habitat conservation areas with known locations of federal or state listed endangered, threatened or sensitive species, heron rookeries or nesting sites of raptors which are listed as state candidate or state monitor, except in those circumstances where an approved Habitat Management Plan indicates that the utility corridor or easement will not significantly impact the fish and wildlife habitat conservation area or buffers.
5. New utility corridor or easement construction and maintenance shall protect the environment of fish and wildlife habitat conservation areas and their buffers.
 - a. New utility corridors or easements shall be aligned when possible to avoid cutting trees greater than 12 inches in diameter at breast height (four and one-half feet), measured on the uphill side.
 - b. New utility corridors or easements shall be revegetated with appropriate native vegetation at pre-construction densities or greater, immediately upon completion of construction, or as soon thereafter as possible, if due to seasonal growing constraints. The utility shall ensure that such vegetation survives;
 - c. Any additional utility corridor or easement access for maintenance shall be provided as much as possible at specific points, rather than by parallel roads. If parallel roads are necessary, they shall be of a minimum width but no greater than 15 feet; and shall be contiguous to the location of the utility corridor on the side away from the wetland. Mitigation will be required for any additional access through restoration of vegetation in disturbed areas.
 - d. The Director may require other additional mitigation measures.
6. Utility corridor maintenance shall include the following measures to protect the regulated fish and wildlife habitat conservation area and buffer environment:
 - a. Where feasible, painting of utility equipment such as power towers shall not be sprayed or sandblasted, nor should lead-based paints be used.
 - b. No pesticides, herbicides or fertilizers may be used in fish and wildlife habitat conservation areas or their buffers except those approved by the EPA and the Department of Ecology. Where approved, herbicides must be applied by a licensed applicator in accordance with the safe application practices on the label.
- I. **Bank Stabilization:** A stream channel and bank, bluff and shore may be stabilized when naturally occurring earth movement threatens existing

structures (defined as requiring a Building Permit pursuant to the International Building Code) public improvements, unique natural resources, public health, safety or welfare, or is the only feasible access to property; and in case of streams, when such stabilization results in maintenance of Fish and Wildlife Habitat, flood control and improvement of water quality. Bluff, bank and shoreline stabilization shall also be subject to the standards of the City Shoreline Master Program, and any floodplain ordinance adopted by the City.

When bank stabilization is determined to be necessary, bioengineering or other non-structural methods should be the first option for protection. The Director may require that bank stabilization be designed by a professional engineer licensed in the State of Washington with demonstrated expertise in hydraulic actions of shorelines. Bank stabilization projects may also require Hydraulic Project Approval from the Washington Department of Fish and Wildlife.

WETLAND UNITS



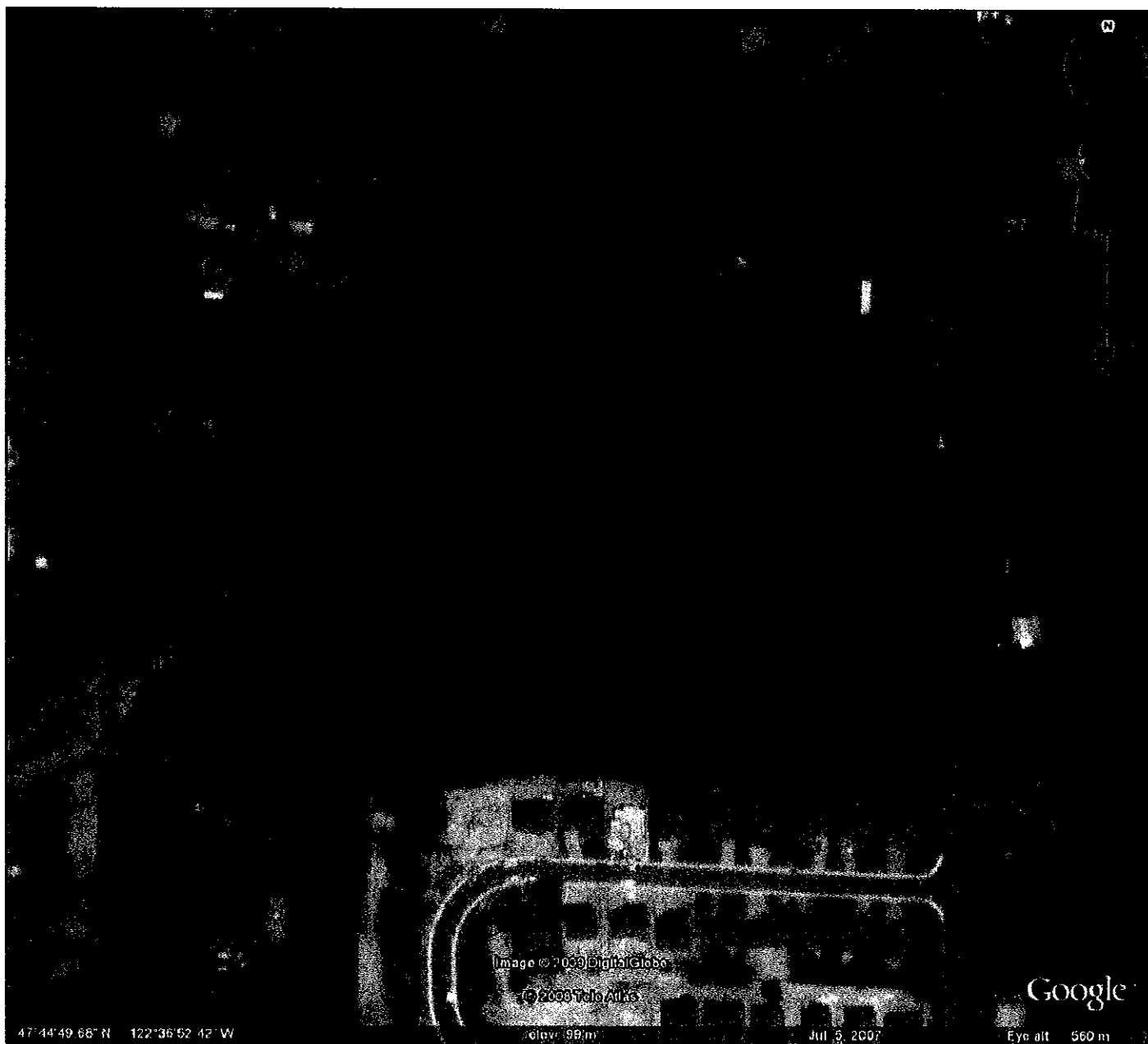
~ PROPERTY BOUNDARY
~ WETLAND UNIT BOUNDARY



**Wiltermood
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1015 SW Harper Rd.
Port Orchard, WA 98367
(360) 876-2403

HYDROPERIOD MAPPING



- ~ PROPERTY BOUNDARY
- ~ WETLAND BOUNDARY
- ~ SEASONALLY FLOODED



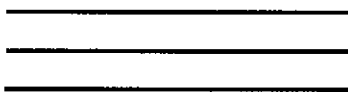
**Wiltermood
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(360) 876-2403

VEGETATION CLASSES



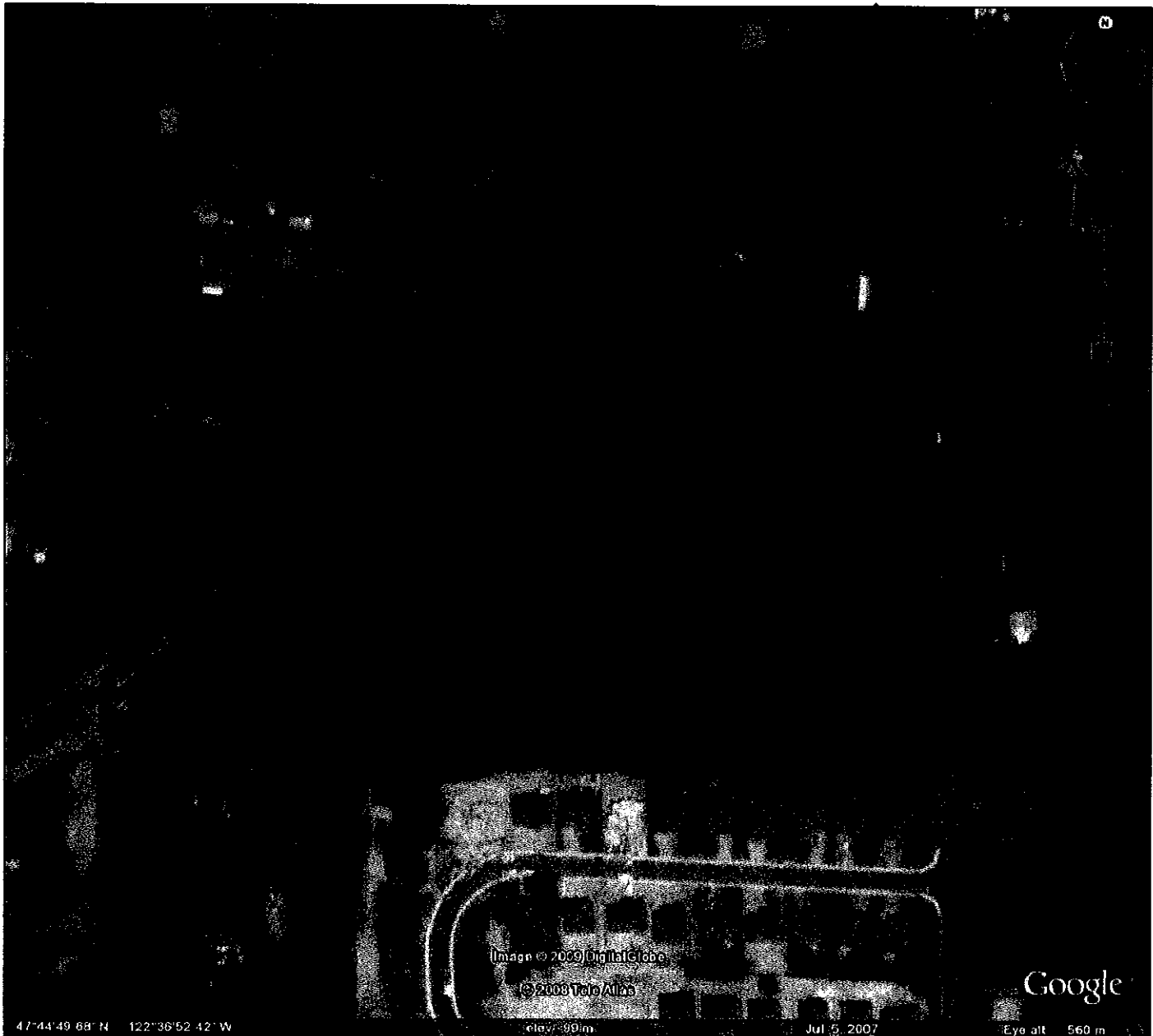
- ~ PROPERTY BOUNDARY
- ~ WETLAND BOUNDARY
- ~ SCRUB SHRUB



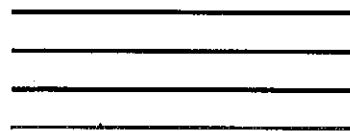
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Associates, Inc.**

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(360) 876-2403

WETLAND BUFFER MAPPING



- ~ PROPERTY BOUNDARY
- ~ WETLAND BOUNDARY
- ~ UNDISTURBED BUFFER
- ~ ROADS & TRAILS



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Wetland name or number _____

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 - Updated July 2006 to increase accuracy and reproducibility among users

Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Christiansen Date of site visit: 1-5-09

Rated by Vaughn Everitt Trained by Ecology? Yes ☒ No ☐ Date of training 11-15-06

SEC: 13 TWSHP: 26N RGE: 1E Is S/T/R in Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure A-2 Estimated size 1/2 0.15 acre

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☐ III ☒ IV ☐

Category I = Score ≥ 70
Category II = Score 51-69
Category III = Score 30-50
Category IV = Score < 30

Score for Water Quality Functions

Score for Hydrologic Functions

Score for Habitat Functions

TOTAL score for Functions

9
16
11
36

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☒

Final Category (choose the "highest" category from above)



Summary of basic information about the wetland unit

Wetland Unit has Special Characteristics		Wetland HGM Class used for Rating	
Estuarine		Depressional	☒
Natural Heritage Wetland		Riverine	
Bog		Lake-fringe	
Mature Forest		Slope	
Old Growth Forest		Flats	
Coastal Lagoon		Freshwater Tidal	
Interdunal			
None of the above	☒	Check if unit has multiple HGM classes present	

Wetland name or number _____

Does the wetland unit being rated meet any of the criteria below?

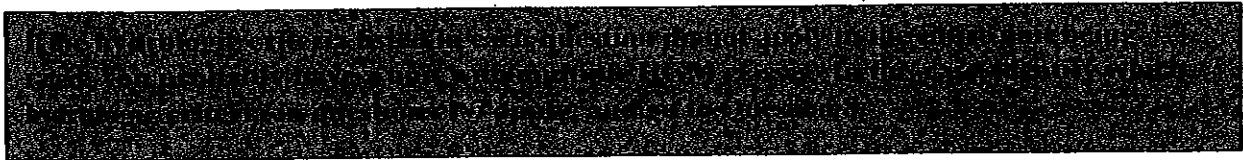
If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands That May Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X
SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i>		X
SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington



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

☒ NO – go to 2

YES – the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES – **Freshwater Tidal Fringe** NO – **Saltwater Tidal Fringe (Estuarine)**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine wetlands**. If it is Saltwater Tidal Fringe it is rated as an **Estuarine wetland**. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).*

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

☒ NO – go to 3

YES – The wetland class is **Flats**

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

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

- ____ The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;
____ At least 30% of the open water area is deeper than 6.6 ft (2 m)?

☒ NO – go to 4

YES – The wetland class is **Lake-fringe (Lacustrine Fringe)**

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

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

____ The water leaves the wetland **without being impounded**?

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

☒ NO – go to 5

YES – The wetland class is **Slope**

Wetland name or number _____

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

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

_____ The overbank flooding occurs at least once every two years.

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

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

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 your wetland. **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 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 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	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still 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.

D 1. Does the wetland unit have the <u>potential</u> to improve water quality? (see p. 38)		Figure
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet) points = 3 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1 Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	2
D	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions) YES points = 4 NO points = 0	0
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class) Wetland has persistent, ungrazed, vegetation $\geq 95\%$ of area points = 5 Wetland has persistent, ungrazed, vegetation $\geq 1/2$ of area points = 3 Wetland has persistent, ungrazed vegetation $\geq 1/10$ of area points = 1 Wetland has persistent, ungrazed vegetation $< 1/10$ of area points = 0 Map of Cowardin vegetation classes	5
D	D1.4 Characteristics of seasonal ponding or inundation. <i>This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.</i> Area seasonally ponded is $> 1/2$ total area of wetland points = 4 Area seasonally ponded is $> 1/4$ total area of wetland points = 2 Area seasonally ponded is $< 1/4$ total area of wetland points = 0 Map of Hydroperiods	2
D	Total for D 1 Add the points in the boxes above	9
D	D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality? (see p. 44) Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. — Grazing in the wetland or within 150 ft — Untreated stormwater discharges to wetland — Tilled fields or orchards within 150 ft of wetland — A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging — Residential, urban areas, golf courses are within 150 ft of wetland — Wetland is fed by groundwater high in phosphorus or nitrogen — Other _____ YES multiplier is 2 NO multiplier is 1	multiplier 1
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 Add score to table on p. 1	9

Wetland name or number _____

D Depressional and Flats Wetlands		Points
D 3. Does the wetland unit have the <u>potential</u> to reduce flooding and erosion? (see p. 46)		
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) points = 4 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 0	2
D	D 3.2 Depth of storage during wet periods <i>Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry).</i> Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 The wetland is a "headwater" wetland points = 5 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 Unit is flat (yes to Q. 2 or Q. 7 on key) but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft points = 0	3
D	D 3.3 Contribution of wetland unit to storage in the watershed <i>Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.</i> The area of the basin is less than 10 times the area of unit points = 5 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 unit is in the FLATS class points = 5	3
D	Total for D 3 Add the points in the boxes above	8
D	D 4. Does the wetland unit have the <u>opportunity</u> to reduce flooding and erosion? (see p. 49) Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. <i>Note which of the following indicators of opportunity apply.</i> — Wetland is in a headwater of a river or stream that has flooding problems — X Wetland drains to a river or stream that has flooding problems — Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems — Other _____ YES multiplier is 2 NO multiplier is 1	multiplier
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 Add score to table on p. 1	16

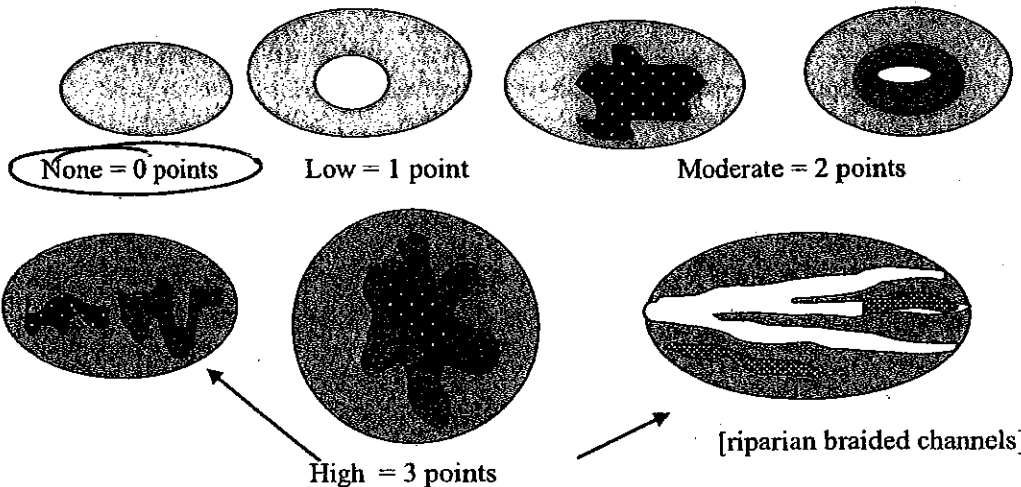
H 1. Does the wetland unit have the <u>potential</u> to provide habitat for many species?		Figure _____																								
H 1.1 Vegetation structure (see p. 72) Check the types of vegetation classes present (as defined by Cowardin)- Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. ☐ Aquatic bed ☐ Emergent plants ☒ Scrub/shrub (areas where shrubs have >30% cover) ☐ Forested (areas where trees have >30% cover) 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 Add the number of vegetation structures that qualify. If you have: <table border="0"> <tr> <td>4 structures or more</td> <td>points = 4</td> </tr> <tr> <td>3 structures</td> <td>points = 2</td> </tr> <tr> <td>2 structures</td> <td>points = 1</td> </tr> <tr> <td>1 structure</td> <td>points = 0</td> </tr> </table> Map of Cowardin vegetation classes		4 structures or more	points = 4	3 structures	points = 2	2 structures	points = 1	1 structure	points = 0	Figure _____ 0																
4 structures or more	points = 4																									
3 structures	points = 2																									
2 structures	points = 1																									
1 structure	points = 0																									
H 1.2. Hydroperiods (see p. 73) Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count. (see text for descriptions of hydroperiods) <table border="0"> <tr> <td>☐ Permanently flooded or inundated</td> <td>4 or more types present</td> <td>points = 3</td> </tr> <tr> <td>☒ Seasonally flooded or inundated</td> <td>3 types present</td> <td>points = 2</td> </tr> <tr> <td>☐ Occasionally flooded or inundated</td> <td>2 types present</td> <td>point = 1</td> </tr> <tr> <td>☐ Saturated only</td> <td>1 type present</td> <td>points = 0</td> </tr> <tr> <td>☐ Permanently flowing stream or river in, or adjacent to, the wetland</td> <td></td> <td></td> </tr> <tr> <td>☐ Seasonally flowing stream in, or adjacent to, the wetland</td> <td></td> <td></td> </tr> <tr> <td>☐ Lake-fringe wetland = 2 points</td> <td></td> <td></td> </tr> <tr> <td>☐ Freshwater tidal wetland = 2 points</td> <td></td> <td></td> </tr> </table> Map 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	point = 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			Figure _____ 0
☐ 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	point = 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																										
H 1.3. Richness of Plant Species (see p. 75) Count the number of plant species in the wetland that cover at least 10 ft². (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle If you counted: <table border="0"> <tr> <td>> 19 species</td> <td>points = 2</td> </tr> <tr> <td>5 - 19 species</td> <td>points = 1</td> </tr> <tr> <td>< 5 species</td> <td>points = 0</td> </tr> </table> List species below if you want to:		> 19 species	points = 2	5 - 19 species	points = 1	< 5 species	points = 0	Figure _____ 1																		
> 19 species	points = 2																									
5 - 19 species	points = 1																									
< 5 species	points = 0																									

Total for page 1

Wetland name or number _____

H 1.4. Interspersion of habitats (see p. 76)

Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.



NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes

Figure _____

0

H 1.5. Special Habitat Features: (see p. 77)

Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.

- ☒ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).
- ☐ Standing snags (diameter at the bottom > 4 inches) in the wetland
- ☐ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)
- ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown)
- ☐ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (structures for egg-laying by amphibians)
- ☒ Invasive plants cover less than 25% of the wetland area in each stratum of plants

NOTE: The 20% stated in early printings of the manual on page 78 is an error.

