WETLAND, AND FISH AND WILDLIFE HABITAT ASSESSMENT REPORT

PORT OF OLYMPIA-SOUTH SOUND COMMERCE CENTER

DECEMBER 2021



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DECEMBER 2, 2021

PROJECT LOCATION

7380 LINDERSON WAY SOUTHWEST, TUMWATER, WA 98501

PREPARED FOR

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PREPARED BY

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Executive Summary

Soundview Consultants LLC (SVC) is assisting PDC Seattle, LLC (Applicant) with a wetland, and fish and wildlife habitat assessment and environmental planning for a proposed industrial development project at 7380 Linderson Way Southwest in the City of Tumwater, Washington. The subject property is situated in the East/West ½ of Section 10/40, Township 17 North, Range 02 West, W.M. (Thurston County Tax Parcel Numbers 12710100000 and 12710310100).

SVC investigated the subject property and publicly accessible areas within 300 feet of the site for the presence of potentially regulated wetlands, waterbodies, fish and wildlife habitat, and/or priority species in the Spring of 2021. Sixteen formal data plots (DP-1 through DP-16) were collected at representative locations throughout the subject property and adjacent properties, all of which confirm non-wetland conditions onsite due to the lack of all three wetland criteria (predominance of hydrophytic vegetation, hydric soils, and wetland hydrology) according to current wetland delineation methodology. All priority species including big brown bat, Townsend's Big-eared bat, Oregon vesper sparrow, and Mazama pocket gopher will be assessed under a separate cover.

The Applicant proposes to develop an industrial facility in the center of the subject property. The proposed project will consist of one 449,100 square foot building, parking facilities, a right-of-way, landscaping, and associated infrastructure. The proposed parking facilities will extend approximately 10 feet offsite to the west onto the adjacent Port of Olympia parcel. Upon thorough investigation no regulated wetland, and fish and wildlife habitat was identified, and as such, no adverse impacts are expected from the proposed project.

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Chapter 1. Introduction

Soundview Consultants LLC (SVC) is assisting PDC Seattle, LLC (Applicant) with a wetland, and aquatic fish and wildlife habitat assessment and environmental planning for a proposed industrial development project at 7380 Linderson Way Southwest in the City of Tumwater, Washington. The subject property is situated in the East/West ½ of Section 10/40, Township 17 North, Range 02 West, W.M. (Thurston County Tax Parcel Numbers 12710100000 and 12710310100).

The purpose of this Wetland, and aquatic Fish and Wildlife Habitat Assessment Report is to document the presence of potentially regulated waterbodies(streams) and wetlands on or near the subject property; to assess potential impacts to these areas from the proposed project; and to provide recommendations to avoid, minimize, and/or mitigate for these impacts if need be.

This report provides conclusions and recommendations regarding:

- Site description, project description, and area of assessment;
- Background research and identification of potentially regulated wetlands, fish and wildlife habitat, and priority species within the vicinity of the proposed project;

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- Determination of potentially regulated wetland;
- Standard buffer recommendations, building setbacks, and development limitations;
- Existing and proposed site conditions; and
- Supplemental information for regulatory review.

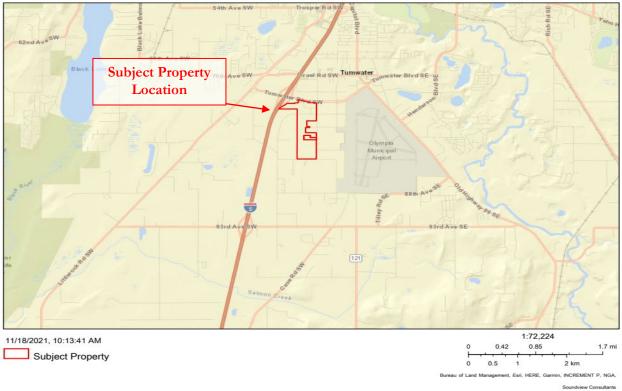
Chapter 2. Proposed Project

2.1 Location

The proposed project consists of a 300-acre site located at 7380 Linderson Way Southwest in the City of Tumwater, Washington. The subject property is situated in the East/West ½ of Section 10/40, Township 17 North, Range 02 West, W.M. (Thurston County Tax Parcel Numbers 12710100000 and 12710310100).