2

H 1. TOTAL Score - potential for providing habitat
Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5

3

Comments

H 2. Does the wetland unit have the opportunity to provide habitat for many species?**H 2.1 Buffers** (see p. 80)

Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."

- 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) **Points = 5**
- 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. **Points = 4**
- 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. **Points = 4**
- 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. **Points = 3**
- 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. **Points = 3**

If buffer does not meet any of the criteria above

- No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. **Points = 2**
- No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. **Points = 2**
- Heavy grazing in buffer. **Points = 1**
- Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland) **Points = 0.**
- Buffer does not meet any of the criteria above. **Points = 1**

Aerial photo showing buffers

Figure _____

4

H 2.2 Corridors and Connections (see p. 81)

H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor).

YES = 4 points (go to H 2.3)

NO = go to H 2.2.2

H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? **OR** a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?

YES = 2 points (go to H 2.3)

NO = H 2.2.3

H 2.2.3 Is the wetland:

- within 5 mi (8km) of a brackish or salt water estuary **OR** X
- within 3 mi of a large field or pasture (>40 acres) **OR**
- within 1 mi of a lake greater than 20 acres?

YES = 1 point

NO = 0 points

1

Total for page 5

Wetland name or number _____

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report <http://wdfw.wa.gov/hab/phslist.htm>)

Which of the following priority habitats are within 330ft (100m) of the wetland unit? *NOTE: the connections do not have to be relatively undisturbed.*

- ☐ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre).
- ☐ **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 p. 152*).
- ☐ **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 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; 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:** Woodlands 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*).
- ☐ **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*).
- ☐ **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: pp. 167-169 and glossary in Appendix A*).
- ☐ **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 7.6 m (25 ft) high and occurring below 5000 ft.
- ☐ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), 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 > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

If wetland has 3 or more priority habitats = 4 points

If wetland has 2 priority habitats = 3 points

If wetland has 1 priority habitat = 1 point

No habitats = 0 points

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)

6

Wetland name or number _____

H 2.4 Wetland Landscape (choose the <i>one</i> description of the landscape around the wetland that best fits) (see p. 84) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3 There is at least 1 wetland within ½ mile. points = 2 There are no wetlands within ½ mile. points = 0	3
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	8
TOTAL for H 1 from page 14	3
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	11

Wetland name or number _____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met. SC 1.0 Estuarine wetlands (see p. 86) Does the wetland unit meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO <u> </u>	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre. — At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	Cat. I Cat. II Dual rating I/II

SC 2.0 Natural Heritage Wetlands (see p. 87) Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species. SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? <i>(this question is used to screen out most sites before you need to contact WNHP/DNR)</i> S/T/R information from Appendix D _____ or accessed from WNHP/DNR web site _____ YES _____ – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO _____ SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species? YES = Category I NO _____ not a Heritage Wetland	Cat. I
SC 3.0 Bogs (see p. 87) Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.</i> 1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3 No - go to Q. 2 2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? Yes - go to Q. 3 No - Is not a bog for purpose of rating 3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? Yes – Is a bog for purpose of rating No - go to Q. 4 NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog. 1. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? 2. YES = Category I No _____ Is not a bog for purpose of rating	Cat. I

SC 4.0 Forested Wetlands (see p. 90) Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i> — Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter. — Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); 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. YES = Category I NO ___ not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) YES = Go to SC 5.1 NO ___ not a wetland in a coastal lagoon SC 5.1 Does the wetland meets all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than 1/10 acre (4350 square feet) YES = Category I NO = Category II	Cat. I Cat. II

Wetland name or number _____

SC 6.0 Interdunal Wetlands (see p. 93) Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? YES - go to SC 6.1 NO __ not an interdunal wetland for rating <i>If you answer yes you will still need to rate the wetland based on its functions.</i> In practical terms that means the following geographic areas: • Long Beach Peninsula- lands west of SR 103 • Grayland-Westport- lands west of SR 105 • Ocean Shores-Copalis- lands west of SR 115 and SR 109 SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III	Cat. II Cat. III
<i>If you answered YES to the Special Circumstances questions, the wetland is a Special Circumstance wetland and is not rated.</i> <i>If you answered NO to all questions, No Applicable Rating.</i>	

Wetland name or number _____

WETLAND RATING FORM – WESTERN WASHINGTON

Version 2 - Updated July 2006 to increase accuracy and reproducibility among users

Updated Oct 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): Christiansen OFFSITE to N Date of site visit: 1-5-09

Rated by Vaughn Everitt Trained by Ecology? Yes ☒ No ☐ Date of training 11-15-06

SEC: 13 TOWNSHIP: 26N RANGE: 1E Is S/T/R in Appendix D? Yes ☐ No ☒

Map of wetland unit: Figure A-2 Estimated size .01 acres

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland

I ☐ II ☐ III ☒ IV ☐

Category I = Score ≥ 70
Category II = Score 51-69
Category III = Score 30-50 ☒
Category IV = Score < 30

Score for Water Quality Functions

22

Score for Hydrologic Functions

10

Score for Habitat Functions

7

TOTAL score for Functions

39

Category based on SPECIAL CHARACTERISTICS of wetland

I ☐ II ☐ Does not Apply ☒

Final Category (choose the "highest" category from above)

III

Summary of basic information about the wetland unit

Wetland Unit has Special Characteristics	Wetland HGM Class used for Rating	
Estuarine	Depressional	☒
Natural Heritage Wetland	Riverine	☐
Bog	Lake-fringe	☐
Mature Forest	Slope	☐
Old Growth Forest	Flats	☐
Coastal Lagoon	Freshwater Tidal	☐
Interdunal		☐
None of the above	☒ Check if unit has multiple HGM classes present	☐

Wetland name or number _____

Does the wetland unit being rated meet any of the criteria below?

If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check for Wetlands That May Need Additional Protection (in addition to the protection recommended for the category)	YES	NO
SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state or federal database.		X
SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?</i> For the purposes of this rating system, "documented" means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category I Natural Heritage Wetlands (see p. 19 of data form).		X
SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i>		X
SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.		X

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands into those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Wetland Units in Western Washington



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

☒ NO - go to 2

YES - the wetland class is **Tidal Fringe**

If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)? YES - **Freshwater Tidal Fringe** NO - **Saltwater Tidal Fringe (Estuarine)**

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is rated as an Estuarine wetland. Wetlands that were called estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term "Estuarine" wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p.).

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

☒ NO - go to 3

YES - The wetland class is **Flats**

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

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

___ The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) at least 20 acres (8 ha) in size;

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

☒ NO - go to 4

YES - The wetland class is **Lake-fringe (Lacustrine Fringe)**

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

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

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

___ The water leaves the wetland **without being impounded?**

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

☒ NO - go to 5

YES - The wetland class is **Slope**

Wetland name or number _____

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

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

_____ The overbank flooding occurs at least once every two years.

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

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

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 your wetland. **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 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 Class 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	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still 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.

D 1. Does the wetland unit have the <u>potential</u> to improve water quality?		(see p. 38)
D	D 1.1 Characteristics of surface water flows out of the wetland: Unit is a depression with no surface water leaving it (no outlet) points = 3 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet <u>points = 2</u> Unit has an unconstricted, or slightly constricted, surface outlet (<i>permanently flowing</i>) points = 1 Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Provide photo or drawing	Figure <u>2</u>
D	S 1.2 The soil 2 inches below the surface (or duff layer) is clay or organic (use NRCS definitions) YES points = 4 NO <u>points = 0</u>	<u>0</u>
D	D 1.3 Characteristics of persistent vegetation (emergent, shrub, and/or forest Cowardin class) Wetland has persistent, ungrazed, vegetation $\geq 95\%$ of area <u>points = 5</u> Wetland has persistent, ungrazed, vegetation $\geq 1/2$ of area points = 3 Wetland has persistent, ungrazed vegetation $\geq 1/10$ of area points = 1 Wetland has persistent, ungrazed vegetation $< 1/10$ of area points = 0 Map of Cowardin vegetation classes	Figure <u>5</u>
D	D1.4 Characteristics of seasonal ponding or inundation. <i>This is the area of the wetland unit that is ponded for at least 2 months, but dries out sometime during the year. Do not count the area that is permanently ponded. Estimate area as the average condition 5 out of 10 yrs.</i> Area seasonally ponded is $> 1/2$ total area of wetland <u>points = 4</u> Area seasonally ponded is $> 1/4$ total area of wetland points = 2 Area seasonally ponded is $< 1/4$ total area of wetland points = 0 Map of Hydroperiods	Figure <u>4</u>
D	Total for D 1 Add the points in the boxes above	<u>11</u>
D	D 2. Does the wetland unit have the <u>opportunity</u> to improve water quality? Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. — Grazing in the wetland or within 150 ft ☒ Untreated stormwater discharges to wetland — Tilled fields or orchards within 150 ft of wetland — A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging — Residential, urban areas, golf courses are within 150 ft of wetland — Wetland is fed by groundwater high in phosphorus or nitrogen — Other _____ YES multiplier is <u>2</u> NO multiplier is 1	(see p. 44) multiplier <u>2</u>
D	TOTAL - Water Quality Functions Multiply the score from D1 by D2 Add score to table on p. 1	<u>22</u>

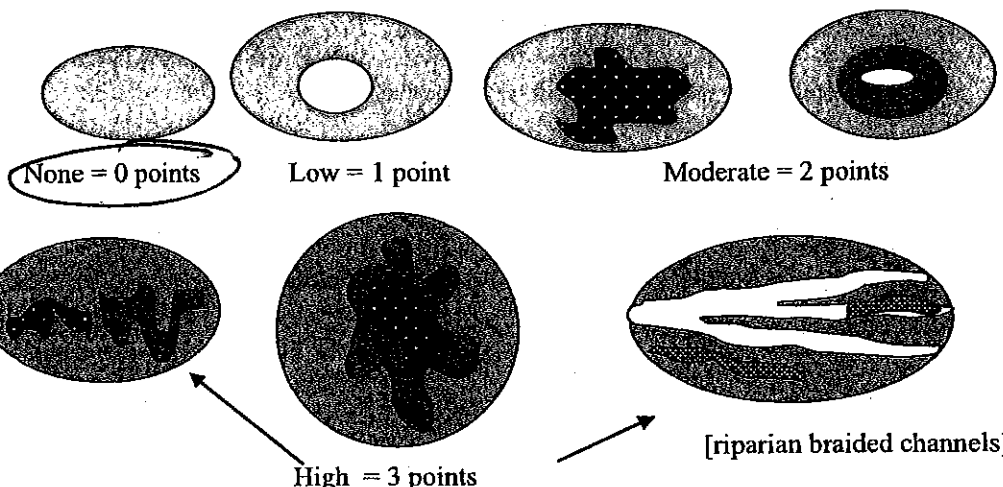
Wetland name or number _____

D Depressional and Flats Wetlands		Points
HYDROLOGIC FUNCTIONS - Indicators that the wetland unit functions as a hydrologic storage and stream modification		
	D 3. Does the wetland unit have the potential to reduce flooding and erosion? (see p. 46)	
D	D 3.1 Characteristics of surface water flows out of the wetland unit Unit is a depression with no surface water leaving it (no outlet) points = 4 Unit has an intermittently flowing, OR highly constricted permanently flowing outlet points = 2 Unit is a "flat" depression (Q. 7 on key), or in the Flats class, with permanent surface outflow and no obvious natural outlet and/or outlet is a man-made ditch points = 1 (If ditch is not permanently flowing treat unit as "intermittently flowing") Unit has an unconstricted, or slightly constricted, surface outlet (permanently flowing) points = 0	2
D	D 3.2 Depth of storage during wet periods Estimate the height of ponding above the bottom of the outlet. For units with no outlet measure from the surface of permanent water or deepest part (if dry). Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 The wetland is a "headwater" wetland points = 5 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 Unit is flat (yes to Q. 2 or Q. 7 on key) but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft points = 0	3
D	D 3.3 Contribution of wetland unit 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 unit points = 5 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 unit is in the FLATS class points = 5	0
D	Total for D 3 Add the points in the boxes above	5
D	D 4. Does the wetland unit have the opportunity to reduce flooding and erosion? (see p. 49) Answer YES if the unit is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. Answer NO if the water coming into the wetland is controlled by a structure such as flood gate, tide gate, flap valve, reservoir etc. OR you estimate that more than 90% of the water in the wetland is from groundwater in areas where damaging groundwater flooding does not occur. Note which of the following indicators of opportunity apply. — Wetland is in a headwater of a river or stream that has flooding problems X Wetland drains to a river or stream that has flooding problems — Wetland has no outlet and impounds surface runoff water that might otherwise flow into a river or stream that has flooding problems — Other _____ YES multiplier is 2 NO multiplier is 1	multiplier 2
D	TOTAL - Hydrologic Functions Multiply the score from D 3 by D 4 Add score to table on p. 1	10

Wetland name or number _____

H 1.4. Interspersion of habitats (see p. 76)

Decide from the diagrams below whether interspersion between Cowardin vegetation classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.



NOTE: If you have four or more classes or three vegetation classes and open water the rating is always "high". Use map of Cowardin vegetation classes

Figure _____

0

H 1.5. Special Habitat Features: (see p. 77)

Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.

- ☐ Large, downed, woody debris within the wetland (>4in. diameter and 6 ft long).
- ☐ Standing snags (diameter at the bottom > 4 inches) in the wetland
- ☐ Undercut banks are present for at least 6.6 ft (2m) and/or overhanging vegetation extends at least 3.3 ft (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft (10m)
- ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (>30degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown)
- ☐ At least ¼ acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated. (structures for egg-laying by amphibians)
- ☒ Invasive plants cover less than 25% of the wetland area in each stratum of plants

NOTE: The 20% stated in early printings of the manual on page 78 is an error.

1

H 1. TOTAL Score - potential for providing habitat
Add the scores from H1.1, H1.2, H1.3, H1.4, H1.5

2

Comments

H 2. Does the wetland unit have the opportunity to provide habitat for many species?**H 2.1 Buffers** (see p. 80)

Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed."

- 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% of circumference. No structures are within the undisturbed part of buffer. (relatively undisturbed also means no-grazing, no landscaping, no daily human use) **Points = 5**
- 100 m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference. **Points = 4**
- 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water >95% circumference. **Points = 4**
- 100 m (330ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference. **Points = 3**
- 50 m (170ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference. **Points = 3**

If buffer does not meet any of the criteria above

- No paved areas (except paved trails) or buildings within 25 m (80ft) of wetland > 95% circumference. Light to moderate grazing, or lawns are OK. **Points = 2**
- No paved areas or buildings within 50m of wetland for >50% circumference. Light to moderate grazing, or lawns are OK. **Points = 2**
- Heavy grazing in buffer. **Points = 1**
- Vegetated buffers are <2m wide (6.6ft) for more than 95% of the circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland) **Points = 0.**
- Buffer does not meet any of the criteria above. **Points = 1**

Aerial photo showing buffers

Figure _____

H 2.2 Corridors and Connections (see p. 81)

H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft wide, has at least 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor)

YES = 4 points (go to H 2.3)

NO = go to H 2.2.2

H 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50ft wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?

YES = 2 points (go to H 2.3)

NO = H 2.2.3

H 2.2.3 Is the wetland:

- within 5 mi (8km) of a brackish or salt water estuary OR
- within 3 mi of a large field or pasture (>40 acres) OR
- within 1. mi of a lake greater than 20 acres?

YES = 1 point

NO = 0 points

Total for page 2

Wetland name or number _____

H 2.3 Near or adjacent to other priority habitats listed by WDFW (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report <http://wdfw.wa.gov/hab/phslist.htm>)

Which of the following priority habitats are within 330ft (100m) of the wetland unit? NOTE: the connections do not have to be relatively undisturbed.

- ___ **Aspen Stands:** Pure or mixed stands of aspen greater than 0.4 ha (1 acre).
- ___ **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 p. 152).
- ___ **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 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; 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:** Woodlands 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).
- ___ **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).
- ___ **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: pp. 167-169 and glossary in Appendix A).
- ___ **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 7.6 m (25 ft) high and occurring below 5000 ft.
- ___ **Talus:** Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), 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 > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.

If wetland has 3 or more priority habitats = 4 points

If wetland has 2 priority habitats = 3 points

If wetland has 1 priority habitat = 1 point

No habitats = 0 points

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)

Wetland name or number _____

H 2.4 Wetland Landscape (<i>choose the one description of the landscape around the wetland that best fits</i>) (<i>see p. 84</i>) There are at least 3 other wetlands within ½ mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development. points = 5 The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within ½ mile points = 5 There are at least 3 other wetlands within ½ mile, BUT the connections between them are disturbed points = 3 The wetland is Lake-fringe on a lake with disturbance and there are 3 other lake-fringe wetland within ½ mile points = 3 There is at least 1 wetland within ½ mile. points = 2 There are no wetlands within ½ mile. points = 0	3
H 2. TOTAL Score - opportunity for providing habitat Add the scores from H2.1, H2.2, H2.3, H2.4	5
TOTAL for H 1 from page 14	2
Total Score for Habitat Functions – add the points for H 1, H 2 and record the result on p. 1	7

Wetland name or number _____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met. SC 1.0 Estuarine wetlands (see p. 86) Does the wetland unit meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt. YES = Go to SC 1.1 NO _____	
SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? YES = Category I NO go to SC 1.2	Cat. I
SC 1.2 Is the wetland unit at least 1 acre in size and meets at least two of the following three conditions? YES = Category I NO = Category II — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are the only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre. — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.	Cat. I Cat. II Dual rating I/II

SC 2.0 Natural Heritage Wetlands (see p. 87)

Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.

SC 2.1 Is the wetland unit being rated in a Section/Township/Range that contains a Natural Heritage wetland? *(this question is used to screen out most sites before you need to contact WNHP/DNR)*

S/T/R information from Appendix D _____ or accessed from WNHP/DNR web site _____

YES _____ – contact WNHP/DNR (see p. 79) and go to SC 2.2 NO _____

SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as or as a site with state threatened or endangered plant species?

YES = Category I NO _____ not a Heritage Wetland

Cat. I

SC 3.0 Bogs (see p. 87)

Does the wetland unit (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below to identify if the wetland is a bog. If you answer yes you will still need to rate the wetland based on its functions.*

1. Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of the soil profile? (See Appendix B for a field key to identify organic soils)? Yes - go to Q. 3 No - go to Q. 2

2. Does the unit have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond?

Yes - go to Q. 3 No - Is not a bog for purpose of rating

3. Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the "bog" species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)?

Yes - Is a bog for purpose of rating No - go to Q. 4

NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16" deep. If the pH is less than 5.0 and the "bog" plant species in Table 3 are present, the wetland is a bog.

1. Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann's spruce, or western white pine, WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)?

2. YES = Category I No _____ Is not a bog for purpose of rating

Cat. I

SC 4.0 Forested Wetlands (see p. 90) Does the wetland unit have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its functions.</i> — Old-growth forests: (west of Cascade crest) Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm) or more. NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter. — Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have average diameters (dbh) exceeding 21 inches (53cm); 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. YES = Category I NO ___ not a forested wetland with special characteristics	Cat. I
SC 5.0 Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom</i>) YES = Go to SC 5.1 NO ___ not a wetland in a coastal lagoon SC 5.1 Does the wetland meets all of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland is larger than 1/10 acre (4350 square feet) YES = Category I NO = Category II	Cat. I Cat. II

Wetland name or number _____

SC 6.0 Interdunal Wetlands (see p. 93) Is the wetland unit west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? YES - go to SC 6.1 NO __ not an interdunal wetland for rating <i>If you answer yes you will still need to rate the wetland based on its functions.</i> In practical terms that means the following geographic areas: • Long Beach Peninsula- lands west of SR 103 • Grayland-Westport- lands west of SR 105 • Ocean Shores-Copalis- lands west of SR 115 and SR 109 SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is once acre or larger? YES = Category II NO – go to SC 6.2 SC 6.2 Is the unit between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? YES = Category III	Cat. II Cat. III
<i>Return to Wetland Rating Form Special Circumstances page if you have a wetland that is not a coastal wetland, or if you have a wetland that is not a coastal wetland, or if you have a wetland that is not a coastal wetland.</i> <i>If you answer NO to all three, the wetland is not an interdunal wetland.</i>	

APPENDIX F

Wetland Functions and Values Information

It is important that those involved in wetland regulation and management understand their functions and values. Knowledge of these roles can be a key factor in the design and implementation of wetland inventories. Not all wetlands provide each function or value nor do they provide them to the same degree. Variations occur because of wetland type and characteristics, as well as regional and local influences. Some local governments try to distinguish how functions and values relate to their community and region. The following is a brief summary.

Water Supply

With the growth of urban centers and dwindling water supplies, wetlands are increasingly important as a source of surface and ground water. They can function as recharge areas where water soaks into the soils, replenishing ground water supplies. Wetlands are also areas where ground water moves to the surface through springs and seepage, often collecting in pools and ponds, and supplying critical reserves during periods of drought.

Flood Control

Wetlands are valuable in reducing the impact of flooding. They have the ability to store and slow the flow of water from upland run-off. If a wetland is associated with a river in a flat valley, the wetland and its vegetation reduces the height and velocity of flood peaks. Some wetland soils can store large amounts of floodwater and gradually release them downstream. Construction in flood plain wetlands causes increase flood heights and rates, and an associated increase in flood damage.

Erosion Control

Vegetated wetlands serve as natural buffers from the effects of tides, waves, wind and river currents. They dissipate the energy of these erosive forces. The fibrous root systems of wetland plants bind and stabilize banks, protecting the shoreline from erosion. On the coast, they can limit wave generation, slow and absorb the impacts of wave energy, and thereby protect inland areas from storm damage. Construction of bulkheads, rip-rap, and other banked hardening stabilization techniques simply transfer the erosive energy to neighboring areas.

Pollution and Sediment Control

Wetlands protect and improve the quality of surface and ground waters by removing sediments, nutrients, heavy metals, and hazardous chemicals. Wetlands vegetation filters particulate matter from the water. When moving water comes into contact with vegetation, its flow is slowed and sediment falls out of suspension. The root systems trap the sediment, reducing siltation in downstream water bodies. Substances such as nutrients, pathogens, and many chemicals are often

bound to the surface of sediment particles. Thus, sedimentation reduces both organic and inorganic pollutants. These pollutants may be released when wetland soils are disturbed. Wetland vascular plants and algae also absorb nutrients and chemicals. The micro-organisms utilize dissolved nutrients and break down organic matter. Research is underway to determine the impacts of utilizing wetlands as tertiary waste treatment facilities.

Wildlife Habitat

Wetlands, the interface between land and water, are among the richest wildlife habitats in the world. They provide the conditions essential for the breeding, nesting, feeding, and protection for many species of waterfowl, mammals, reptiles, and amphibians. These conditions include abundant water, diverse and rich vegetation, and adequate cover. Many of these species are "obligates" or dependent upon the wetland for their survival. Some such as the beaver spend their entire lifetimes in the wetland environment. Others like the salmon inhabit it for shorter, but critical, parts of their life cycle. Numerous species (such as deer and raccoon) depend on wetlands as a source of drinking water, food, and winter cover. Wetlands are as critical to the needs of these species as they are to those that depend solely on wetland habitat. Though many waterfowl nest primarily in northern freshwater wetlands, they use wetlands through out the county while migrating and for over-wintering. Birds such as herons, egrets, rails and harriers depend upon wetlands for their survival. Both salt and freshwater wetlands are important spawning, nursery, feeding, and wintering areas for sport and commercial fish and shellfish.

Wetlands also support many endangered plant and animal species. Although wetlands constitute only 5 per cent of the nation's lands, close the 35 per cent of all rare and endangered animal species are dependent upon them. (McMillan, A. 1986)

Food Web Productivity

Wetlands play an important part in the food web. Coastal wetlands are among the most productive areas in the world. Solar energy is utilized by wetland plants to produce hundreds of pounds of nutrients per acre of salt marsh annually. The vegetation dies, decays, and is broken down to form a nutrient-rich "soup" called detritus. This rich food source is converted by micro-organisms into basic nutrients and elements for use by vascular plants and phytoplankton (minute floating plant life). The phytoplankton are consumed by zooplankton (minute floating animal life). the detritus and plankton's are carried into tidal creeks, and bays and are consumed by invertebrates such as oysters, shrimp and crabs. they in turn are preyed upon by other animals including humans. It has been estimated that 90 per cent of the important commercial marine species either spend their entire lives in estuarine wetlands or require estuaries as nursery grounds (Kusler, J. 1983). Freshwater wetlands also provide food, habitat, and spawning grounds for many other species of fish.

Education and Research

Coastal and inland wetlands provide unique opportunities for education and scientific research. Due to the land-water interface, diversity of vegetation, topography, and the resulting varied habitats, wetlands are ideal for studying plant and animal life. Because ecological relationships are easily observed, they are excellent locations for teaching environmental science. The complex ecological relationships of wetland systems make them valuable areas for scientific research as well.

Recreation and Aesthetic Values

Wetlands are areas not only of great diversity but also of great beauty. They provide open space and contrast for both visual and recreational enjoyment, especially valuable in urban areas. Visitors include photographers, bird watchers, hikers, boaters, hunters, fishers and natural history enthusiasts. Appreciation and use of wetlands as a recreational resource is steadily increasing on both a national and state-wide basis. National, wetland-dependent waterfowl are hunted by over 2 million hunters. Nisqually National wildlife Refuge, near Olympia, Washington has had a 300 percent increase on visitor use since 1977. (McMillan, A. 1986)

References

Washington State Department of Ecology, A Guide to Conducting Wetlands Inventories, 1989

DATA FORM

MODIFIED ROUTINE ON SITE DETERMINATION METHOD

Field Investigator: Jaughn Everett Date: January 9 2009
 Project/Site: Lincoln Road County: Kitsap State: WA
 Applicant/Owner: Christiansen et al Surveyor: UL Olson & Assoc.
 Describe current conditions of wetland and surrounding areas: typical upland forest on west side. Mixed forest w/ med shrub & herb layers. Slopes down gradually to the East
 Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes ☐ No ☒
 If yes, what are modifiers: _____

SOILS

Mapped Series: #39 Polkso gravelly sandy loam 0-6% slopes
 Hydric soils list?: Yes ☐ No ☒ Hydric Inclusion? No

Depth	Horizon	Color	Texture	Hydric Soil Indicators	Yes	No	Depth
		Matrix	Mottle	Histosol			
<u>0-16</u>	<u>A</u>	<u>10YR 4/3</u>	<u>1</u>	<u>SAL</u>			
				Histic Epipedon			
				Gleyed			
				Sulfidic odor			
				Concretions			

Is the hydric soil criterion met? Yes ☐ No ☒
 Rationale: Soil matrix chroma is too high

HYDROLOGY

General wetland type or characteristic: Emergent ☐ Scrub/Shrub ☐ Forested ☐
 Permanently flooded ☐ Seasonally flooded ☐ Temporarily flooded ☐ Saturated ☐
 Types of water bodies associated with the wetland: River ☐ Stream ☐ Seep/Spring ☐
 Pond/Lake ☐ Tidal ☐ Drainage ditch/channel ☐ Other: _____
 Is the ground surface inundated? Yes ☐ No ☒ Surface water depth: _____
 Is the soil saturated? Yes ☐ No ☒ Depth to water in test hole: _____
 Field evidence of surface inundation or soil saturation: NONE
 Is the wetland hydrology criterion met? Yes ☐ No ☒
 Rationale: No evidence or indicators of hydrology present

SUMMARY

Hydric soil present? Yes ☐ No ☒ Hydrology present? Yes ☐ No ☒
 Hydrophytic vegetation present? Yes ☐ No ☒
 Percent of FAC, FACW, and OBL species: 5
 Is the site a wetland? Yes ☐ No ☒
 Rationale: All three parameters are not present

TEST HOLE # 1 OF 13

LOCATION OF TEST HOLE UPLAND
SW corner

SEE REVERSE FOR VEGETATION



APPENDIX G

Wiltermood Associates, Inc.
 1015 SW Harper Road
 Port Orchard, WA 98367
 (360) 876-2403

COMMON WETLAND AND NON-WETLAND VEGETATION

Dominant Tree Species

% cover 100% canopy

☐ Pacific willow	<i>Salix lucida ssp. lasiandra</i>	FACW+
☐ Oregon ash	<i>Fraxinus latifolia</i>	FACW
☐ Quaking aspen	<i>Populus tremuloides</i>	FAC+
x ☒ 5 Red alder 1103-8"	<i>Alnus rubra</i>	FAC
☐ Black cottonwood	<i>Populus balsamifera</i>	FAC
☐ Scouler's willow	<i>Salix scouleriana</i>	FAC

% cover

☐ Sitka spruce	<i>Picea sitchensis</i>	FAC
☒ Western red cedar	<i>Thuja plicata</i>	FAC
☐ Cascara buckthorn	<i>Frangula purshiana</i>	FAC-
☒ Bigleaf maple	<i>Acer macrophyllum</i>	FACU
☐ Western hemlock	<i>Tsuga heterophylla</i>	FACU
☒ Douglas fir	<i>Pseudotsuga menziesii</i>	FACU

Other tree species present: _____

Dominant Shrub Species

☐ Hardhack	<i>Spiraea douglasii</i>	FACW
☐ Redosier Dogwood	<i>Cornus sericea</i>	FACW
☐ Western crabapple	<i>Malus fusca</i>	FACW
☐ Black twinberry	<i>Lonicera involucrata</i>	FAC+
☐ Devil's club	<i>Oplopanax horridus</i>	FAC+
☐ Salmonberry	<i>Rubus spectabilis</i>	FAC
☐ Nootka rose	<i>Rosa nutkana</i>	FAC
☐ Vine maple	<i>Acer circinatum</i>	FAC-
☐ English ivy	<i>Hedera helix</i>	FACU
x ☒ 25 Red elderberry	<i>Sambucus racemosa</i>	FACU

☐ Snowberry	<i>Symphoricarpos albus</i>	FACU
☐ Scot's broom	<i>Cytisus scoparius</i>	FACU
☐ California huckleberry	<i>Vaccinium ovatum</i>	FACU
☐ Himalayan blackberry	<i>Rubus armeniacus</i>	FACU
☒ 5 Salal	<i>Gaultheria shallon</i>	FACU
x ☒ 20 Indian plum	<i>Oemleria cerasiformis</i>	FACU
☒ Hazelnut	<i>Corylus cornuta</i>	FACU
☒ Oregon grape	<i>Mahonia nervosa</i>	FACU
☐ Red huckleberry	<i>Vaccinium parvifolium</i>	UPL
☐ Oceanspray	<i>Holodiscus discolor</i>	UPL

Other shrub species present: _____

Dominant Forb Species

☐ Skunkcabbage	<i>Lysichiton americanum</i>	OBL
☐ Cattail	<i>Typha latifolia</i>	OBL
☐ Water parsley	<i>Oenanthe sarmentosa</i>	OBL
☐ Slough sedge	<i>Carex obnupta</i>	OBL
☐ Small fruited bulrush	<i>Scirpus microcarpus</i>	OBL
☐ owlfruit sedge	<i>Carex stipata</i>	OBL
☐ Tall manna grass	<i>Glyceria elata</i>	FACW+
☐ Soft rush	<i>Juncus effusus</i>	FACW+
☐ Rushes	<i>Juncus spp.</i>	FACW
☐ Creeping buttercup	<i>Ranunculus repens</i>	FACW
☐ Reed canarygrass	<i>Phalaris arundinacea</i>	FACW

☐ Stinging nettle	<i>Urtica dioica</i>	FAC+
☐ Velvet grass	<i>Holcus lanatus</i>	FAC
☐ Lady fern	<i>Athyrium filix-femina</i>	FAC
☐ Horsetail	<i>Equisetum arvense</i>	FAC
☐ Youth-on-age	<i>Tolmiea menziesii</i>	FAC
☐ Foam flower	<i>Tiarella trifoliata</i>	FAC-
☐ Cat's ear	<i>Hypochaeris radicata</i>	FACU
x ☒ 20 Trailing blackberry	<i>Rubus ursinus</i>	FACU
☐ Bracken fern	<i>Pteridium aquilinum</i>	FACU
x ☒ 25 Sword fern	<i>Polystichum munitum</i>	FACU
☐ Bleeding heart	<i>Dicentra formosa</i>	FACU

Other forb species present: _____

Percent of dominant species FAC, FACW, OBL: 5%

Is the hydrophytic vegetation criterion met? Yes ☐ No ☒

Rationale: 550% of the veg cover is hydrophytic

UPLAND? ☒ WETLAND? ☐

WETLAND TYPE: Palustrine ☐ Riverine ☐

Lacustrine ☐ Estuarine ☐

Forested ☐ Scrub/Shrub ☐

Emergent ☐ Open Water ☐

Wet Meadow/Pasture ☐

DATA FORM

MODIFIED ROUTINE ON SITE DETERMINATION METHOD

Field Investigator: See Data Sheet #1 Date: _____
 Project/Site: _____ County: _____ State: _____
 Applicant/Owner: _____ Surveyor: _____
 Describe current conditions of wetland and surrounding areas: 1/2 way down slope to east
forested mod to sparse shrub & herb layers
 Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes _____ No X
 If yes, what are modifiers: _____

SOILS

Mapped Series: #39 Paulsbo gravelly sandy loam 0-6% slopes
 Hydric soils list?: Yes _____ No X Hydric Inclusion? _____

Depth	Horizon	Color	Texture	Hydric Soil Indicators	Yes	No	Depth
0-12	A	Matrix 10YR 4/3	Mottle /	SAU			
12-16	B	10YR 4/4	/	SAU			

Is the hydric soil criterion met? Yes _____ No X
 Rationale: Soil matrix chroma is too high

HYDROLOGY

General wetland type or characteristic: Emergent _____ Scrub/Shrub _____ Forested _____
 Permanently flooded _____ Seasonally flooded _____ Temporarily flooded _____ Saturated _____
 Types of water bodies associated with the wetland: River _____ Stream _____ Seep/Spring _____
 Pond/Lake _____ Tidal _____ Drainage ditch/channel _____ Other: _____
 Is the ground surface inundated? Yes _____ No X Surface water depth: _____
 Is the soil saturated? Yes _____ No X Depth to water in test hole: _____
 Field evidence of surface inundation or soil saturation: NONE

Is the wetland hydrology criterion met? Yes _____ No X
 Rationale: No evidence or indicators of wetland hydrology present

SUMMARY

Hydric soil present? Yes _____ No X Hydrology present? Yes _____ No X
 Hydrophytic vegetation present? Yes _____ No X
 Percent of FAC, FACW, and OBL species: 4
 Is the site a wetland? Yes _____ No X
 Rationale: All three wetland parameters are not present

TEST HOLE # 2 OF 13

LOCATION OF TEST HOLE LIPLANID
200' East of TH #1

SEE REVERSE FOR VEGETATION



APPENDIX G

Wiltermood Associates, Inc.
 1015 SW Harper Road
 Port Orchard, WA 98367
 (360) 876-2403

COMMON WETLAND AND NON-WETLAND VEGETATION

Dominant Tree Species

% cover

☐ Pacific willow	<i>Salix lucida ssp. lasiandra</i>	FACW+
☐ Oregon ash	<i>Fraxinus latifolia</i>	FACW
☐ Quaking aspen	<i>Populus tremuloides</i>	FAC+
☒ Red alder 90-100%	<i>Alnus rubra</i>	FAC
☐ Black cottonwood	<i>Populus balsamifera</i>	FAC
☐ Scouler's willow	<i>Salix scouleriana</i>	FAC

Other tree species present: _____

% cover

☐ Sitka spruce	<i>Picea sitchensis</i>	FAC
☐ Western red cedar	<i>Thuja plicata</i>	FAC
☐ Cascara buckthorn	<i>Frangula purshiana</i>	FAC-
☐ Bigleaf maple	<i>Acer macrophyllum</i>	FACU
☐ Western hemlock	<i>Tsuga heterophylla</i>	FACU
☒ Douglas fir	<i>Pseudotsuga menziesii</i>	FACU

Dominant Shrub Species

☐ Hardhack	<i>Spiraea douglasii</i>	FACW
☐ Redosier Dogwood	<i>Cornus sericea</i>	FACW
☐ Western crabapple	<i>Malus fusca</i>	FACW
☐ Black twinberry	<i>Lonicera involucrata</i>	FAC+
☐ Devil's club	<i>Oplopanax horridus</i>	FAC+
☐ Salmonberry	<i>Rubus spectabilis</i>	FAC
☐ Nootka rose	<i>Rosa nutkana</i>	FAC
☐ Vine maple	<i>Acer circinatum</i>	FAC-
☐ English ivy	<i>Hedera helix</i>	FACU
☒ Red elderberry	<i>Sambucus racemosa</i>	FACU

Other shrub species present: _____

☐ Snowberry	<i>Symphoricarpos albus</i>	FACU
☐ Scot's broom	<i>Cytisus scoparius</i>	FACU
☐ California huckleberry	<i>Vaccinium ovatum</i>	FACU
☐ Himalayan blackberry	<i>Rubus armeniacus</i>	FACU
☐ Salal	<i>Gaultheria shallon</i>	FACU
☒ Indian plum	<i>Oemleria cerasiformis</i>	FACU
☐ Hazelnut	<i>Corylus cornuta</i>	FACU
☒ Oregon grape	<i>Mahonia nervosa</i>	FACU
☐ Red huckleberry	<i>Vaccinium parvifolium</i>	UPL
☐ Oceanspray	<i>Holodiscus discolor</i>	UPL

Dominant Forb Species

☐ Skunkcabbage	<i>Lysichiton americanum</i>	OBL
☐ Cattail	<i>Typha latifolia</i>	OBL
☐ Water parsley	<i>Oenanthe sarmentosa</i>	OBL
☐ Slough sedge	<i>Carex obnupta</i>	OBL
☐ Small fruited bulrush	<i>Scirpus microcarpus</i>	OBL
☐ owlfruit sedge	<i>Carex stipata</i>	OBL
☐ Tall manna grass	<i>Glyceria elata</i>	FACW+
☐ Soft rush	<i>Juncus effusus</i>	FACW+
☐ Rushes	<i>Juncus spp.</i>	FACW
☐ Creeping buttercup	<i>Ranunculus repens</i>	FACW
☐ Reed canarygrass	<i>Phalaris arundinacea</i>	FACW

Other forb species present: _____

☐ Stinging nettle	<i>Urtica dioica</i>	FAC+
☐ Velvet grass	<i>Holcus lanatus</i>	FAC
☐ Lady fern	<i>Athyrium filix-femina</i>	FAC
☐ Horsetail	<i>Equisetum arvense</i>	FAC
☐ Youth-on-age	<i>Tolmiea menziesii</i>	FAC
☐ Foam flower	<i>Tiarella trifoliata</i>	FAC-
☐ Cat's ear	<i>Hypochaeris radicata</i>	FACU
☒ Trailing blackberry	<i>Rubus ursinus</i>	FACU
☐ Bracken fern	<i>Pteridium aquilinum</i>	FACU
☒ Sword fern	<i>Polystichum munitum</i>	FACU
☐ Bleeding heart	<i>Dicentra formosa</i>	FACU

Percent of dominant species FAC, FACW, OBL: 4%

Is the hydrophytic vegetation criterion met? Yes ☐ No ☒

Rationale: 750% of the veg cover is hydrophytic

UPLAND? ☒ WETLAND? ☐

WETLAND TYPE: Palustrine ☐ Riverine ☐
 Lacustrine ☐ Estuarine ☐
 Forested ☐ Scrub/Shrub ☐
 Emergent ☐ Open Water ☐
 Wet Meadow/Pasture ☐

DATA FORM

MODIFIED ROUTINE ON SITE DETERMINATION METHOD

Field Investigator: See Data Sheet #1 Date: _____
 Project/Site: _____ County: _____ State: _____
 Applicant/Owner: _____ Surveyor: _____
 Describe current conditions of wetland and surrounding areas: _____

Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes _____ No _____
 If yes, what are modifiers: _____

SOILS

Mapped Series: #22 Kapowsin gravelly sandy loam 0-6% slopes
 Hydric soils list?: Yes _____ No X

Depth	Horizon	Matrix	Color	Mottle	Texture	Hydric Inclusion?	Hydric Soil Indicators	Yes	No	Depth
0-7	A	10YR	3/3	/	SALO		Histosol			
							Histic Epipedon			
							Gleyed			
7-16	B	10YR	3/4	/	SALO		Sulfidic odor			
							Concretions			

Is the hydric soil criterion met? Yes _____ No X
 Rationale: Soil matrix chroma is too high

HYDROLOGY

General wetland type or characteristic: Emergent _____ Scrub/Shrub _____ Forested _____
 Permanently flooded _____ Seasonally flooded _____ Temporarily flooded _____ Saturated _____
 Types of water bodies associated with the wetland: River _____ Stream _____ Seep/Spring _____
 Pond/Lake _____ Tidal _____ Drainage ditch/channel _____ Other: _____
 Is the ground surface inundated? Yes _____ No X Surface water depth: _____
 Is the soil saturated? Yes _____ No X Depth to water in test hole: _____
 Field evidence of surface inundation or soil saturation: None

Is the wetland hydrology criterion met? Yes _____ No X
 Rationale: No evidence or indicators of wetland hydrology or seasonal surface water flow

SUMMARY

Hydric soil present? Yes _____ No X Hydrology present? Yes _____ No X
 Hydrophytic vegetation present? Yes _____ No X
 Percent of FAC, FACW, and OBL species: 12
 Is the site a wetland? Yes _____ No X
 Rationale: All three wetland parameters are not present

TEST HOLE # 3 OF 13

LOCATION OF TEST HOLE Now-WETLAND
Center of south lake

SEE REVERSE FOR VEGETATION



APPENDIX G

Wiltermood Associates, Inc.
 1015 SW Harper Road
 Port Orchard, WA 98367
 (360) 876-2403

COMMON WETLAND AND NON-WETLAND VEGETATION

Dominant Tree Species

% cover 95% canopy

☐ Pacific willow	<i>Salix lucida ssp. lasiandra</i>	FACW+
☐ Oregon ash	<i>Fraxinus latifolia</i>	FACW
☐ Quaking aspen	<i>Populus tremuloides</i>	FAC+
☒ Red alder 8@6-14"	<i>Alnus rubra</i>	FAC
☐ Black cottonwood	<i>Populus balsamifera</i>	FAC
☐ Scouler's willow	<i>Salix scouleriana</i>	FAC