To access the site from I-5 South, take exit 101 toward Tumwater Boulevard toward New Market Industrial Campus/ Olympia Airport. Upon taking the exit take a left onto Tumwater Boulevard Southeast and continue straight for 0.7 miles. Then upon reaching a roundabout take the first exit onto New Market Street Southwest. In 0.2 mile the subject property will be located on the right.

Figure 1. Vicinity Map



2.1 Project Description

The Applicant proposes to develop an industrial facility in the center of the subject property. The development will consist of a 449,100 square foot building surrounded by a right-of-way, parking facilities, landscaping, and associated infrastructure. All development will be located over 300 feet away from any critical aeras within the vicinity of the property. No wetlands, streams or critical area were observed onsite, and as such, it appears that industrial development of the subject property will not be encumbered by any potentially-regulated wetlands, fish and wildlife habitat, and/or associated buffers.

Chapter 3. Methods

SVC investigated, delineated, and assessed any potentially regulated wetlands, streams and aquatic fish and wildlife habitat on and within 300 feet of the subject property in March 2021. A formal site investigation and data collection was completed for offsite areas on the parcel to the west of the site (Thurston County Tax Parcel 09230001003), as it is also leased by the Applicant. All determinations were made using observable vegetation, hydrology, and soils in conjunction with data from the U.S. Geological Survey (USGS) topographic maps, National Resource Conservation Service (NRCS) soil survey, Thurston County and City of Tumwater Geographic Information Systems (GIS) data, Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species (PHS) and SalmonScape mapping tools, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI), Washington Department of Natural Resources (DNR) water typing system, and various orthophotographic resources. Appendix A contains further details for the methods and tools used to prepare this report.

Wetlands, streams, and select fish and wildlife habitats and species are regulated features per City of Tumwater Municipal Code (TMC) Title 16 (Environment) and subject to restricted uses/activities under the same title. Wetland presence/absence was determined using the routine approach described in the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory, 1987) and modified according to the guidelines established in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE, 2010) and Field Indicators of Hydric Soils in the United States (NRCS, 2018). Pink surveyor's flagging was labeled alpha-numerically and tied to 3-foot lath or vegetation at formal sampling locations to mark the points where detailed data was collected (DP-1 thru DP-16). Additional test pits were excavated at regular intervals throughout the subject property to confirm wetland presence/absence.

All priority species including big brown bat, Townsend's Big-eared bat, Oregon vesper sparrow, and Mazama pocket gopher have been assessed in the under a separate cover. As such, these species will not be discussed in this report.

Chapter 4. Background and Existing Conditions

4.1 Landscape Setting

The subject property is located in a mixed land use setting in the City of Tumwater. The subject property is adjacent to industrial facilities to the north, Olympia Regional airport and industrial facilities to the east, single family residential units to the south, and a mix of undeveloped land, log yard operations and schools to the west. The portion of the property proposed for development is currently manipulated by the presence of gravel pads and access roads likely used to support historic log yard operations onsite. The northern and southern portion of the property remains largely undeveloped and forested, apart from the additional gravel yards and access roads identified throughout the site. The subject property is located within Water Resource Inventory Area (WRIA) 23 – Upper Chehalis and 13 - Deschutes. The site is generally flat aside from a series constructed hummocks (spoils piles) and drainage swales located throughout the property. A USGS Topographic map is provided in Appendix B1.

Figure 2. Aerial View of the Subject Property



4.2 Soils

The NRCS Soil Survey of Thurston County, Washington identifies four soil series present on the subject property: Everett very gravelly sandy loam, 0 to 8 percent slopes (32), Cagey loamy sand (20), Nisqually loamy fine sand, 0 to 3 percent slopes (73), and Norma silt loam (76). A soil map is provided in Appendix (B2).

Everett very gravelly sandy loam, 0 to 8 percent slopes (32)

According to the NRCS survey, Everett very gravelly sandy loam, 0 to 8 percent slopes, is a very deep, somewhat excessively drained soil. This soil is located on terraces and outwash plains and is formed in glacial outwash. The surface layer is a dark reddish brown very gravelly sandy loam that is about 3 inches thick. The subsoil is 17 inches thick and consists of dark brown and dark yellowish brown extremely gravelly sandy loam. The substratum is olive brown extremely gravelly loamy sand and dark grayish brown extremely gravelly sand spans to a depth of 60 inches or more. Everett very gravelly sandy loam, 0 to 8 percent slopes is primarily a non-hydric soil (NRCS, 2019).