Other tree species present: _____

% cover

☐ Sitka spruce	<i>Picea sitchensis</i>	FAC
☐ Western red cedar	<i>Thuja plicata</i>	FAC
☐ Cascara buckthorn	<i>Frangula purshiana</i>	FAC-
☐ Bigleaf maple	<i>Acer macrophyllum</i>	FACU
☒ Western hemlock	<i>Tsuga heterophylla</i>	FACU
☐ Douglas fir	<i>Pseudotsuga menziesii</i>	FACU

☒ White Pine *Pinus monticola* FACU -

Dominant Shrub Species

☒ Hardhack	<i>Spiraea douglasii</i>	FACW
☐ Redosier Dogwood	<i>Cornus sericea</i>	FACW
☐ Western crabapple	<i>Malus fusca</i>	FACW
☐ Black twinberry	<i>Lonicera involucrata</i>	FAC+
☐ Devil's club	<i>Oplopanax horridus</i>	FAC+
☒ Salmonberry	<i>Rubus spectabilis</i>	FAC
☐ Nootka rose	<i>Rosa nutkana</i>	FAC
☐ Vine maple	<i>Acer circinatum</i>	FAC-
☐ English ivy	<i>Hedera helix</i>	FACU
☐ Red elderberry	<i>Sambucus racemosa</i>	FACU

Other shrub species present: _____

☐ Snowberry	<i>Symphoricarpos albus</i>	FACU
☐ Scot's broom	<i>Cytisus scoparius</i>	FACU
☐ California huckleberry	<i>Vaccinium ovatum</i>	FACU
☐ Himalayan blackberry	<i>Rubus armeniacus</i>	FACU
☒ Salal	<i>Gaultheria shallon</i>	FACU
☒ Indian plum	<i>Oemleria cerasiformis</i>	FACU
☐ Hazelnut	<i>Corylus cornuta</i>	FACU
☐ Oregon grape	<i>Mahonia nervosa</i>	FACU
☐ Red huckleberry	<i>Vaccinium parvifolium</i>	UPL
☐ Oceanspray	<i>Holodiscus discolor</i>	UPL

Dominant Forb Species

☐ Skunkcabbage	<i>Lysichiton americanum</i>	OBL
☐ Cattail	<i>Typha latifolia</i>	OBL
☐ Water parsley	<i>Oenanthe sarmentosa</i>	OBL
☐ Slough sedge	<i>Carex obnupta</i>	OBL
☐ Small fruited bulrush	<i>Scirpus microcarpus</i>	OBL
☐ owlfruit sedge	<i>Carex stipata</i>	OBL
☐ Tall manna grass	<i>Glyceria elata</i>	FACW+
☐ Soft rush	<i>Juncus effusus</i>	FACW+
☐ Rushes	<i>Juncus spp.</i>	FACW
☐ Creeping buttercup	<i>Ranunculus repens</i>	FACW
☐ Reed canarygrass	<i>Phalaris arundinacea</i>	FACW

Other forb species present: _____

☐ Stinging nettle	<i>Urtica dioica</i>	FAC+
☐ Velvet grass	<i>Holcus lanatus</i>	FAC
☐ Lady fern	<i>Athyrium filix-femina</i>	FAC
☐ Horsetail	<i>Equisetum arvense</i>	FAC
☐ Youth-on-age	<i>Tolmiea menziesii</i>	FAC
☐ Foam flower	<i>Tiarella trifoliata</i>	FAC-
☒ Cat's ear	<i>Hypochaeris radicata</i>	FACU
☒ Trailing blackberry	<i>Rubus ursinus</i>	FACU
☐ Bracken fern	<i>Pteridium aquilinum</i>	FACU
☒ Sword fern	<i>Polystichum munitum</i>	FACU
☐ Bleeding heart	<i>Dicentra formosa</i>	FACU

Percent of dominant species FAC, FACW, OBL: 12%

Is the hydrophytic vegetation criterion met? Yes ☐ No ☒

Rationale: > 50% of the veg cover is hydrophytic

UPLAND? ☒ WETLAND? ☐

WETLAND TYPE: Palustrine ☐ Riverine ☐

Lacustrine ☐ Estuarine ☐

Forested ☐ Scrub/Shrub ☐

Emergent ☐ Open Water ☐

Wet Meadow/Pasture ☐

DATA FORM

MODIFIED ROUTINE ON SITE DETERMINATION METHOD

Field Investigator: Sec Data sheet #1 Date: _____
 Project/Site: _____ County: _____ State: _____
 Applicant/Owner: _____ Surveyor: _____
 Describe current conditions of wetland and surrounding areas: Part of transect near
old swale under Alder canopy slopes down to North gradually
 Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes _____ No X
 If yes, what are modifiers: _____

SOILS

Mapped Series: 22 Kapowsin gravelly sandy loam 0-6% slopes
 Hydric soils list? Yes _____ No X

Depth	Horizon	Color	Texture	Hydric Soil Indicators	Yes	No	Depth
0-9	A	10YR 3/3	2AL0	Histosol			
9-12	AB	10YR 4/3	2AL0	Histic Epipedon			
12-16	B	10YR 3/3	2AL0	Gleyed			
				Sulfidic odor			
				Concretions			

Is the hydric soil criterion met? Yes _____ No X
 Rationale: Soil matrix chroma is too high

HYDROLOGY

General wetland type or characteristic: Emergent _____ Scrub/Shrub _____ Forested _____
 Permanently flooded _____ Seasonally flooded _____ Temporarily flooded _____ Saturated _____
 Types of water bodies associated with the wetland: River _____ Stream _____ Seep/Spring _____
 Pond/Lake _____ Tidal _____ Drainage ditch/channel _____ Other: _____
 Is the ground surface inundated? Yes _____ No X Surface water depth: _____
 Is the soil saturated? Yes _____ No X Depth to water in test hole: _____
 Field evidence of surface inundation or soil saturation: NONE
 Is the wetland hydrology criterion met? Yes _____ No X
 Rationale: No evidence or indicators of wetland hydrology or seasonal surface water

SUMMARY

Hydric soil present? Yes _____ No X Hydrology present? Yes _____ No X
 Hydrophytic vegetation present? Yes _____ No X
 Percent of FAC, FACW, and OBL species: 36
 Is the site a wetland? Yes _____ No X
 Rationale: All three wetland parameters are not present

TEST HOLE # 4 OF 13

LOCATION OF TEST HOLE Now wetland
50' North of TH #3 center of property

SEE REVERSE FOR VEGETATION



APPENDIX G

Willermood Associates, Inc.
 1015 SW Harper Road
 Port Orchard, WA 98367
 (360) 876-2403

COMMON WETLAND AND NON-WETLAND VEGETATION

Dominant Tree Species

% cover

☐ Pacific willow	<i>Salix lucida ssp. lasiandra</i>	FACW+
☐ Oregon ash	<i>Fraxinus latifolia</i>	FACW
☐ Quaking aspen	<i>Populus tremuloides</i>	FAC+
☒ 5 Red alder 80-14"	<i>Alnus rubra</i>	FAC
☐ Black cottonwood	<i>Populus balsamifera</i>	FAC
☐ Scouler's willow	<i>Salix scouleriana</i>	FAC

Other tree species present: _____

% cover

☐ Sitka spruce	<i>Picea sitchensis</i>	FAC
☐ Western red cedar	<i>Thuja plicata</i>	FAC
☐ Cascara buckthorn	<i>Frangula purshiana</i>	FAC-
☐ Bigleaf maple	<i>Acer macrophyllum</i>	FACU
☐ Western hemlock	<i>Tsuga heterophylla</i>	FACU
☒ 12 Douglas fir 20-12"	<i>Pseudotsuga menziesii</i>	FACU

☒ 12 White pine *Pinus monticola* FACU-

Dominant Shrub Species

☐ Hardhack	<i>Spiraea douglasii</i>	FACW
☐ Redosier Dogwood	<i>Cornus sericea</i>	FACW
☐ Western crabapple	<i>Malus fusca</i>	FACW
☐ Black twinberry	<i>Lonicera involucrata</i>	FAC+
☐ Devil's club	<i>Oplopanax horridus</i>	FAC+
☒ 40 Salmonberry	<i>Rubus spectabilis</i>	FAC
☐ Nootka rose	<i>Rosa nutkana</i>	FAC
☐ Vine maple	<i>Acer circinatum</i>	FAC-
☐ English ivy	<i>Hedera helix</i>	FACU
☐ Red elderberry	<i>Sambucus racemosa</i>	FACU

Other shrub species present: _____

☐ Snowberry	<i>Symphoricarpos albus</i>	FACU
☐ Scot's broom	<i>Cytisus scoparius</i>	FACU
☐ California huckleberry	<i>Vaccinium ovatum</i>	FACU
☐ Himalayan blackberry	<i>Rubus armeniacus</i>	FACU
☐ Salal	<i>Gaultheria shallon</i>	FACU
☒ 5 Indian plum	<i>Oemleria cerasiformis</i>	FACU
☐ Hazelnut	<i>Corylus cornuta</i>	FACU
☐ Oregon grape	<i>Mahonia nervosa</i>	FACU
☒ 5 Red huckleberry	<i>Vaccinium parvifolium</i>	UPL
☐ Oceanspray	<i>Holodiscus discolor</i>	UPL

Dominant Forb Species

☐ Skunkcabbage	<i>Lysichiton americanum</i>	OBL
☐ Cattail	<i>Typha latifolia</i>	OBL
☐ Water parsley	<i>Oenanthe sarmentosa</i>	OBL
☒ 10 Slough sedge	<i>Carex obnupta</i>	OBL
☐ Small fruited bulrush	<i>Scirpus microcarpus</i>	OBL
☐ owlfruit sedge	<i>Carex stipata</i>	OBL
☐ Tall manna grass	<i>Glyceria elata</i>	FACW+
☐ Soft rush	<i>Juncus effusus</i>	FACW+
☐ Rushes	<i>Juncus spp.</i>	FACW
☐ Creeping buttercup	<i>Ranunculus repens</i>	FACW
☐ Reed canarygrass	<i>Phalaris arundinacea</i>	FACW

Other forb species present: _____

☐ Stinging nettle	<i>Urtica dioica</i>	FAC+
☐ Velvet grass	<i>Holcus lanatus</i>	FAC
☐ Lady fern	<i>Athyrium filix-femina</i>	FAC
☐ Horsetail	<i>Equisetum arvense</i>	FAC
☐ Youth-on-age	<i>Tolmiea menziesii</i>	FAC
☐ Foam flower	<i>Tiarella trifoliata</i>	FAC-
☐ Cat's ear	<i>Hypochaeris radicata</i>	FACU
☒ 10 Trailing blackberry	<i>Rubus ursinus</i>	FACU
☐ Bracken fern	<i>Pteridium aquilinum</i>	FACU
☒ 10 Sword fern	<i>Polystichum munitum</i>	FACU
☐ Bleeding heart	<i>Dicentra formosa</i>	FACU

UPLAND? ☒ WETLAND? _____

WETLAND TYPE: Palustrine _____ Riverine _____
 Lacustrine _____ Estuarine _____
 Forested _____ Scrub/Shrub _____
 Emergent _____ Open Water _____
 Wet Meadow/Pasture _____

Percent of dominant species FAC, FACW, OBL: 36

Is the hydrophytic vegetation criterion met? Yes _____ No ☒

Rationale: 75% of the veg cover is hydrophytic

DATA FORM

MODIFIED ROUTINE ON SITE DETERMINATION METHOD

Field Investigator: See Data sheet # 1 Date: _____
 Project/Site: _____ County: _____ State: _____
 Applicant/Owner: _____ Surveyor: _____
 Describe current conditions of wetland and surrounding areas: Same as th #1 only 30
looks like a small depression/pecker
 Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes _____ No X
 If yes, what are modifiers: _____

SOILS

Mapped Series: # 22 Kapowsin gravelly sandy loam 0-6% slopes
 Hydric soils list?: Yes _____ No X

Depth	Horizon	Color	Texture	Hydric Soil Indicators	Yes	No	Depth
0-10	A	Matrix 10YR 3/3	Mottle SALO	Histosol			
				Histic Epipedon			
				Gleyed			
10-16	B	10YR 4/3	SALO	Sulfidic odor			
				Concretions		<u>X</u>	

 Is the hydric soil criterion met? Yes _____ No X
 Rationale: Soil matrix chroma is too high

HYDROLOGY

General wetland type or characteristic: Emergent _____ Scrub/Shrub _____ Forested _____
 Permanently flooded _____ Seasonally flooded _____ Temporarily flooded _____ Saturated _____
 Types of water bodies associated with the wetland: River _____ Stream _____ Seep/Spring _____
 Pond/Lake _____ Tidal _____ Drainage ditch/channel _____ Other: _____
 Is the ground surface inundated? Yes _____ No X Surface water depth: _____
 Is the soil saturated? Yes _____ No X Depth to water in test hole: _____
 Field evidence of surface inundation or soil saturation: NONE

Is the wetland hydrology criterion met? Yes _____ No X
 Rationale: No evidence or indicators of wetland hydrology or surface water Runoff

SUMMARY

Hydric soil present? Yes _____ No X Hydrology present? Yes _____ No X
 Hydrophytic vegetation present? Yes X No _____
 Percent of FAC, FACW, and OBL species: 57
 Is the site a wetland? Yes _____ No X
 Rationale: All three wetland parameters are not present

TEST HOLE # 5 OF 13

LOCATION OF TEST HOLE NON-WETLAND
Next to TH #4

SEE REVERSE FOR VEGETATION



APPENDIX G

Willermood Associates, Inc.
 1015 SW Harper Road
 Port Orchard, WA 98367
 (360) 876-2403

COMMON WETLAND AND NON-WETLAND VEGETATION

Dominant Tree Species

% cover 98% canopy

☐ Pacific willow	<i>Salix lucida ssp. lasiandra</i>	FACW+
☐ Oregon ash	<i>Fraxinus latifolia</i>	FACW
☐ Quaking aspen	<i>Populus tremuloides</i>	FAC+
X ☒ Red alder 80-14"	<i>Alnus rubra</i>	FAC
☐ Black cottonwood	<i>Populus balsamifera</i>	FAC
☐ Scouler's willow	<i>Salix scouleriana</i>	FAC

Other tree species present: _____

% cover

☐ Sitka spruce	<i>Picea sitchensis</i>	FAC
☐ Western red cedar	<i>Thuja plicata</i>	FAC
☐ Cascara buckthorn	<i>Frangula purshiana</i>	FAC-
☐ Bigleaf maple	<i>Acer macrophyllum</i>	FACU
☐ Western hemlock	<i>Tsuga heterophylla</i>	FACU
☒ Douglas fir	<i>Pseudotsuga menziesii</i>	FACU

☒ IR White pine *Pinus menziesii* FACU-

Dominant Shrub Species

☐ Hardhack	<i>Spiraea douglasii</i>	FACW
☐ Redosier Dogwood	<i>Cornus sericea</i>	FACW
☐ Western crabapple	<i>Malus fusca</i>	FACW
☐ Black twinberry	<i>Lonicera involucrata</i>	FAC+
☐ Devil's club	<i>Oplopanax horridus</i>	FAC+
X ☒ Salmonberry	<i>Rubus spectabilis</i>	FAC
☐ Nootka rose	<i>Rosa nutkana</i>	FAC
☐ Vine maple	<i>Acer circinatum</i>	FAC-
☐ English ivy	<i>Hedera helix</i>	FACU
☐ Red elderberry	<i>Sambucus racemosa</i>	FACU

Other shrub species present: _____

☐ Snowberry	<i>Symphoricarpos albus</i>	FACU
☐ Scot's broom	<i>Cytisus scoparius</i>	FACU
☐ California huckleberry	<i>Vaccinium ovatum</i>	FACU
X ☒ Himalayan blackberry	<i>Rubus armeniacus</i>	FACU
☐ Salal	<i>Gaultheria shallon</i>	FACU
☒ IR Indian plum	<i>Oemleria cerasiformis</i>	FACU
☐ Hazelnut	<i>Corylus cornuta</i>	FACU
☐ Oregon grape	<i>Mahonia nervosa</i>	FACU
☐ Red huckleberry	<i>Vaccinium parvifolium</i>	UPL
☐ Oceanspray	<i>Holodiscus discolor</i>	UPL

Dominant Forb Species

☐ Skunkcabbage	<i>Lysichiton americanum</i>	OBL
☐ Cattail	<i>Typha latifolia</i>	OBL
☐ Water parsley	<i>Oenanthe sarmentosa</i>	OBL
X ☒ Slough sedge	<i>Carex obnupta</i>	OBL
☐ Small fruited bulrush	<i>Scirpus microcarpus</i>	OBL
☐ owlfruit sedge	<i>Carex stipata</i>	OBL
☐ Tall manna grass	<i>Glyceria elata</i>	FACW+
☐ Soft rush	<i>Juncus effusus</i>	FACW+
☐ Rushes	<i>Juncus spp.</i>	FACW
☐ Creeping buttercup	<i>Ranunculus repens</i>	FACW
☐ Reed canarygrass	<i>Phalaris arundinacea</i>	FACW

Other forb species present: _____

☐ Stinging nettle	<i>Urtica dioica</i>	FAC+
☐ Velvet grass	<i>Holcus lanatus</i>	FAC
☐ Lady fern	<i>Athyrium filix-femina</i>	FAC
☐ Horsetail	<i>Equisetum arvense</i>	FAC
☐ Youth-on-age	<i>Tolmiea menziesii</i>	FAC
☐ Foam flower	<i>Tiarella trifoliata</i>	FAC-
☐ Cat's ear	<i>Hypochaeris radicata</i>	FACU
X ☒ Trailing blackberry	<i>Rubus ursinus</i>	FACU
☐ Bracken fern	<i>Pteridium aquilinum</i>	FACU
X ☒ Sword fern	<i>Polystichum munitum</i>	FACU
☐ Bleeding heart	<i>Dicentra formosa</i>	FACU

UPLAND? ☒ WETLAND? _____

WETLAND TYPE: Palustrine _____ Riverine _____
 Lacustrine _____ Estuarine _____
 Forested _____ Scrub/Shrub _____
 Emergent _____ Open Water _____
 Wet Meadow/Pasture _____

Percent of dominant species FAC, FACW, OBL: 57

Is the hydrophytic vegetation criterion met? Yes ☒ No _____

Rationale: < 50% of the veg cover is hydrophytic

DATA FORM

MODIFIED ROUTINE ON SITE DETERMINATION METHOD

Field Investigator: See Data Sheet #1 Date: _____
 Project/Site: _____ County: _____ State: _____
 Applicant/Owner: _____ Surveyor: _____
 Describe current conditions of wetland and surrounding areas: 30' north of #4
Part of transect in depressed parcel. Same area as TH #4 & 5
 Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes _____ No X
 If yes, what are modifiers: _____

SOILS

Mapped Series: 22 Kapowsin gravelly sand/loam 0-6% slopes
 Hydric soils list?: Yes _____ No X
 Depth Horizon Color Texture Hydric Soil Indicators Yes No Depth
 Matrix Mottle
0-13 A 10YR 3/3 / 2AL0 Histosol
13-16 B 10YR 4/3 / 5AL0 Histic Epipedon
 Gleyed
 Sulfidic odor
 Concretions
 Is the hydric soil criterion met? Yes _____ No X
 Rationale: Soil matrix chroma is too high

HYDROLOGY

General wetland type or characteristic: Emergent _____ Scrub/Shrub _____ Forested _____
 Permanently flooded _____ Seasonally flooded _____ Temporarily flooded _____ Saturated _____
 Types of water bodies associated with the wetland: River _____ Stream _____ Seep/Spring _____
 Pond/Lake _____ Tidal _____ Drainage ditch/channel _____ Other: _____
 Is the ground surface inundated? Yes _____ No X Surface water depth: _____
 Is the soil saturated? Yes _____ No X Depth to water in test hole: _____
 Field evidence of surface inundation or soil saturation: NONE
 Is the wetland hydrology criterion met? Yes _____ No X
 Rationale: No evidence or indicators of wetland hydrology or seasonal flooding from surface water.

SUMMARY

Hydric soil present? Yes _____ No X Hydrology present? Yes _____ No X
 Hydrophytic vegetation present? Yes _____ No X
 Percent of FAC, FACW, and OBL species: 25
 Is the site a wetland? Yes _____ No X
 Rationale: All three wetland parameters are not present

TEST HOLE # 6 OF 13

LOCATION OF TEST HOLE NON-WETLAND

SEE REVERSE FOR VEGETATION



APPENDIX G

Wiltermood Associates, Inc.
 1015 SW Harper Road
 Port Orchard, WA 98367
 (360) 876-2403

COMMON WETLAND AND NON-WETLAND VEGETATION

Dominant Tree Species

% cover

☐ Pacific willow	<i>Salix lucida ssp. lasiandra</i>	FACW+
☐ Oregon ash	<i>Fraxinus latifolia</i>	FACW
☐ Quaking aspen	<i>Populus tremuloides</i>	FAC+
☒ Red alder 80-14"	<i>Alnus rubra</i>	FAC
☐ Black cottonwood	<i>Populus balsamifera</i>	FAC
☐ Scouler's willow	<i>Salix scouleriana</i>	FAC

Other tree species present: _____

% cover

☐ Sitka spruce 103"	<i>Picea sitchensis</i>	FAC
☒ Western red cedar	<i>Thuja plicata</i>	FAC
☐ Cascara buckthorn	<i>Frangula purshiana</i>	FAC-
☒ Bigleaf maple	<i>Acer macrophyllum</i>	FACU
☐ Western hemlock	<i>Tsuga heterophylla</i>	FACU
☐ Douglas fir	<i>Pseudotsuga menziesii</i>	FACU

Other tree species present: _____

Dominant Shrub Species

☐ Hardhack	<i>Spiraea douglasii</i>	FACW
☐ Redosier Dogwood	<i>Cornus sericea</i>	FACW
☐ Western crabapple	<i>Malus fusca</i>	FACW
☐ Black twinberry	<i>Lonicera involucrata</i>	FAC+
☐ Devil's club	<i>Oplopanax horridus</i>	FAC+
☒ Salmonberry	<i>Rubus spectabilis</i>	FAC
☐ Nootka rose	<i>Rosa nutkana</i>	FAC
☐ Vine maple	<i>Acer circinatum</i>	FAC-
☐ English ivy	<i>Hedera helix</i>	FACU
☐ Red elderberry	<i>Sambucus racemosa</i>	FACU

Other shrub species present: _____

☐ Snowberry	<i>Symphoricarpos albus</i>	FACU
☐ Scot's broom	<i>Cytisus scoparius</i>	FACU
☐ California huckleberry	<i>Vaccinium ovatum</i>	FACU
☐ Himalayan blackberry	<i>Rubus armeniacus</i>	FACU
☒ Salal	<i>Gaultheria shallon</i>	FACU
☒ Indian plum	<i>Oemleria cerasiformis</i>	FACU
☐ Hazelnut	<i>Corylus cornuta</i>	FACU
☐ Oregon grape	<i>Mahonia nervosa</i>	FACU
☒ Red huckleberry	<i>Vaccinium parvifolium</i>	UPL
☐ Oceanspray	<i>Holodiscus discolor</i>	UPL

Other shrub species present: _____

Dominant Forb Species

☐ Skunkcabbage	<i>Lysichiton americanum</i>	OBL
☐ Cattail	<i>Typha latifolia</i>	OBL
☐ Water parsley	<i>Oenanthe sarmentosa</i>	OBL
☒ Slough sedge	<i>Carex obnupta</i>	OBL
☐ Small fruited bulrush	<i>Scirpus microcarpus</i>	OBL
☐ owlfruit sedge	<i>Carex stipata</i>	OBL
☐ Tall manna grass	<i>Glyceria elata</i>	FACW+
☐ Soft rush	<i>Juncus effusus</i>	FACW+
☐ Rushes	<i>Juncus spp.</i>	FACW
☐ Creeping buttercup	<i>Ranunculus repens</i>	FACW
☐ Reed canarygrass	<i>Phalaris arundinacea</i>	FACW

Other forb species present: _____

☐ Stinging nettle	<i>Urtica dioica</i>	FAC+
☐ Velvet grass	<i>Holcus lanatus</i>	FAC
☐ Lady fern	<i>Athyrium filix-femina</i>	FAC
☐ Horsetail	<i>Equisetum arvense</i>	FAC
☐ Youth-on-age	<i>Tolmiea menziesii</i>	FAC
☐ Foam flower	<i>Tiarella trifoliata</i>	FAC-
☐ Cat's ear	<i>Hypochaeris radicata</i>	FACU
☒ Trailing blackberry	<i>Rubus ursinus</i>	FACU
☐ Bracken fern	<i>Pteridium aquilinum</i>	FACU
☐ Sword fern	<i>Polystichum munitum</i>	FACU
☐ Bleeding heart	<i>Dicentra formosa</i>	FACU

Other forb species present: _____

Percent of dominant species FAC, FACW, OBL: 25

Is the hydrophytic vegetation criterion met? Yes ☐ No ☒

Rationale: 50% of the veg cover is hydrophytic

UPLAND? ☒ WETLAND? ☐

WETLAND TYPE: Palustrine ☐ Riverine ☐

Lacustrine ☐ Estuarine ☐

Forested ☐ Scrub/Shrub ☐

Emergent ☐ Open Water ☐

Wet Meadow/Pasture ☐

DATA FORM

MODIFIED ROUTINE ON SITE DETERMINATION METHOD

Field Investigator: See Data sheet # 1 Date: _____
 Project/Site: _____ County: _____ State: _____
 Applicant/Owner: _____ Surveyor: _____
 Describe current conditions of wetland and surrounding areas: In wetland on south edge next to old ditch, Dam by Dogwood
 Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes _____ No X
 If yes, what are modifiers: _____

SOILS

Mapped Series: # 22 Kapowsin gravelly sandy loam
 Hydric soils list?: Yes _____ No X

Depth	Horizon	Color	Mottle	Texture	Hydric Soil Indicators	Yes	No	Depth
0-12	A	10YR 7/2	1/2	SALU	Histosol			
					Histic Epipedon			
					Gleyed			
12-16	B	10YR 4/3	1	SALU	Sulfidic odor			
					Concretions	Few	X	

 Is the hydric soil criterion met? Yes X No _____
 Rationale: low soil matrix chroma w/ hydric indicators present

HYDROLOGY

General wetland type or characteristic: Emergent _____ Scrub/Shrub _____ Forested _____
 Permanently flooded _____ Seasonally flooded _____ Temporarily flooded _____ Saturated _____
 Types of water bodies associated with the wetland: River _____ Stream _____ Seep/Spring _____
 Pond/Lake _____ Tidal _____ Drainage ditch/channel _____ Other: _____
 Is the ground surface inundated? Yes _____ No X Surface water depth: _____
 Is the soil saturated? Yes _____ No X Depth to water in test hole: _____
 Field evidence of surface inundation or soil saturation: FACW Dominated
 Is the wetland hydrology criterion met? Yes X No _____
 Rationale: Sufficient indicator of wetland hydrology present

SUMMARY

Hydric soil present? Yes X No _____ Hydrology present? Yes X No _____
 Hydrophytic vegetation present? Yes X No _____
 Percent of FAC, FACW, and OBL species: 57
 Is the site a wetland? Yes X No _____
 Rationale: All three wetland parameters are present

TEST HOLE # 7 OF 13

LOCATION OF TEST HOLE WETLAND

SEE REVERSE FOR VEGETATION



APPENDIX G

Wiltermood Associates, Inc.
 1015 SW Harper Road
 Port Orchard, WA 98367
 (360) 876-2403

COMMON WETLAND AND NON-WETLAND VEGETATION

Dominant Tree Species

% cover

☐ Pacific willow	<i>Salix lucida ssp. lasiandra</i>	FACW+
☐ Oregon ash	<i>Fraxinus latifolia</i>	FACW
☐ Quaking aspen	<i>Populus tremuloides</i>	FAC+
☐ Red alder	<i>Alnus rubra</i>	FAC
☐ Black cottonwood	<i>Populus balsamifera</i>	FAC
☐ Scouler's willow	<i>Salix scouleriana</i>	FAC

Other tree species present: _____

% cover

☐ Sitka spruce	<i>Picea sitchensis</i>	FAC
☐ Western red cedar	<i>Thuja plicata</i>	FAC
☒ 15 Cascara buckthorn	<i>Frangula purshiana</i>	FAC-
☐ Bigleaf maple	<i>Acer macrophyllum</i>	FACU
☐ Western hemlock	<i>Tsuga heterophylla</i>	FACU
☐ Douglas fir	<i>Pseudotsuga menziesii</i>	FACU

Other tree species present: _____

Dominant Shrub Species

☐ Hardhack	<i>Spiraea douglasii</i>	FACW
☒ 45 Redosier Dogwood	<i>Cornus sericea</i>	FACW
☐ Western crabapple	<i>Malus fusca</i>	FACW
☐ Black twinberry	<i>Lonicera involucrata</i>	FAC+
☐ Devil's club	<i>Oplopanax horridus</i>	FAC+
☒ 10 Salmonberry	<i>Rubus spectabilis</i>	FAC
☐ Nootka rose	<i>Rosa nutkana</i>	FAC
☐ Vine maple	<i>Acer circinatum</i>	FAC-
☐ English ivy	<i>Hedera helix</i>	FACU
☐ Red elderberry	<i>Sambucus racemosa</i>	FACU

Other shrub species present: _____

☐ Snowberry	<i>Symphoricarpos albus</i>	FACU
☐ Scot's broom	<i>Cytisus scoparius</i>	FACU
☐ California huckleberry	<i>Vaccinium ovatum</i>	FACU
☐ Himalayan blackberry	<i>Rubus armeniacus</i>	FACU
☐ Salal	<i>Gaultheria shallon</i>	FACU
☐ Indian plum	<i>Oemleria cerasiformis</i>	FACU
☐ Hazelnut	<i>Corylus cornuta</i>	FACU
☐ Oregon grape	<i>Mahonia nervosa</i>	FACU
☐ Red huckleberry	<i>Vaccinium parvifolium</i>	UPL
☐ Oceanspray	<i>Holodiscus discolor</i>	UPL

☒ 10 Western Crabapple *Malus fusca* FACW

Dominant Forb Species

☐ Skunkcabbage	<i>Lysichiton americanum</i>	OBL
☐ Cattail	<i>Typha latifolia</i>	OBL
☐ Water parsley	<i>Oenanthe sarmentosa</i>	OBL
☐ Slough sedge	<i>Carex obnupta</i>	OBL
☐ Small fruited bulrush	<i>Scirpus microcarpus</i>	OBL
☐ owlfruit sedge	<i>Carex stipata</i>	OBL
☐ Tall manna grass	<i>Glyceria elata</i>	FACW+
☐ Soft rush	<i>Juncus effusus</i>	FACW+
☐ Rushes	<i>Juncus spp.</i>	FACW
☐ Creeping buttercup	<i>Ranunculus repens</i>	FACW
☐ Reed canarygrass	<i>Phalaris arundinacea</i>	FACW

Other forb species present: _____

☐ Stinging nettle	<i>Urtica dioica</i>	FAC+
☐ Velvet grass	<i>Holcus lanatus</i>	FAC
☒ 10 Lady fern	<i>Athyrium filix-femina</i>	FAC
☐ Horsetail	<i>Equisetum arvense</i>	FAC
☐ Youth-on-age	<i>Tolmiea menziesii</i>	FAC
☐ Foam flower	<i>Tiarella trifoliata</i>	FAC-
☐ Cat's ear	<i>Hypochaeris radicata</i>	FACU
☒ 30 Trailing blackberry	<i>Rubus ursinus</i>	FACU
☐ Bracken fern	<i>Pteridium aquilinum</i>	FACU
☒ 20 Sword fern	<i>Polystichum munitum</i>	FACU
☐ Bleeding heart	<i>Dicentra formosa</i>	FACU

Percent of dominant species FAC, FACW, OBL: 56
Is the hydrophytic vegetation criterion met? Yes ☒ No
Rationale: < 50% of the veg cover is hydrophytic

UPLAND? _____ WETLAND? ☒
WETLAND TYPE: Palustrine ☒ Riverine _____
Lacustrine _____ Estuarine _____
Forested _____ Scrub/Shrub ☒
Emergent _____ Open Water _____
Wet Meadow/Pasture _____

DATA FORM

MODIFIED ROUTINE ON SITE DETERMINATION METHOD

Field Investigator: See Data sheet #1 Date: _____
 Project/Site: _____ County: _____ State: _____
 Applicant/Owner: _____ Surveyor: _____
 Describe current conditions of wetland and surrounding areas: on East side of wetland along WL-UPL Fringe slopes down to west slightly
 Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes _____ No X
 If yes, what are modifiers: _____

SOILS

Mapped Series: #22 Kapowsin gravelly sandy loam 0.6% slopes
 Hydric soils list?: Yes _____ No X Hydric Inclusion? _____

Depth	Horizon	Color	Texture	Hydric Soil Indicators	Yes	No	Depth
		Matrix	Mottle	Histosol			
0-2	A	10YR 3/2	1	Histic Epipedon			
2-10	AB	10YR 3/2	1	Gleyed			
10-16	B	10YR 4/4	1 compact sand	Sulfidic odor			
				Concretions			

Is the hydric soil criterion met? Yes _____ No X
 Rationale: Soil matrix chroma is too high

HYDROLOGY

General wetland type or characteristic: Emergent _____ Scrub/Shrub _____ Forested _____
 Permanently flooded _____ Seasonally flooded _____ Temporarily flooded _____ Saturated _____
 Types of water bodies associated with the wetland: River _____ Stream _____ Seep/Spring _____
 Pond/Lake _____ Tidal _____ Drainage ditch/channel _____ Other: _____
 Is the ground surface inundated? Yes _____ No X Surface water depth: _____
 Is the soil saturated? Yes _____ No X Depth to water in test hole: _____
 Field evidence of surface inundation or soil saturation: NONE

Is the wetland hydrology criterion met? Yes _____ No X
 Rationale: no evidence or indicators of wetland hydrology is present

SUMMARY

Hydric soil present? Yes _____ No X Hydrology present? Yes _____ No X
 Hydrophytic vegetation present? Yes _____ No X
 Percent of FAC, FACW, and OBL species: 41
 Is the site a wetland? Yes _____ No X
 Rationale: All three wetland parameters are not present

TEST HOLE # 8 OF 13

LOCATION OF TEST HOLE new wetland on east side of wetland

SEE REVERSE FOR VEGETATION



APPENDIX G

Wiltermood Associates, Inc.
 1015 SW Harper Road
 Port Orchard, WA 98367
 (360) 876-2403

COMMON WETLAND AND NON-WETLAND VEGETATION

Dominant Tree Species

% cover OH = OVERHANGING

☐ Pacific willow	<i>Salix lucida ssp. lasiandra</i>	FACW+
☐ Oregon ash	<i>Fraxinus latifolia</i>	FACW
☐ Quaking aspen	<i>Populus tremuloides</i>	FAC+
☐ Red alder	<i>Alnus rubra</i>	FAC
☐ Black cottonwood	<i>Populus balsamifera</i>	FAC
☐ Scouler's willow	<i>Salix scouleriana</i>	FAC

Other tree species present: _____

% cover

☐ Sitka spruce	<i>Picea sitchensis</i>	FAC
☐ Western red cedar	<i>Thuja plicata</i>	FAC
☐ Cascara buckthorn	<i>Frangula purshiana</i>	FAC-
☐ Bigleaf maple	<i>Acer macrophyllum</i>	FACU
☐ Western hemlock	<i>Tsuga heterophylla</i>	FACU
☐ Douglas fir	<i>Pseudotsuga menziesii</i>	FACU

Dominant Shrub Species

OH x 15	Hardhack	<i>Spiraea douglasii</i>	FACW
30	Redosier Dogwood	<i>Cornus sericea</i>	FACW
	Western crabapple	<i>Malus fusca</i>	FACW
	Black twinberry	<i>Lonicera involucrata</i>	FAC+
	Devil's club	<i>Oplopanax horridus</i>	FAC+
	Salmonberry	<i>Rubus spectabilis</i>	FAC
	Nootka rose	<i>Rosa nutkana</i>	FAC
	Vine maple	<i>Acer circinatum</i>	FAC-
	English ivy	<i>Hedera helix</i>	FACU
	Red elderberry	<i>Sambucus racemosa</i>	FACU

Other shrub species present: _____

___	Snowberry	<i>Symphoricarpos albus</i>	FACU
___	Scot's broom	<i>Cytisus scoparius</i>	FACU
___	California huckleberry	<i>Vaccinium ovatum</i>	FACU
___	Himalayan blackberry	<i>Rubus armeniacus</i>	FACU
x 35	Salal	<i>Gaultheria shallon</i>	FACU
___	Indian plum	<i>Oemleria cerasiformis</i>	FACU
___	Hazelnut	<i>Corylus cornuta</i>	FACU
___	Oregon grape	<i>Mahonia nervosa</i>	FACU
___	Red huckleberry	<i>Vaccinium parvifolium</i>	UPL
___	Oceanspray	<i>Holodiscus discolor</i>	UPL

Dominant Forb Species

☐ Skunkcabbage	<i>Lysichiton americanum</i>	OBL
☐ Cattail	<i>Typha latifolia</i>	OBL
☐ Water parsley	<i>Oenanthe sarmentosa</i>	OBL
☐ Slough sedge	<i>Carex obnupta</i>	OBL
☐ Small fruited bulrush	<i>Scirpus microcarpus</i>	OBL
☐ owlfruit sedge	<i>Carex stipata</i>	OBL
☐ Tall manna grass	<i>Glyceria elata</i>	FACW+
☐ Soft rush	<i>Juncus effusus</i>	FACW+
☐ Rushes	<i>Juncus spp.</i>	FACW
☐ Creeping buttercup	<i>Ranunculus repens</i>	FACW
☐ Reed canarygrass	<i>Phalaris arundinacea</i>	FACW

Other forb species present: _____

___ Stinging nettle	<i>Urtica dioica</i>	FAC+
___ Velvet grass	<i>Holcus lanatus</i>	FAC
___ Lady fern	<i>Athyrium filix-femina</i>	FAC
___ Horsetail	<i>Equisetum arvense</i>	FAC
___ Youth-on-age	<i>Tolmiea menziesii</i>	FAC
___ Foam flower	<i>Tiarella trifoliata</i>	FAC-
___ Cat's ear	<i>Hypochaeris radicata</i>	FACU
x <u>20</u> Trailing blackberry	<i>Rubus ursinus</i>	FACU
___ Bracken fern	<i>Pteridium aquilinum</i>	FACU
___ Sword fern	<i>Polystichum munitum</i>	FACU
___ Bleeding heart	<i>Dicentra formosa</i>	FACU

15 Bareground _____

Percent of dominant species FAC, FACW, OBL: 41

Is the hydrophytic vegetation criterion met? Yes ☐ No ☒

Rationale: 75% of the veg cover is hydrophytic

UPLAND? _____ WETLAND? _____

WETLAND TYPE: Palustrine _____ Riverine _____

Lacustrine _____ Estuarine _____

Forested _____ Scrub/Shrub _____

Emergent _____ Open Water _____

Wet Meadow/Pasture _____

DATA FORM

MODIFIED ROUTINE ON SITE DETERMINATION METHOD

Field Investigator: See Data sheet #1 Date: _____
 Project/Site: _____ County: _____ State: _____
 Applicant/Owner: _____ Surveyor: _____
 Describe current conditions of wetland and surrounding areas: Young Alder Forest @ North end of wetland in upland fringe sparse shrub & herb layers
 Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes _____ No X
 If yes, what are modifiers: _____

SOILS

Mapped Series: #22 Kapowsin gravelly sandy loam 0-6% slopes
 Hydric soils list?: Yes _____ No X Hydric Inclusion? _____

Depth	Horizon	Color	Texture	Hydric Soil Indicators	Yes	No	Depth
0-2	A	Matrix 3/2 10YR 3/2	Mottle / SALO	Histosol			
2-16	B	10YR 3/3	/ SALO	Histic Epipedon			
				Gleyed			
				Sulfidic odor			
				Concretions			

Is the hydric soil criterion met? Yes _____ No X
 Rationale: Soil matrix chroma is too high

HYDROLOGY

General wetland type or characteristic: Emergent _____ Scrub/Shrub _____ Forested _____
 Permanently flooded _____ Seasonally flooded _____ Temporarily flooded _____ Saturated _____
 Types of water bodies associated with the wetland: River _____ Stream _____ Seep/Spring _____
 Pond/Lake _____ Tidal _____ Drainage ditch/channel _____ Other: _____
 Is the ground surface inundated? Yes _____ No X Surface water depth: _____
 Is the soil saturated? Yes _____ No X Depth to water in test hole: _____
 Field evidence of surface inundation or soil saturation: NONE

Is the wetland hydrology criterion met? Yes _____ No X
 Rationale: No evidence or indicators of wetland hydrology present

SUMMARY

Hydric soil present? Yes _____ No X Hydrology present? Yes _____ No X
 Hydrophytic vegetation present? Yes _____ No X
 Percent of FAC, FACW, and OBL species: 11
 Is the site a wetland? Yes _____ No X
 Rationale: All three wetland parameters are present

TEST HOLE # 9 OF 13

LOCATION OF TEST HOLE NON-WETLAND
25' North of Wetland

SEE REVERSE FOR VEGETATION



APPENDIX G

Wiltermood Associates, Inc.
 1015 SW Harper Road
 Port Orchard, WA 98367
 (360) 876-2403

COMMON WETLAND AND NON-WETLAND VEGETATION

Dominant Tree Species

% cover

☐ Pacific willow	<i>Salix lucida ssp. lasiandra</i>	FACW+
☐ Oregon ash	<i>Fraxinus latifolia</i>	FACW
☐ Quaking aspen	<i>Populus tremuloides</i>	FAC+
☐ Red alder	<i>Alnus rubra</i>	FAC
☐ Black cottonwood	<i>Populus balsamifera</i>	FAC
☐ Scouler's willow	<i>Salix scouleriana</i>	FAC

Other tree species present: _____

% cover

☐ Sitka spruce	<i>Picea sitchensis</i>	FAC
☐ Western red cedar	<i>Thuja plicata</i>	FAC
x ☒ 20 Cascara buckthorn	<i>Frangula purshiana</i>	FAC-
☐ Bigleaf maple	<i>Acer macrophyllum</i>	FACU
☐ Western hemlock	<i>Tsuga heterophylla</i>	FACU
☐ Douglas fir	<i>Pseudotsuga menziesii</i>	FACU