Cagey loamy sand (20)

According to the NRCS survey, Cagey loamy sand is a somewhat very deep, moderately well drained. In a typical profile, the surface layer is dark brown loamy sand to a depth of about 6 inches. Within the subsoil from 6 to 22 inches, the soil is a dark yellowish brown loamy sand, and from 22 to 60 inches is a light olive brown fine sand in the upper 6 inches and light olive brown, mottled fine sand in the lower 54 inches. Permeability is rapid, available water capacity is moderate, runoff is slow, and the hazard of water erosion is slight. Cagey loamy sand is primarily non-hydric but may contain up to 5 percent hydric inclusions of Mckenna soils (NRCS, 1990).

Nisqually loamy fine sand, 0 to 3 percent slopes (73)

According to the NRCS survey, Nisqually loamy fine sand, 0 to 3 percent slopes, is somewhat excessively drained. In a typical profile, the surface layer is black loamy fine sand to a depth of 5 inches. Below this layer from 7 to 26 inches is very dark grey and very dark grayish brown loamy fine sand. Permeability is moderately rapid in the surface layer and very rapid in the substratum. Available water capacity is moderate, runoff is slow, and the hazard of water erosion is slight. Nisqually loamy fine sand, 0 to 3 percent slopes, is listed as non-hydric on the Thurston County Hydric Soils List with up to 4% inclusions of hydric Norma soils (NRCS, N.d.)

Norma silt loam (76)

According to the NRCS survey, Norma silt loam is a very deep, poorly drained soil located in depressions on till plains. In a typical soil profile, the surface layer is a very dark gray silt loam about eight inches thick, and the subsoil is dark grayish brown, mottled sandy loam about 22 inches thick. The substratum to a depth of 60 inches or more is olive gray, mottled sandy loam. Permeability is moderately rapid in Norma soil. Norma silt loam is listed as partially hydric on the Thurston County Hydric Soils List (NRCS, N.d.).

4.3 Vegetation

The forested area located in the northern and southern extent of the subject property is forested with Douglas-fir (*Pseudotsuga menziesii*), beaked hazelnut (*Corylus cornuta*), oceanspray (*Holodiscus discolor*), snowberry (*Symphoricarpos alba*), salal (*Gaultheria shallon*), and California huckleberry (*Vaccinium ovatum*).

Areas throughout the site that have been heavily manipulated by historic log yard operations have been overgrown with common invasive and pioneer plant species such as Black cottonwood (*Populus balsamifera*), Scotch broom (*Cytisus scoparius*), Himalayan blackberry (*Rubus armeniac*us), and snowberry.

The non-native invasive species Scotch broom, Himalayan blackberry and reed canarygrass were found throughout the property.

4.4 Local and National Wetland and Stream Inventories

The Thurston County wetlands and stream inventory (Appendix B3) identifies two potential wetlands located on the central portion and northwest portion of the subject property, and six potential wetlands located offsite and within 300 feet of the subject property. The USFWS NWI map (Appendix B4) does not identify any potential wetlands within 300 feet of the of the subject property. No other potential wetlands or streams are mapped on or within 300 feet of the subject property by the critical area inventories, including the DNR stream typing map (Appendix B5).

It appears the wetlands identified by the Thurston County wetland inventory were likely desktopmapped and not verified in the field. SVC preformed a thorough investigation of these areas during the site visits and confirmed the lack of wetlands onsite. Please see Chapter 5. Results for more details.

4.5 Priority Species and Habitat

The WDFW PHS map (Appendix B6) identifies the presence of the big brown bat (*Eptesicus fuscus*), and the Townsend's Big-eared bat (*Corynorhinus townsendii*) within the township, an approximately 36-square-mile area, but not necessarily on the subject property.