Other tree species present: _____

Dominant Shrub Species

☒ 5 Hardhack	<i>Spiraea douglasii</i>	FACW
☐ Redosier Dogwood	<i>Cornus sericea</i>	FACW
☐ Western crabapple	<i>Malus fusca</i>	FACW
x ☒ 15 Black twinberry	<i>Lonicera involucrata</i>	FAC+
☐ Devil's club	<i>Oplopanax horridus</i>	FAC+
☐ Salmonberry	<i>Rubus spectabilis</i>	FAC
☒ 18 Nootka rose	<i>Rosa nutkana</i>	FAC
☐ Vine maple	<i>Acer circinatum</i>	FAC-
☐ English ivy	<i>Hedera helix</i>	FACU
☐ Red elderberry	<i>Sambucus racemosa</i>	FACU

Other shrub species present: _____

☐ Snowberry	<i>Symphoricarpos albus</i>	FACU
☐ Scot's broom	<i>Cytisus scoparius</i>	FACU
☐ California huckleberry	<i>Vaccinium ovatum</i>	FACU
☐ Himalayan blackberry	<i>Rubus armeniacus</i>	FACU
☐ Salal	<i>Gaultheria shallon</i>	FACU
x ☒ 15 Indian plum	<i>Oemleria cerasiformis</i>	FACU
☐ Hazelnut	<i>Corylus cornuta</i>	FACU
☐ Oregon grape	<i>Mahonia nervosa</i>	FACU
☐ Red huckleberry	<i>Vaccinium parvifolium</i>	UPL
☐ Oceanspray	<i>Holodiscus discolor</i>	UPL

Other shrub species present: _____

Dominant Forb Species

☐ Skunkcabbage	<i>Lysichiton americanum</i>	OBL
☐ Cattail	<i>Typha latifolia</i>	OBL
☐ Water parsley	<i>Oenanthe sarmentosa</i>	OBL
x ☒ 18 Slough sedge	<i>Carex obnupta</i>	OBL
☐ Small fruited bulrush	<i>Scirpus microcarpus</i>	OBL
☐ owlfruit sedge	<i>Carex stipata</i>	OBL
☐ Tall manna grass	<i>Glyceria elata</i>	FACW+
☐ Soft rush	<i>Juncus effusus</i>	FACW+
☐ Rushes	<i>Juncus spp.</i>	FACW
☐ Creeping buttercup	<i>Ranunculus repens</i>	FACW
☐ Reed canarygrass	<i>Phalaris arundinacea</i>	FACW

Other forb species present: _____

☐ Stinging nettle	<i>Urtica dioica</i>	FAC+
☐ Velvet grass	<i>Holcus lanatus</i>	FAC
☐ Lady fern	<i>Athyrium filix-femina</i>	FAC
☐ Horsetail	<i>Equisetum arvense</i>	FAC
☐ Youth-on-age	<i>Tolmiea menziesii</i>	FAC
☐ Foam flower	<i>Tiarella trifoliata</i>	FAC-
☐ Cat's ear	<i>Hypochaeris radicata</i>	FACU
x ☒ 80 Trailing blackberry	<i>Rubus ursinus</i>	FACU
☐ Bracken fern	<i>Pteridium aquilinum</i>	FACU
☐ Sword fern	<i>Polystichum munitum</i>	FACU
☐ Bleeding heart	<i>Dicentra formosa</i>	FACU

Other forb species present: _____

Percent of dominant species FAC, FACW, OBL: 11

Is the hydrophytic vegetation criterion met? Yes ☐ No ☒

Rationale: > 50% of the veg cover is

hydrophytic

UPLAND? ☒ WETLAND? ☐

WETLAND TYPE: Palustrine ☐ Riverine ☐

Lacustrine ☐ Estuarine ☐

Forested ☐ Scrub/Shrub ☐

Emergent ☐ Open Water ☐

Wet Meadow/Pasture ☐

DATA FORM

MODIFIED ROUTINE ON SITE DETERMINATION METHOD

Field Investigator: See Data Sheet #1 Date: _____
 Project/Site: _____ County: _____ State: _____
 Applicant/Owner: _____ Surveyor: _____
 Describe current conditions of wetland and surrounding areas: Typical wetland on North end Dam by Rose & Spiraec appears to be seasonally flooded
 Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes _____ No X
 If yes, what are modifiers: _____

SOILS

Mapped Series: A 22 Kapowsin gravelly sandy loam 0-6% slopes
 Hydric soils list?: Yes _____ No _____

Depth	Horizon	Color	Mottle	Texture	Hydric Soil Indicators	Yes	No	Depth
0-10	A	10YR 3/2	4/6	SALW	Histosol			
					Histic Epipedon			
					Gleyed			
10-16	B	10YR 5/3	9/6	SAND	Sulfidic odor			
					Concretions	Few	X	

 Is the hydric soil criterion met? Yes X No _____
 Rationale: low soil matrix chroma with hydric indicators present

HYDROLOGY

General wetland type or characteristic: Emergent _____ Scrub/Shrub _____ Forested _____
 Permanently flooded _____ Seasonally flooded _____ Temporarily flooded _____ Saturated _____
 Types of water bodies associated with the wetland: River _____ Stream _____ Seep/Spring _____
 Pond/Lake _____ Tidal _____ Drainage ditch/channel _____ Other: _____
 Is the ground surface inundated? Yes _____ No X Surface water depth: _____
 Is the soil saturated? Yes _____ No X Depth to water in test hole: _____
 Field evidence of surface inundation or soil saturation: FACW Damaged appears to be irregularly flooded
 Is the wetland hydrology criterion met? Yes X No _____
 Rationale: Sufficient indicators are present

SUMMARY

Hydric soil present? Yes X No _____ Hydrology present? Yes X No _____
 Hydrophytic vegetation present? Yes X No _____
 Percent of FAC, FACW, and OBL species: 68
 Is the site a wetland? Yes X No _____
 Rationale: All three wetland parameters are present

TEST HOLE # 10 OF 13

LOCATION OF TEST HOLE WETLAND
North end of Wetland

SEE REVERSE FOR VEGETATION



APPENDIX G

Wiltermood Associates, Inc.
 1015 SW Harper Road
 Port Orchard, WA 98367
 (360) 876-2403

COMMON WETLAND AND NON-WETLAND VEGETATION

Dominant Tree Species

% cover

☐ Pacific willow	<i>Salix lucida ssp. lasiandra</i>	FACW+
☐ Oregon ash	<i>Fraxinus latifolia</i>	FACW
☐ Quaking aspen	<i>Populus tremuloides</i>	FAC+
☐ Red alder	<i>Alnus rubra</i>	FAC
☐ Black cottonwood	<i>Populus balsamifera</i>	FAC
☐ Scouler's willow	<i>Salix scouleriana</i>	FAC

☐ Other tree species present: _____

% cover

☐ Sitka spruce	<i>Picea sitchensis</i>	FAC
☐ Western red cedar	<i>Thuja plicata</i>	FAC
☐ Cascara buckthorn	<i>Frangula purshiana</i>	FAC-
☐ Bigleaf maple	<i>Acer macrophyllum</i>	FACU
☐ Western hemlock	<i>Tsuga heterophylla</i>	FACU
☐ Douglas fir	<i>Pseudotsuga menziesii</i>	FACU

Dominant Shrub Species

☒ 75 Hardhack	<i>Spiraea douglasii</i>	FACW
☐ Redosier Dogwood	<i>Cornus sericea</i>	FACW
☐ Western crabapple	<i>Malus fusca</i>	FACW
☐ Black twinberry	<i>Lonicera involucrata</i>	FAC+
☐ Devil's club	<i>Oplopanax horridus</i>	FAC+
☐ Salmonberry	<i>Rubus spectabilis</i>	FAC
☐ Nootka rose	<i>Rosa nutkana</i>	FAC
☐ Vine maple	<i>Acer circinatum</i>	FAC-
☐ English ivy	<i>Hedera helix</i>	FACU
☐ Red elderberry	<i>Sambucus racemosa</i>	FACU

☐ Other shrub species present: _____

☐ Snowberry	<i>Symphoricarpos albus</i>	FACU
☐ Scot's broom	<i>Cytisus scoparius</i>	FACU
☐ California huckleberry	<i>Vaccinium ovatum</i>	FACU
☐ Himalayan blackberry	<i>Rubus armeniacus</i>	FACU
☐ Salal	<i>Gaultheria shallon</i>	FACU
☐ Indian plum	<i>Oemleria cerasiformis</i>	FACU
☐ Hazelnut	<i>Corylus cornuta</i>	FACU
☐ Oregon grape	<i>Mahonia nervosa</i>	FACU
☐ Red huckleberry	<i>Vaccinium parvifolium</i>	UPL
☐ Oceanspray	<i>Holodiscus discolor</i>	UPL

Dominant Forb Species

☐ Skunkcabbage	<i>Lysichiton americanum</i>	OBL
☐ Cattail	<i>Typha latifolia</i>	OBL
☐ Water parsley	<i>Oenanthe sarmentosa</i>	OBL
☐ Slough sedge	<i>Carex obnupta</i>	OBL
☐ Small fruited bulrush	<i>Scirpus microcarpus</i>	OBL
☐ owlfruit sedge	<i>Carex stipata</i>	OBL
☐ Tall manna grass	<i>Glyceria elata</i>	FACW+
☐ Soft rush	<i>Juncus effusus</i>	FACW+
☐ Rushes	<i>Juncus spp.</i>	FACW
☐ Creeping buttercup	<i>Ranunculus repens</i>	FACW
☐ Reed canarygrass	<i>Phalaris arundinacea</i>	FACW

☐ Other forb species present: _____

☐ Stinging nettle	<i>Urtica dioica</i>	FAC+
☐ Velvet grass	<i>Holcus lanatus</i>	FAC
☐ Lady fern	<i>Athyrium filix-femina</i>	FAC
☐ Horsetail	<i>Equisetum arvense</i>	FAC
☐ Youth-on-age	<i>Tolmiea menziesii</i>	FAC
☐ Foam flower	<i>Tiarella trifoliata</i>	FAC-
☐ Cat's ear	<i>Hypochaeris radicata</i>	FACU
☒ 45 Trailing blackberry	<i>Rubus ursinus</i>	FACU
☐ Bracken fern	<i>Pteridium aquilinum</i>	FACU
☐ Sword fern	<i>Polystichum munitum</i>	FACU
☐ Bleeding heart	<i>Dicentra formosa</i>	FACU

☒ 20 Veronica *Veronica americana* OBL

Percent of dominant species FAC, FACW, OBL: 68

Is the hydrophytic vegetation criterion met? Yes ☒ No ☐

Rationale: < 50% of the veg cover is

hydrophytic

UPLAND? _____ WETLAND? ☒

WETLAND TYPE: Palustrine ☒ Riverine _____

Lacustrine _____ Estuarine _____

Forested _____ Scrub/Shrub ☒

Emergent _____ Open Water _____

Wet Meadow/Pasture _____

DATA FORM

MODIFIED ROUTINE ON SITE DETERMINATION METHOD

Field Investigator: See Data sheet #1 Date: _____
 Project/Site: _____ County: _____ State: _____
 Applicant/Owner: _____ Surveyor: _____
 Describe current conditions of wetland and surrounding areas: on western fringe just upslope of wetland on a nearly flat shelf dom by coniferous forest.
 Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes _____ No x
 If yes, what are modifiers: _____

SOILS

Mapped Series: #22 Kapowsin Gravelly sandy loam 0-6% slopes
 Hydric soils list?: Yes _____ No x

Depth	Horizon	Color	Texture	Hydric Soil Indicators	Yes	No	Depth
		Matrix	Mottle	Histosol			
0-9	A	10YR 7/3	SALU	Histic Epipedon			
9-17	AB	10YR 7/3	Sand/containing	Gleyed			
17-16	B	10YR 7/4	Sand	Sulfidic odor			
				Concretions			

Is the hydric soil criterion met? Yes _____ No x
 Rationale: Soil matrix chroma is too high

HYDROLOGY

General wetland type or characteristic: Emergent _____ Scrub/Shrub _____ Forested _____
 Permanently flooded _____ Seasonally flooded _____ Temporarily flooded _____ Saturated _____
 Types of water bodies associated with the wetland: River _____ Stream _____ Seep/Spring _____
 Pond/Lake _____ Tidal _____ Drainage ditch/channel _____ Other: _____
 Is the ground surface inundated? Yes _____ No x Surface water depth: _____
 Is the soil saturated? Yes _____ No x Depth to water in test hole: _____
 Field evidence of surface inundation or soil saturation: None
 Is the wetland hydrology criterion met? Yes _____ No x
 Rationale: No evidence or indicators of wetland hydrology present

SUMMARY

Hydric soil present? Yes _____ No x Hydrology present? Yes _____ No x
 Hydrophytic vegetation present? Yes x No _____
 Percent of FAC, FACW, and OBL species: 52
 Is the site a wetland? Yes _____ No x
 Rationale: All three wetland parameters are not present

TEST HOLE # 11 OF 13

LOCATION OF TEST HOLE Non-wetland
West side of wetland

SEE REVERSE FOR VEGETATION



APPENDIX G

Wiltermood Associates, Inc.
 1015 SW Harper Road
 Port Orchard, WA 98367
 (360) 876-2403

COMMON WETLAND AND NON-WETLAND VEGETATION

Dominant Tree Species

% cover

☐ Pacific willow	<i>Salix lucida ssp. lasiandra</i>	FACW+
☐ Oregon ash	<i>Fraxinus latifolia</i>	FACW
☐ Quaking aspen	<i>Populus tremuloides</i>	FAC+
☐ Red alder	<i>Alnus rubra</i>	FAC
☐ Black cottonwood	<i>Populus balsamifera</i>	FAC
☐ Scouler's willow	<i>Salix scouleriana</i>	FAC

Other tree species present: _____

% cover

☐ Sitka spruce	<i>Picea sitchensis</i>	FAC
☐ Western red cedar	<i>Thuja plicata</i>	FAC
☐ Cascara buckthorn	<i>Frangula purshiana</i>	FAC-
☐ Bigleaf maple	<i>Acer macrophyllum</i>	FACU
☐ Western hemlock	<i>Tsuga heterophylla</i>	FACU
☐ Douglas fir	<i>Pseudotsuga menziesii</i>	FACU

Dominant Shrub Species

☐ Hardhack	<i>Spiraea douglasii</i>	FACW
☒ Redosier Dogwood	<i>Cornus sericea</i>	FACW
☐ Western crabapple	<i>Malus fusca</i>	FACW
☐ Black twinberry	<i>Lonicera involucrata</i>	FAC+
☐ Devil's club	<i>Oplopanax horridus</i>	FAC+
☐ Salmonberry	<i>Rubus spectabilis</i>	FAC
☐ Nootka rose	<i>Rosa nutkana</i>	FAC
☐ Vine maple	<i>Acer circinatum</i>	FAC-
☐ English ivy	<i>Hedera helix</i>	FACU
☐ Red elderberry	<i>Sambucus racemosa</i>	FACU

Other shrub species present: _____

☐ Snowberry	<i>Symphoricarpos albus</i>	FACU
☐ Scot's broom	<i>Cytisus scoparius</i>	FACU
☐ California huckleberry	<i>Vaccinium ovatum</i>	FACU
☐ Himalayan blackberry	<i>Rubus armeniacus</i>	FACU
☐ Salal	<i>Gaultheria shallon</i>	FACU
☐ Indian plum	<i>Oemleria cerasiformis</i>	FACU
☐ Hazelnut	<i>Corylus cornuta</i>	FACU
☐ Oregon grape	<i>Mahonia nervosa</i>	FACU
☐ Red huckleberry	<i>Vaccinium parvifolium</i>	UPL
☐ Oceanspray	<i>Holodiscus discolor</i>	UPL

Dominant Forb Species

☐ Skunkcabbage	<i>Lysichiton americanum</i>	OBL
☐ Cattail	<i>Typha latifolia</i>	OBL
☐ Water parsley	<i>Oenanthe sarmentosa</i>	OBL
☐ Slough sedge	<i>Carex obnupta</i>	OBL
☐ Small fruited bulrush	<i>Scirpus microcarpus</i>	OBL
☐ owlfruit sedge	<i>Carex stipata</i>	OBL
☐ Tall manna grass	<i>Glyceria elata</i>	FACW+
☐ Soft rush	<i>Juncus effusus</i>	FACW+
☐ Rushes	<i>Juncus spp.</i>	FACW
☐ Creeping buttercup	<i>Ranunculus repens</i>	FACW
☐ Reed canarygrass	<i>Phalaris arundinacea</i>	FACW

Other forb species present: _____

☐ Stinging nettle	<i>Urtica dioica</i>	FAC+
☐ Velvet grass	<i>Holcus lanatus</i>	FAC
☐ Lady fern	<i>Athyrium filix-femina</i>	FAC
☐ Horsetail	<i>Equisetum arvense</i>	FAC
☐ Youth-on-age	<i>Tolmiea menziesii</i>	FAC
☐ Foam flower	<i>Tiarella trifoliata</i>	FAC-
☐ Cat's ear	<i>Hypochaeris radicata</i>	FACU
☒ Trailing blackberry	<i>Rubus ursinus</i>	FACU
☒ Bracken fern	<i>Pteridium aquilinum</i>	FACU
☒ Sword fern	<i>Polystichum munitum</i>	FACU
☐ Bleeding heart	<i>Dicentra formosa</i>	FACU

Percent of dominant species FAC, FACW, OBL: 52

Is the hydrophytic vegetation criterion met? Yes ☒ No ☐

Rationale: < 50% of the veg cover is

hydrophytic

UPLAND? ☒ WETLAND? ☐

WETLAND TYPE: Palustrine ☐ Riverine ☐

Lacustrine ☐ Estuarine ☐

Forested ☐ Scrub/Shrub ☐

Emergent ☐ Open Water ☐

Wet Meadow/Pasture ☐

DATA FORM

MODIFIED ROUTINE ON SITE DETERMINATION METHOD

Field Investigator: See Data sheet #1 Date: _____
 Project/Site: _____ County: _____ State: _____
 Applicant/Owner: _____ Surveyor: _____
 Describe current conditions of wetland and surrounding areas: Typ upland @ SE corner
Dam by young forested vegetation slopes down to west
 Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes _____ No x
 If yes, what are modifiers: _____

SOILS

Mapped Series: #39 Paulsbo gravelly sandy loam 0-6% slopes
 Hydric soils list?: Yes _____ No x Hydric Inclusion? x

Depth	Horizon	Color	Texture	Hydric Soil Indicators	Yes	No	Depth
0-2	A	Matrix 10YR 3/2	Mottle / SALU	Histosol			
				Histic Epipedon			
				Gleyed			
2-6	B	10YR 4/3	/ SALU	Sulfidic odor			
				Concretions			

 Is the hydric soil criterion met? Yes _____ No x
 Rationale: Soil matrix chroma is too high

HYDROLOGY

General wetland type or characteristic: Emergent _____ Scrub/Shrub _____ Forested _____
 Permanently flooded _____ Seasonally flooded _____ Temporarily flooded _____ Saturated _____
 Types of water bodies associated with the wetland: River _____ Stream _____ Seep/Spring _____
 Pond/Lake _____ Tidal _____ Drainage ditch/channel _____ Other: _____
 Is the ground surface inundated? Yes _____ No x Surface water depth: _____
 Is the soil saturated? Yes _____ No x Depth to water in test hole: _____
 Field evidence of surface inundation or soil saturation: NONE

Is the wetland hydrology criterion met? Yes _____ No x
 Rationale: No evidence or indicators of wetland hydrology present

SUMMARY

Hydric soil present? Yes _____ No x Hydrology present? Yes _____ No x
 Hydrophytic vegetation present? Yes _____ No x
 Percent of FAC, FACW, and OBL species: 0
 Is the site a wetland? Yes _____ No x
 Rationale: All three wetland parameters are not present

TEST HOLE # 12 OF 13

LOCATION OF TEST HOLE UPLAND
SE corner of property

SEE REVERSE FOR VEGETATION



APPENDIX G

Wiltermood Associates, Inc.
 1015 SW Harper Road
 Port Orchard, WA 98367
 (360) 876-2403

COMMON WETLAND AND NON-WETLAND VEGETATION

Dominant Tree Species

% cover

<u> </u> Pacific willow	<i>Salix lucida ssp. lasiandra</i>	FACW+
<u> </u> Oregon ash	<i>Fraxinus latifolia</i>	FACW
<u> </u> Quaking aspen	<i>Populus tremuloides</i>	FAC+
<u> </u> Red alder	<i>Alnus rubra</i>	FAC
<u> </u> Black cottonwood	<i>Populus balsamifera</i>	FAC
<u> </u> Scouler's willow	<i>Salix scouleriana</i>	FAC

 Other tree species present: _____

% cover 50% canopy

<u> </u> Sitka spruce	<i>Picea sitchensis</i>	FAC
<u>TR</u> Western red cedar	<i>Thuja plicata</i>	FAC
<u> </u> Cascara buckthorn	<i>Frangula purshiana</i>	FAC-
<u> </u> Bigleaf maple	<i>Acer macrophyllum</i>	FACU
<u> </u> Western hemlock	<i>Tsuga heterophylla</i>	FACU
<u>TR</u> Douglas fir	<i>Pseudotsuga menziesii</i>	FACU

TR White Pine ^{100%} *Pinus monticola* FACU -

Dominant Shrub Species

<u> </u> Hardhack	<i>Spiraea douglasii</i>	FACW
<u> </u> Redosier Dogwood	<i>Cornus sericea</i>	FACW
<u> </u> Western crabapple	<i>Malus fusca</i>	FACW
<u> </u> Black twinberry	<i>Lonicera involucrata</i>	FAC+
<u> </u> Devil's club	<i>Oplopanax horridus</i>	FAC+
<u> </u> Salmonberry	<i>Rubus spectabilis</i>	FAC
<u> </u> Nootka rose	<i>Rosa nutkana</i>	FAC
<u> </u> Vine maple	<i>Acer circinatum</i>	FAC-
<u> </u> English ivy	<i>Hedera helix</i>	FACU
<u>TR</u> Red elderberry	<i>Sambucus racemosa</i>	FACU

 Other shrub species present: _____

<u> </u> Snowberry	<i>Symphoricarpos albus</i>	FACU
<u> </u> Scot's broom	<i>Cytisus scoparius</i>	FACU
<u>5</u> California huckleberry	<i>Vaccinium ovatum</i>	FACU
<u> </u> Malayan blackberry	<i>Rubus armeniacus</i>	FACU
<u>x 30</u> Salal	<i>Gaultheria shallon</i>	FACU
<u> </u> Indian plum	<i>Oemleria cerasiformis</i>	FACU
<u> </u> Hazelnut	<i>Corylus cornuta</i>	FACU
<u> </u> Oregon grape	<i>Mahonia nervosa</i>	FACU
<u> </u> Red huckleberry	<i>Vaccinium parvifolium</i>	UPL
<u> </u> Oceanspray	<i>Holodiscus discolor</i>	UPL

Dominant Forb Species

<u> </u> Skunkcabbage	<i>Lysichiton americanum</i>	OBL
<u> </u> Cattail	<i>Typha latifolia</i>	OBL
<u> </u> Water parsley	<i>Oenanthe sarmentosa</i>	OBL
<u> </u> Slough sedge	<i>Carex obnupta</i>	OBL
<u> </u> Small fruited bulrush	<i>Scirpus microcarpus</i>	OBL
<u> </u> Owlfruit sedge	<i>Carex stipata</i>	OBL
<u> </u> Tall manna grass	<i>Glyceria elata</i>	FACW+
<u> </u> Soft rush	<i>Juncus effusus</i>	FACW+
<u> </u> Rushes	<i>Juncus spp.</i>	FACW
<u> </u> Creeping buttercup	<i>Ranunculus repens</i>	FACW
<u> </u> Reed canarygrass	<i>Phalaris arundinacea</i>	FACW

 Other forb species present: _____

<u> </u> Stinging nettle	<i>Urtica dioica</i>	FAC+
<u> </u> Velvet grass	<i>Holcus lanatus</i>	FAC
<u> </u> Lady fern	<i>Athyrium filix-femina</i>	FAC
<u> </u> Horsetail	<i>Equisetum arvense</i>	FAC
<u> </u> Youth-on-age	<i>Tolmiea menziesii</i>	FAC
<u> </u> Foam flower	<i>Tiarella trifoliata</i>	FAC-
<u> </u> Cat's ear	<i>Hypochaeris radicata</i>	FACU
<u>x 30</u> Trailing blackberry	<i>Rubus ursinus</i>	FACU
<u> </u> Bracken fern	<i>Pteridium aquilinum</i>	FACU
<u>x 60</u> Sword fern	<i>Polystichum munitum</i>	FACU
<u> </u> Bleeding heart	<i>Dicentra formosa</i>	FACU

Percent of dominant species FAC, FACW, OBL: 0

Is the hydrophytic vegetation criterion met? Yes No X

Rationale: 250% of the veg cover is hydrophytic

UPLAND? X WETLAND?

WETLAND TYPE: Palustrine Riverine
 Lacustrine Estuarine
 Forested Scrub/Shrub
 Emergent Open Water
 Wet Meadow/Pasture

DATA FORM

MODIFIED ROUTINE ON SITE DETERMINATION METHOD

Field Investigator: See Data Sheet #1 Date: _____
 Project/Site: _____ County: _____ State: _____
 Applicant/Owner: _____ Surveyor: _____
 Describe current conditions of wetland and surrounding areas: in swale where water should flow in winter. No flow or scoured channel typical up forest
 Has the vegetation, soils, and/or hydrology been significantly disturbed? Yes _____ No _____
 If yes, what are modifiers: _____

SOILS

Mapped Series: #22 Kapowsin gravelly sand, loam 0-6% slopes
 Hydric soils list?: Yes _____ No X Hydric Inclusion? _____

Depth	Horizon	Color	Texture	Hydric Soil Indicators	Yes	No	Depth
0-9	A	Matrix 10YR 3/3	Mottle / SALO	Histosol			
9-16	B	10YR 4/3	/ SALO	Histic Epipedon			
				Gleyed			
				Sulfidic odor			
				Concretions			

 Is the hydric soil criterion met? Yes _____ No X
 Rationale: Soil matrix chroma is too high

HYDROLOGY

General wetland type or characteristic: Emergent _____ Scrub/Shrub _____ Forested _____
 Permanently flooded _____ Seasonally flooded _____ Temporarily flooded _____ Saturated _____
 Types of water bodies associated with the wetland: River _____ Stream _____ Seep/Spring _____
 Pond/Lake _____ Tidal _____ Drainage ditch/channel _____ Other: _____
 Is the ground surface inundated? Yes _____ No X Surface water depth: _____
 Is the soil saturated? Yes _____ No X Depth to water in test hole: _____
 Field evidence of surface inundation or soil saturation: NONE

Is the wetland hydrology criterion met? Yes _____ No X
 Rationale: No evidence or indicators of wetland hydrology present

SUMMARY

Hydric soil present? Yes _____ No X Hydrology present? Yes _____ No X
 Hydrophytic vegetation present? Yes _____ No _____
 Percent of FAC, FACW, and OBL species: _____
 Is the site a wetland? Yes _____ No X
 Rationale: All three wetland parameters are not present

TEST HOLE # 13 OF 13

LOCATION OF TEST HOLE UPLAND
in swale between Ridge lines

SEE REVERSE FOR VEGETATION



APPENDIX G

Wiltermood Associates, Inc.
 1015 SW Harper Road
 Port Orchard, WA 98367
 (360) 876-2403

COMMON WETLAND AND NON-WETLAND VEGETATION

Dominant Tree Species

% cover 36% canopy

☐ Pacific willow	<i>Salix lucida ssp. lasiandra</i>	FACW+
☐ Oregon ash	<i>Fraxinus latifolia</i>	FACW
☐ Quaking aspen	<i>Populus tremuloides</i>	FAC+
☒ Red alder 2@6-8"	<i>Alnus rubra</i>	FAC
☐ Black cottonwood	<i>Populus balsamifera</i>	FAC
☐ Scouler's willow	<i>Salix scouleriana</i>	FAC

Other tree species present: _____

% cover

☐ Sitka spruce	<i>Picea sitchensis</i>	FAC
☐ Western red cedar	<i>Thuja plicata</i>	FAC
☒ Cascara buckthorn	<i>Frangula purshiana</i>	FAC-
☐ Bigleaf maple	<i>Acer macrophyllum</i>	FACU
☐ Western hemlock	<i>Tsuga heterophylla</i>	FACU
☒ Douglas fir 3@6-8"	<i>Pseudotsuga menziesii</i>	FACU

☒ White pine 1@40" *Pinus monticola* FACU

Dominant Shrub Species

☐ Hardhack	<i>Spiraea douglasii</i>	FACW
☐ Redosier Dogwood	<i>Cornus sericea</i>	FACW
☐ Western crabapple	<i>Malus fusca</i>	FACW
☐ Black twinberry	<i>Lonicera involucrata</i>	FAC+
☐ Devil's club	<i>Oplopanax horridus</i>	FAC+
☒ 40 Salmonberry	<i>Rubus spectabilis</i>	FAC
☐ Nootka rose	<i>Rosa nutkana</i>	FAC
☐ Vine maple	<i>Acer circinatum</i>	FAC-
☐ English ivy	<i>Hedera helix</i>	FACU
☐ Red elderberry	<i>Sambucus racemosa</i>	FACU

Other shrub species present: _____

☐ Snowberry	<i>Symphoricarpos albus</i>	FACU
☐ Scot's broom	<i>Cytisus scoparius</i>	FACU
☐ California huckleberry	<i>Vaccinium ovatum</i>	FACU
☐ Himalayan blackberry	<i>Rubus armeniacus</i>	FACU
☐ Salal	<i>Gaultheria shallon</i>	FACU
☐ Indian plum	<i>Oemleria cerasiformis</i>	FACU
☐ Hazelnut	<i>Corylus cornuta</i>	FACU
☐ Oregon grape	<i>Mahonia nervosa</i>	FACU
☐ Red huckleberry	<i>Vaccinium parvifolium</i>	UPL
☐ Oceanspray	<i>Holodiscus discolor</i>	UPL

☒ Holly *Ilex egg* *bellean* FACU

Dominant Forb Species

☐ Skunkcabbage	<i>Lysichiton americanum</i>	OBL
☐ Cattail	<i>Typha latifolia</i>	OBL
☐ Water parsley	<i>Oenanthe sarmentosa</i>	OBL
☐ Slough sedge	<i>Carex obnupta</i>	OBL
☐ Small fruited bulrush	<i>Scirpus microcarpus</i>	OBL
☐ owlfruit sedge	<i>Carex stipata</i>	OBL
☐ Tall manna grass	<i>Glyceria elata</i>	FACW+
☐ Soft rush	<i>Juncus effusus</i>	FACW+
☐ Rushes	<i>Juncus spp.</i>	FACW
☐ Creeping buttercup	<i>Ranunculus repens</i>	FACW
☐ Reed canarygrass	<i>Phalaris arundinacea</i>	FACW

Other forb species present: _____

☐ Stinging nettle	<i>Urtica dioica</i>	FAC+
☐ Velvet grass	<i>Holcus lanatus</i>	FAC
☐ Lady fern	<i>Athyrium filix-femina</i>	FAC
☐ Horsetail	<i>Equisetum arvense</i>	FAC
☐ Youth-on-age	<i>Tolmiea menziesii</i>	FAC
☐ Foam flower	<i>Tiarella trifoliata</i>	FAC-
☐ Cat's ear	<i>Hypochaeris radicata</i>	FACU
☒ 30 Trailing blackberry	<i>Rubus ursinus</i>	FACU
☐ Bracken fern	<i>Pteridium aquilinum</i>	FACU
☒ 60 Sword fern	<i>Polystichum munitum</i>	FACU
☐ Bleeding heart	<i>Dicentra formosa</i>	FACU

Percent of dominant species FAC, FACW, OBL: 30

Is the hydrophytic vegetation criterion met? Yes ☒ No ☐

Rationale: 750% of the veg cover is hydrophytic

UPLAND? ☒ WETLAND? ☐

WETLAND TYPE: Palustrine ☐ Riverine ☐

Lacustrine ☐ Estuarine ☐

Forested ☐ Scrub/Shrub ☐

Emergent ☐ Open Water ☐

Wet Meadow/Pasture ☐

APPENDIX B

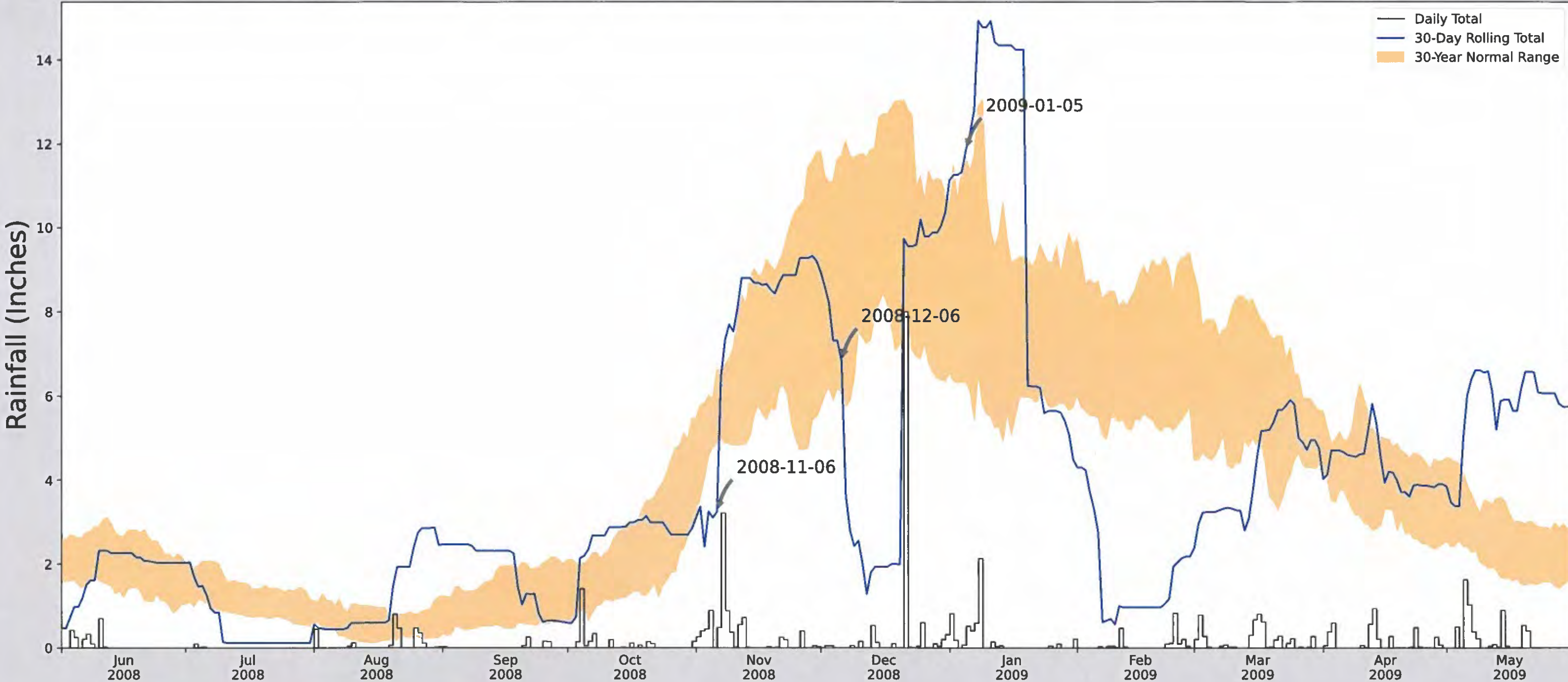
US ARMY CORPS. OF ENGINEERS ANTECEDENT PRECIPITATION TOOL CHARTS

JANUARY 5, 2009

DECEMBER 4, 2024

MARCH 11, 2025

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	47.746840, -122.614741
Observation Date	2009-01-05
Elevation (ft)	331.285
Drought Index (PDSI)	Incipient drought

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2009-01-05	6.308268	11.676378	11.850394	Wet	3	3	9
2008-12-06	6.038977	11.713386	6.834646	Normal	2	2	4
2008-11-06	4.851575	6.614961	3.240158	Dry	1	1	1
Result							Normal Conditions - 14



US Army Corps
of Engineers.

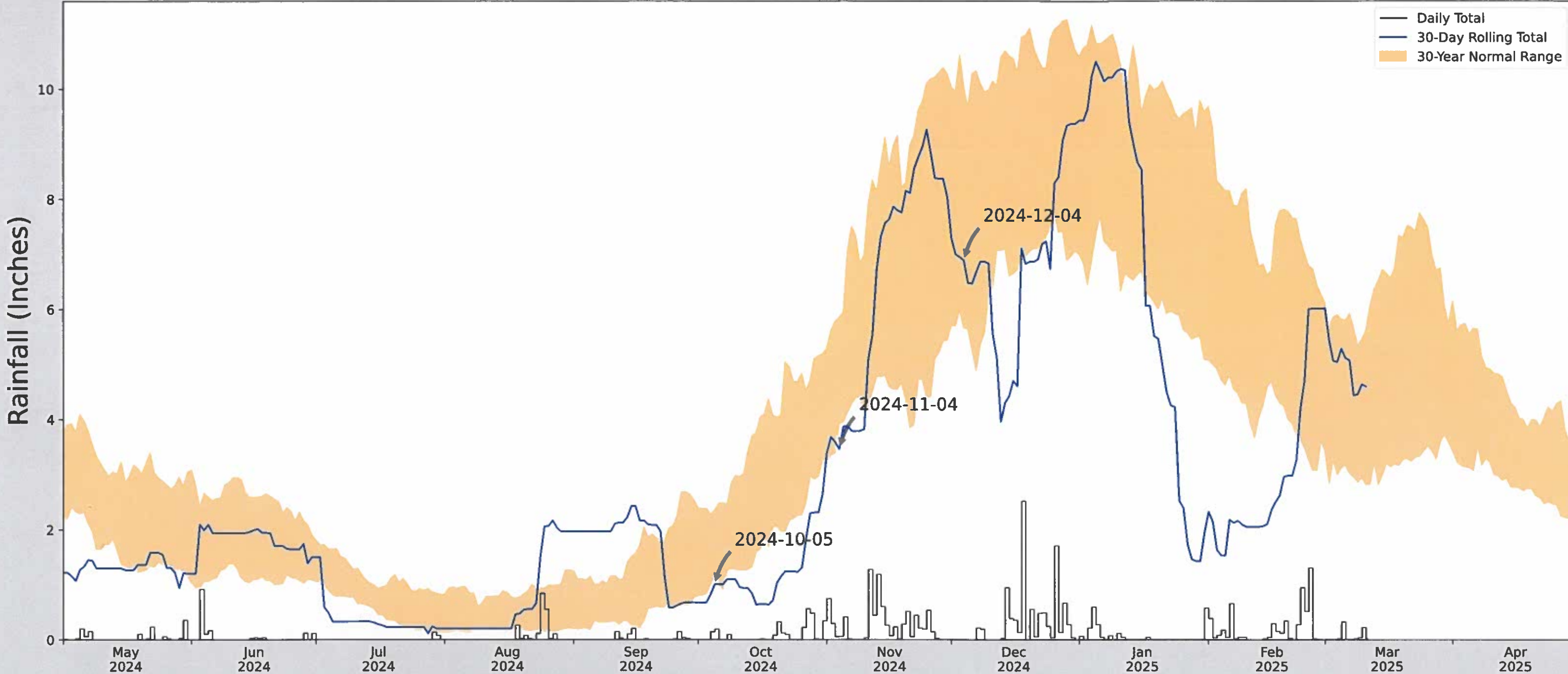


Figures and tables made by the
Antecedent Precipitation Tool
Version 2.0

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
BREMERTON	47.5689, -122.6828	120.079	12.696	211.206	8.395	10678	84
TRACYTON 2.3 WSW	47.6013, -122.7013	19.029	2.399	101.05	1.322	0	6
WAUNA 3 W	47.3725, -122.7028	17.06	13.602	103.019	7.522	642	0
QUILCENE 2 SW	47.8092, -122.9136	123.031	19.771	2.952	8.955	26	0
SEATTLE BOEING FLD	47.5456, -122.3147	24.934	17.239	95.145	9.398	7	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	47.746840, -122.614741
Observation Date	2024-12-04
Elevation (ft)	331.285
Drought Index (PDSI)	Mild drought

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-12-04	5.661811	10.020866	6.889764	Normal	2	3	6
2024-11-04	3.933858	5.848425	3.46063	Dry	1	2	2
2024-10-05	1.183465	2.353937	1.007874	Dry	1	1	1
Result							Drier than Normal - 9



US Army Corps
of Engineers.