In addition, the WDFW PHS map identifies distinct populations of the Oregon vesper sparrow (Pooecetes gramineus affinis), and Mazama pocket gopher (Thomomys mazama) within 330 feet of the site. The documented locations of the Oregon vesper sparrow are noted within 100 feet of the project area; however, it is likely the species exists over 330 feet from the subject property. PHS data for the Oregon vesper sparrow places accuracy of documentation at a quarter of a mile and notes the most recent documentation is from 2015. It is likely the presence noted near the site would actually belong to a known and well-established Oregon vesper sparrow population known to nest and inhabit the northern extent of the Olympia Regional Airport. All priority species including big brown bat, Townsend's big-eared bat, Oregon vesper sparrow, and Mazama pocket gopher have been thoroughly assessed in the Habitat Conservation Plan (HCP) under a separate cover.

WDFW SalmonScape map (Attachment B7) does not identify any documented or modeled salmonid presence on or within 300 feet of the subject property.

4.6 Floodplain

The FEMA floodplain map (Appendix B8) does not identify the 100-year floodplain onsite.

4.7 Precipitation

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

Table 1. Precipitation Summary¹

Date	Day of	Day Before	1 Week Prior	2 Weeks Prior	Last 30 Days (Observed/Normal) ²	Year-to-Date (Observed/Normal) ²	Percent of Normal (Month/Year)
03/18/2021	0.02	0.0	0.31	0.97	3.93/5.69	41.46/37.47	69/110
03/23/2021	0.1	0.1	1.21	1.34	4.38/5.73	42.47/38.37	76/111
03/24/2021	0.4	0.1	1.61	1.72	4.11/5.74	42.87/38.55	71/111

^{1.} Precipitation volume provided in inches. Data obtained from NOAA (http://w2.weather.gov/climate/xmacis.php?wfo=sew)

Precipitation for the site investigation on March 18, 2021 was slightly below the statistical normal for the preceding 30 days (approximately 69 percent of normal) and within normal for the water year (approximately 110 percent of normal). Precipitation for the site investigation on March 23, 2021 was within the statistical normal for the preceding 30 days (approximately 76 percent of normal) and within normal for the water year (approximately 111 percent of normal). Precipitation for the site investigation on March 24, 2021 was within the statistical normal for the preceding 30 days (approximately 71 percent of normal) and within normal for the water year (approximately 111 percent of normal. Overall, hydrologic conditions were generally normal for all three site visits. These conditions were considered in making professional wetland determinations.

^{2.} Year-to-date precipitation is for the calendar year from January 1st to the onsite date(s)

Chapter 5. Results

SVC preformed a formal site investigation of the subject property and the adjacent parcel to the west. During the investigation SVC investigated presence of potentially regulated wetlands, and aquatic fish and wildlife habitat. Using current methodology, the site assessment confirmed the lack of wetlands or regulated stream features within the subject property. No other potentially regulated wetlands or priority habitats or species were observed on or in the vicinity of the subject property during the site investigation.

5.1 Onsite Wetland Absence

The March 2021 site investigations thoroughly assessed all areas where wetlands are most likely to occur (ie topographic low points) including each of the potential wetland areas identified on the Thurston County wetland inventory map, and confirmed the lack of wetland presence in each polygon. Wetland polygons mapped by Thurston County failed to exhibit all three wetland delineation criteria (a predominance of hydrophytic vegetation, hydric soils, or wetland hydrology) according to current wetland delineation methodology. A total of 16 data plots (DP-1 through DP-16) were collected during the formal assessments. Five data plots (DP-3U, 10U, 14U. 15U, and 16U) are located onsite and four data plots (DP-1U, 7U, 8U, and 9U) are located offsite but within the 300-foot offsite assessment area. The remainder of the data plots (DP-2U, 4U, 5U, 6U, 11U, 12U, and 13U) were located offsite and outside this assessment area. Due to the location, the data outside the assessment area has not been included with this report, but may be provided in future proposals.