Figures and tables made by the
Antecedent Precipitation Tool
Version 2.0

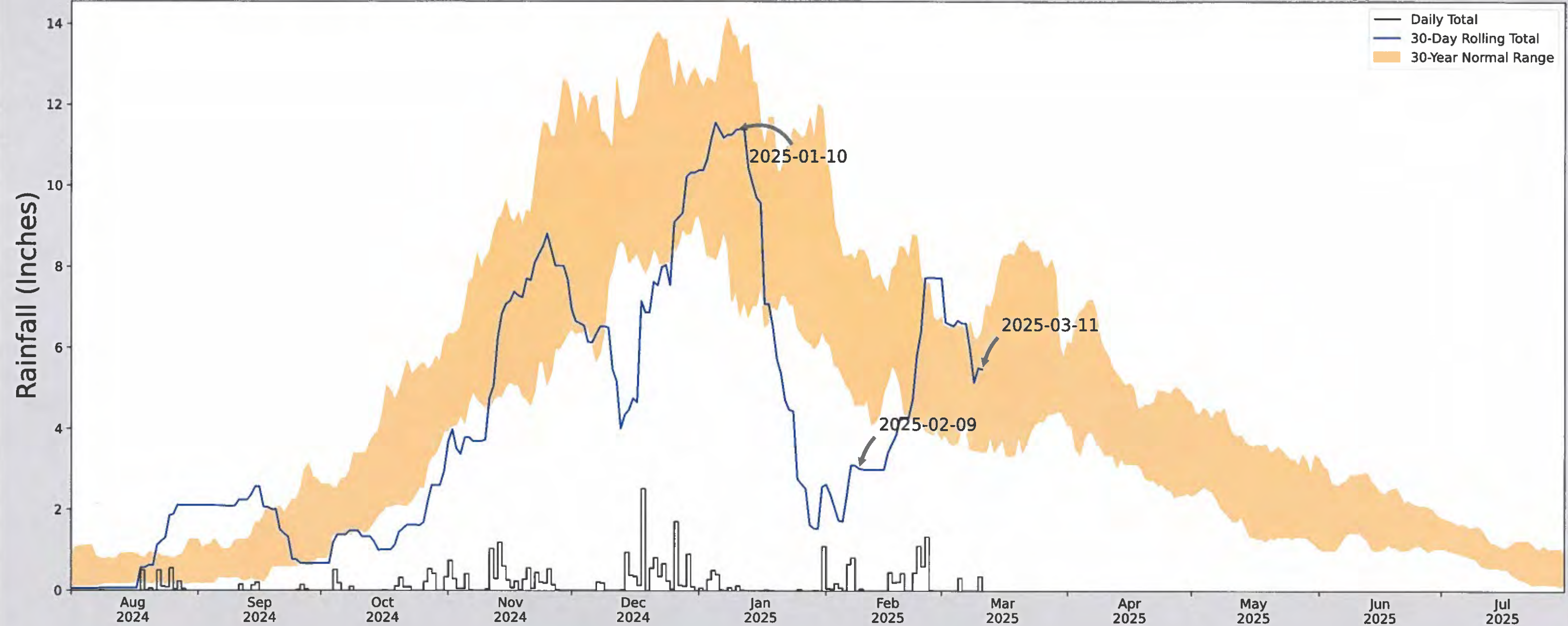
Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center



ERDC

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
BREMERTON 1.8 NE	47.5857, -122.6092	207.021	11.137	124.264	6.395	5846	89
BREMERTON 4.8 NE	47.5932, -122.623	328.084	0.826	121.063	0.472	2	1
BREMERTON 2.8 NE	47.6013, -122.6043	331.037	1.102	124.016	0.633	101	0
BREMERTON 2.9 NNE	47.585, -122.6694	57.087	2.806	149.934	1.683	1	0
BREMERTON	47.5689, -122.6828	120.079	3.622	86.942	1.945	5075	0
SEATTLE BOEING FLD	47.5456, -122.3147	24.934	14.006	182.087	8.853	134	0
SEATTLE URBAN SITE	47.65, -122.3	19.029	15.07	187.992	9.615	194	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	47.746840, -122.614741
Observation Date	2025-03-11
Elevation (ft)	331.285
Drought Index (PDSI)	Mild drought (2025-02)

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-03-11	3.442126	6.405512	5.476378	Normal	2	3	6
2025-02-09	4.595276	8.432284	3.015748	Dry	1	2	2
2025-01-10	7.399213	13.652363	11.377953	Normal	2	1	2
Result							Normal Conditions - 10



US Army Corps
of Engineers.



Figures and tables made by the
Antecedent Precipitation Tool
Version 2.0

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
BREMERTON	47.5689, -122.6828	120.079	12.696	211.206	8.395	10/10	71
BREMERTON 2.9 NNE	47.585, -122.6694	57.087	1.276	62.992	0.655	5	0
BREMERTON 2.9 NNE	47.5852, -122.6716	19.029	1.241	101.05	0.684	21	0
BREMERTON 2.9 ENE	47.5644, -122.6444	138.123	1.817	18.044	0.85	137	0
BREMERTON 3.9 NE	47.594, -122.6517	154.856	2.26	34.777	1.096	3	0
BREMERTON 3.9 NE	47.5888, -122.6432	85.958	2.302	34.121	1.114	1	0
TRACYTON 2.3 WSW	47.6013, -122.7013	19.029	2.399	101.05	1.322	66	0
BREMERTON 1.8 NE	47.5857, -122.6092	207.021	3.622	86.942	1.945	81	19
TRACYTON 2.6 E	47.6108, -122.5995	137.139	4.842	17.06	2.262	1	0
WAUNA 3 W	47.3725, -122.7028	17.06	13.602	103.019	7.522	295	0
QUILCENE 2 SW	47.8092, -122.9136	123.031	19.771	2.952	8.955	26	0
SEATTLE BOEING FLD	47.5456, -122.3147	24.934	17.239	95.145	9.398	7	0

APPENDIX C

WETLAND DETERMINATION DATA FORMS

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

Project/Site: 24334 Noll Road NE City/County: Poulsbo/Kitsap Sampling Date: 12/04/2024
Applicant/Owner: JKM Holdings, LLC State: WA Sampling Point: S01
Investigator(s): EP, MK Section, Township, Range: S13, T26N, R01E
Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): 8%
Subregion (LRR): LRR-A Lat: 47.747796 Long: -122.615172 Datum: WGS84
Soil Map Unit Name: Poulsbo gravelly sandy loam, 0 to 6% slopes NWI classification: None

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

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

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</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>50</u> (A/B)
1. <u>Thuja plicata</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Acer macrophyllum</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC species _____ x 3 = <u>0</u> FACU species _____ x 4 = <u>0</u> UPL species _____ x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____
<u>50</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: 10ft radius)				
1. <u>Rubus spectabilis</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Thuja plicata</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☐ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. <u>Rubus armeniacus</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>70</u> = Total Cover				Hydrophytic Vegetation Present? Yes ☐ No ☒
Herb Stratum (Plot size: 5ft radius)				
1. <u>Polystichum munitum</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>35</u> = Total Cover				
Woody Vine Stratum (Plot size: 5ft radius)				
1. <u>None</u>	<u>-</u>	<u>-</u>	<u>-</u>	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

SOIL

Sampling Point: S01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0 - 10	10YR3/3	100					sandy loam	dry
10 - 16	10YR3/4	100					sandy loam	dry

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☐ No ☒
--	---

Remarks: _____

HYDROLOGY

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

Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): _____ Water Table Present? Yes ☐ No ☒ Depth (inches): _____ Saturation Present? Yes ☐ No ☒ Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ☐ No ☒
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: _____

Remarks: _____

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

Project/Site: 24334 Noll Road NE City/County: Poulsbo/Kitsap Sampling Date: 12/04/2024
Applicant/Owner: JKM Holdings, LLC State: WA Sampling Point: S2
Investigator(s): EP, MK Section, Township, Range: S13, T26N, R01E
Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): <5%
Subregion (LRR): LRR-A Lat: 47.746536 Long: -122.613788 Datum: WGS84
Soil Map Unit Name: Poulsbo gravelly sandy loam, 0 to 6% slopes NWI classification: None

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

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

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</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>50</u> (A/B)
1. <u>Alnus rubra</u>	<u>60</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Pseudotsuga menziesii</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Thuja plicata</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4. <u>Pinus monticola</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
<u>90</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: 10ft radius)				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u>0</u> FACW species <u> </u> x 2 = <u>0</u> FAC species <u> </u> x 3 = <u>0</u> FACU species <u> </u> x 4 = <u>0</u> UPL species <u> </u> x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u> </u>
1. <u>Rubus spectabilis</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Alnus rubra</u>	<u>10</u>	<u>N</u>	<u>FAC</u>	
3. <u>Frangula purshiana</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>55</u> = Total Cover				
Herb Stratum (Plot size: 5ft radius)				Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☐ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Carex sp.</u>	<u>10</u>	<u>N</u>	<u>Varies</u>	
2. <u>Sambucus racemosa</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Rubus ursinus</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
11. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>10</u> = Total Cover				
Woody Vine Stratum (Plot size: 5ft radius)				Hydrophytic Vegetation Present? Yes ☐ No ☒
1. <u>None</u>	<u>-</u>	<u>-</u>	<u>-</u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>90</u>				

Remarks:

SOIL

Sampling Point: S2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0 - 8	10YR2/2	100					sandy loam	dry
8 - 16	10YR4/4	100					sandy loam	dry

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) ☐ Histosol (A1) ☐ Histic Epipedon (A2) ☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4) ☐ Depleted Below Dark Surface (A11) ☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1) ☐ Sandy Gleyed Matrix (S4) ☐ Sandy Redox (S5) ☐ Stripped Matrix (S6) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Loamy Gleyed Matrix (F2) ☐ Depleted Matrix (F3) ☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7) ☐ Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: ☐ 2 cm Muck (A10) ☐ Red Parent Material (TF2) ☐ Very Shallow Dark Surface (TF12) ☐ Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes ☐ No ☒
Remarks:	

HYDROLOGY

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

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

Project/Site: 24334 Noll Road NE City/County: Poulsbo/Kitsap Sampling Date: 12/04/2024
Applicant/Owner: JKM Holdings, LLC State: WA Sampling Point: S3
Investigator(s): EP, MK Section, Township, Range: S13, T26N, R01E
Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): <5%
Subregion (LRR): LRR-A Lat: 47.747 Long: -122.6143 Datum: WGS84
Soil Map Unit Name: Poulsbo gravelly sandy loam, 0 to 6% slopes NWI classification: None

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

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

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

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)
1. <u>Alnus rubra</u>	<u>25</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Pseudotsuga menziesii</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
3. <u>Acer macrophyllum</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4. <u>Thuja plicata</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
<u>65</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: 10ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC species _____ x 3 = <u>0</u> FACU species _____ x 4 = <u>0</u> UPL species _____ x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____
1. <u>Rubus spectabilis</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
2. <u>Rubus armeniacus</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Spiraea douglasii</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
4. <u>Rosa sp.</u>	<u>5</u>	<u>N</u>	<u>Varies</u>	
5. <u>Lonicera involucrata</u>	<u>4</u>	<u>N</u>	<u>FAC</u>	
<u>39</u> = Total Cover				
Herb Stratum (Plot size: 5ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☒ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Rubus ursinus</u>	<u>90</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Polystichum munitum</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>105</u> = Total Cover				
Woody Vine Stratum (Plot size: 5ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes ☒ No ☐
1. <u>None</u>	<u>-</u>	<u>-</u>	<u>-</u>	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:

Pinus monticola (FACU) is 5% in the tree stratum.

SOIL

Sampling Point: S4

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0 - 7	10YR3/2	100					sandy loam	dry
7 - 16	10YR4/4	100					sandy loam	dry

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

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

Remarks:

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

Project/Site: 24334 Noll Road NE City/County: Poulsbo/Kitsap Sampling Date: 3/11/2025
Applicant/Owner: JKM Holdings, LLC State: WA Sampling Point: S4
Investigator(s): EP, MK Section, Township, Range: S13, T26N, R01E
Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): <5%
Subregion (LRR): LRR-A Lat: 47.747015 Long: -122.614642 Datum: WGS84
Soil Map Unit Name: Poulsbo gravelly sandy loam, 0 to 6% slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</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>25</u> (A/B)
1. <u>Alnus rubra</u>	<u>45</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC species _____ x 3 = <u>0</u> FACU species _____ x 4 = <u>0</u> UPL species _____ x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____
<u>45</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: 10 ft radius)				
1. <u>Cornus sercea</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ☐ Rapid Test for Hydrophytic Vegetation ☐ Dominance Test is >50% ☐ Prevalence Index is ≤3.0 ¹ ☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-Vascular Plants ¹ ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>50</u> = Total Cover				Hydrophytic Vegetation Present? Yes ☐ No ☒
Herb Stratum (Plot size: 5 ft radius)				
1. <u>Polystichum munitum</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>_____</u> = Total Cover				
Woody Vine Stratum (Plot size: 5 ft radius)				
1. <u>Rubus Ursinus</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
<u>30</u> = Total Cover				
% Bare Ground in Herb Stratum <u>65</u>				
Remarks:				

SOIL

Sampling Point: S4

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

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0 - 12	10YR3/2	100					loam	
12 - 17	7.5YR5/3	100					silty loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

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

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

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

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

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

Wetland Hydrology Present? Yes ☐ No ☒

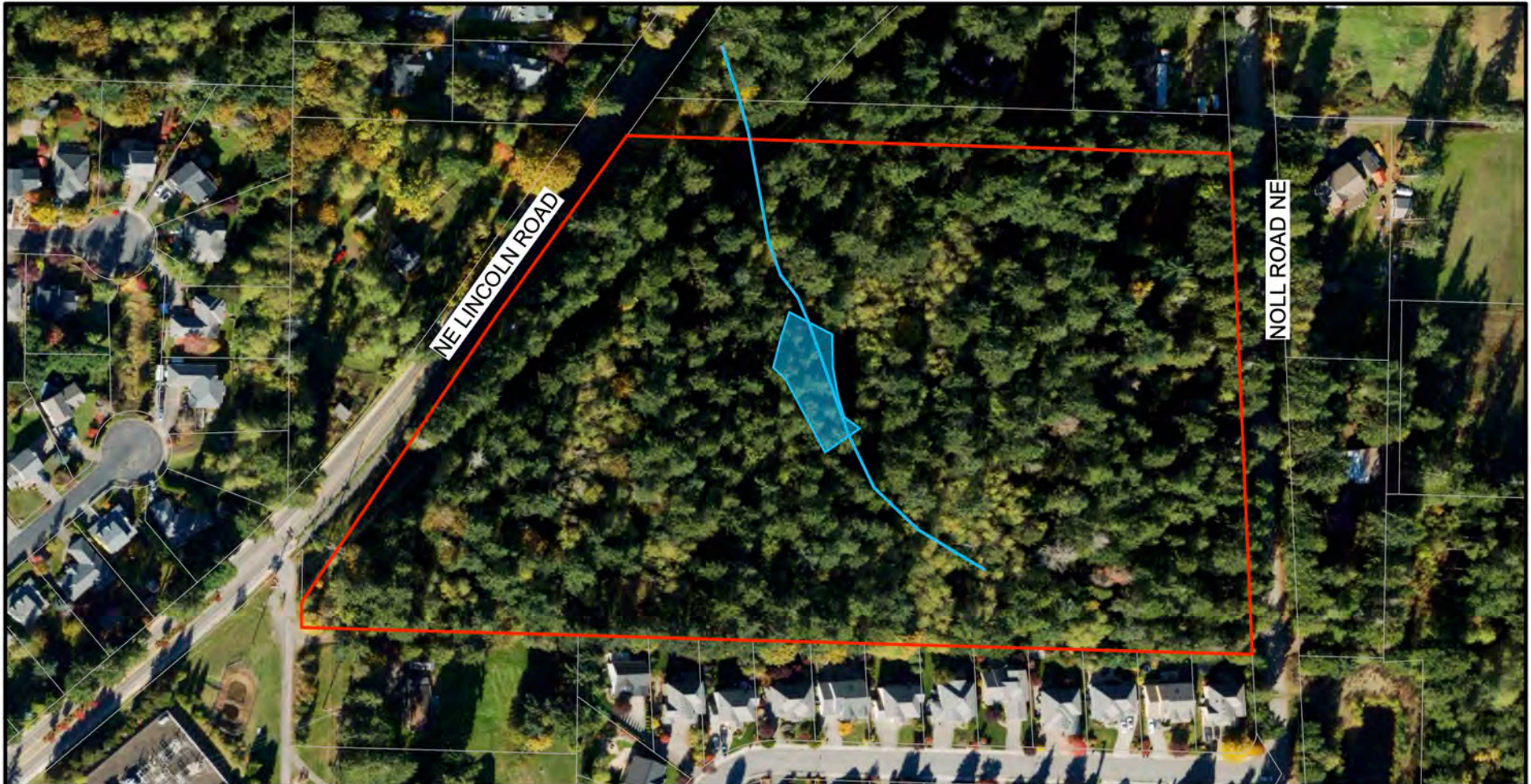
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

APPENDIX D

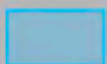
CITY OF POULSBO MAPPED CRITICAL AREAS MAP
DATA AND PHOTO POINT MAP

CITY OF POULSBO MAPPED CRITICAL AREAS
JKM HOLDINGS - NOLL ROAD NE
PORTION OF SECTION 13, TOWNSHIP 26N, RANGE 01E, W.M.



PLEASE NOTE: THIS MAP IS **APPROXIMATE** FOR PLANNING AND DISCUSSION PURPOSES ONLY. THIS MAP DOES NOT REPRESENT A DELINEATION OR SURVEY, THE WETLAND AND STREAM LOCATIONS SHOWN HERE ARE FROM THE CITY OF POULSBO INTERACTIVE ZONING MAP.

LEGEND



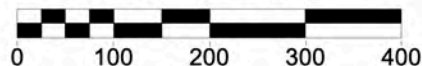
CITY OF POULSBO MAPPED
WETLAND AREA



CITY OF POULSBO MAPPED
STREAM LOCATION



Scale 1" = 200'



Wetland Resources, Inc.

Delineation / Mitigation / Restoration / Habitat Creation / Permit Assistance
9505 19th Avenue S.E. Suite 106 Everett, Washington 98208
Phone: (425) 337-3174
Fax: (425) 337-3045
Email: mailbox@wetlandresources.com

City of Poulsbo Mapped Critical Areas
JKM HOLDINGS - NOLL ROAD NE
Poulsbo, WA

JKM Holdings, LLC
Attn: Geoffrey P. Sherwin
PO Box 188
Puyallup, WA 98371

Sheet 1/2
WRI #: 24334
Drawn by: EP
Date: 03/24/2025
Rev.#1: 10/29/2025

DATA AND PHOTO POINT MAP
JKM HOLDINGS - NOLL ROAD NE

PORTION OF SECTION 13, TOWNSHIP 26N, RANGE 01E, W.M.

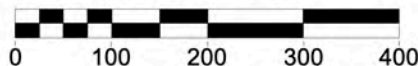


LEGEND

- S#** DATA POINTS
P# PHOTO POINTS



Scale 1" = 200'



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Email: mailbox@wetlandresources.com

Data and Photo Point Map
JKM HOLDINGS - NOLL ROAD NE
Poulsbo, WA

Sheet 2/2
WRI #: 24334
Attn: Geoffrey P. Sherwin
PO Box 188
Puyallup, WA 98371

Drawn by: EP
Date: 03/24/2025
Rev.#1: 10/29/2025

Exhibit G2

TECHNICAL MEMORANDUM

TO: Edie Berghoff, Senior Planner – City of Poulsbo

FROM: Chad Wallin, Project Biologist – Grette Associates, a division of Farallon Consulting, L.L.C.

DATE: December 18, 2025

RE: NOLL POINTE PRD
THIRD-PARTY CRITICAL AREAS REVIEW
FARALLON PN: 3386-002.001 TASK 2

INTRODUCTION

The City of Poulsbo (City) contracted with Grette Associates, a division of Farallon Consulting, L.L.C. (Farallon), to assist in the review of the Wetland and Stream Delineation Report (Report, revised October 29, 2025) that was prepared by Wetland Resources, Inc. (WRI) to document existing environmental conditions within an undeveloped property located southwest of the intersection of Noll Road and NE Burk Way (Kitsap County parcel 132601-1-018-2008). The purpose of the Report is to document all wetlands and fish and wildlife habitat conservation areas (FWHCAs) situated within the vicinity of the subject property in support of a proposed residential development project.

REVIEW METHODS

SITE REVIEW

Grette completed a site review on December 4, 2025, to assess the conditions described in the Report. All accessible areas within 300 feet of the subject property were assessed and evaluated according to the requirements defined in the current version of Chapter 16.20 of the Poulsbo Municipal Code (PMC).



DOCUMENT REVIEW

Grette conducted a thorough review of the Report. The review focused on verifying the accuracy of the descriptions within the Report and for compliance with Chapter 16.20 of the PMC.

REVIEW RESULTS

The Report provided historical information that documented a Category III wetland within the central portion of the subject property and an offsite wetland (classification unknown)¹ that were identified during a 2009 assessment. WRI's determinations conclude that these areas do not meet current wetland criteria as defined in the U.S. Army Corps of Engineers (USACE) *Federal Wetland Delineation Manual*² and the USACE's *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*.³ Grette concurs with these findings.

The 2009 assessment was performed using previous delineation guidance, not current guidance (i.e., USACE's 2010 Regional Supplement) as required per PMC 16.20.225. Delineation data provided in the Report show these areas do not meet wetland criteria. Grette observed similar conditions during the site review. More specifically, while hydrophytic vegetation was observed in several areas, these areas did not meet the hydric soils and hydrology criteria defined in the USACE's Regional Supplement.

One probable offsite wetland was observed by Grette during the site review which is not addressed in the Report. This feature is located across NE Lincoln Rd., west of where the 2009 assessment identified an offsite wetland feature. Per PMC 16.20.120, NE Lincoln Rd. serves as a buffer interruption. As such, no associated buffer extends into the subject property.

¹ Wiltermood Associates, Inc. 2009. Wetland Analysis Report – 15.05 Acre Parcel: Parcel No. 132601-01-018-2008. Prepared for Leroy Christiansen et al. February 9, 2009.

² Environmental Laboratory (Corps). 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

³ U.S. Army Corps of Engineers (USACE). 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.



Consistent with the findings summarized in the 2009 assessment and Report, Grette did not observe any characteristics that would suggest stream conditions, as defined in PMC 16.20.155, are present within the subject property or within 300 feet. More specifically, Grette did not identify any linear type of feature that exhibited sufficient flow to produce a defined channel or bed and bank (Figure 1).

Figure 1. Site Review – surface observations



CONCLUSION

Upon review, Grette concurs with the findings summarized in the Report and finds the Report is compliant with the requirements defined in Chapter 16.20 of the PMC.



If you have any questions regarding this memorandum, please contact me at (253) 573-9300, or by email at chadw@gretteassociates.com.

Regards,

Chad Wallin, PWS
Project Biologist
Grette Associates, a division of Farallon Consulting L.L.C.