DP-10U and DP-16U represent the two potential wetland polygons mapped by Thurston County onsite. Both DP-10U and DP-16U lack hydric soils and hydrology, but met indicators for hydrophytic vegetation through the Dominance Test. Species present in both plots varied in wetland status and are generally dominated by common colonizers of disturbed areas including red alder (Alnus rubra), black cottonwood (Populus balismerfera), reed canary grass (Phalaris arundinacea) and Himalayan blackberry. Given past land use of the site, it is presumed colonization occurred post disturbance. Both formal data plots have relatively dark soils with no redox present in the profile. DP-10U consisted of very dark gray (10YR 3/1) sandy loam from 0 to 15 inches, and DP-16U consisted of very dark gray (10YR 3/1) sandy loam from 0 to 6 inches underlain by very dark greyish brown (10YR 3/2) sandy loam from 6 to 16 inches. Overall, soils at both data plots lacked necessary redox concentrations to meet hydric soil indicators, and showed no evidence of a depleted matrix within the first 12 inches of the soil surface. No direct signs of wetland hydrology, such as surface water, a high groundwater table, or soil saturation within the upper 12 inches of the soil surface, were observed at either data plot. The investigation occurred at the optimal time to view wetland conditions, during the beginning of the growing season under generally normal hydrologic conditions; lack of wetland hydrology during this time frame supports the non-wetland determination. As such, neither data plot met all three wetland criteria, thus confirming wetland absence onsite.

Thurston County potential wetland polygons within 300 feet of the proposed parking area that extends offsite minimally, were represented by DP-1U, DP-7U, DP-8U and DP-9U. None of these data plots met all three wetland criteria. DP-1U failed to meet all three criteria, whereas DP-7U and DP-8U did support a hydrophytic plant community due to the presence of common facultative species, but lacked hydric soils and wetland hydrology. DP-9U also showed evidence of a hydrophytic plant community due to the presence of common disturbance tolerant species, but also exhibited hydric soils meeting

indicator S5 (Sandy Redox). However, DP-9U did not show any evidence of wetland hydrology. If this area were functioning as wetland, it is expected that wetland hydrology would be present at this time of year in the early growing season under normal hydrological conditions. Furthermore, the presence of several facultative-upland species, namely Scotch broom and sworfern, which generally do not tolerate extended periods of inundation or saturation, further indicates that this area does not support wetland hydrology. It is possible that the observed soils were a result of historical disturbance (importing of hydric soils, removal of topsoil, or historical change in hydrology). As a result, DP-9U is also determined not to meet wetland criteria.

5.2 Onsite Ditches

Four artificially excavated ditches were observed onsite, two north of the proposed project area (Ditch Z, and Y) and two south of the proposed project area (Ditch X, and W). Ditch Z and Y can both be characterized by steep vertical banks, which clearly have been intentionally excavated to likely support historic stormwater conveyance and capture onsite. Neither ditch exhibited a defined bed and bank or sorting and scouring of substrate, characteristic of natural erosional features, nor water present within the features at the time of the investigation during the wet season. Similarly, Ditch X and W have been artificially excavated to likely support stormwater management onsite. Ditch X and W can be characterized by uniform and linear channels which lack naturally defined bed and banks. Both features appear to have been filled in the past. All onsite ditches lack connectivity to a mapped upstream or downstream tributary. Per TMC 16.32.030.U "Waters of the state" are defined in Washington Administrative Code (WAC) 222-16-030 and 222-16-031 and exist now or hereafter amended. Per WAC 222-16-031(5) "Type 5 Waters" means all segments of natural waters within the bankfull width of the defined channels that are not Type 1, 2, 3, or 4 Waters. These are seasonal, nonfish habitat streams in which surface flow is not present for at least some portion of the year and are not located downstream from any stream reach that is a Type 4 Water. Type 5 Waters must be physically connected by an above-ground channel system to Type 1, 2, 3, or 4 Waters. As each ditch onsite lacks a naturally defined channel and has been artificially constructed to support preexisting stormwater management, and have no downstream connection to typed waters none of the ditches are anticipated to be regulated.

5.2 Onsite Stormwater Ponds

Multiple stormwater ponds were identified on or within 300 feet of the formal investigation area. These stormwater ponds appear to have been artificially and intentionally excavated due to the unnatural sharp edges, intentional rectangular shapes, and steep sides that are all distinctive of manmade conditions. In addition, the stormwater detention ponds appear to have been created out of uplands. Prior to their construction, no evidence on aerials of potential inundation or ground saturation or distinct changes in vegetation were present in the area that would indicate the presence of a potential wetland. Furthermore, all mapped soils in these areas are considered primarily non-hydric soils. Per TMC 16.28.30.FF, wetlands do not include "those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities". Therefore, the stormwater detention ponds on and within 300 feet of the formal investigation area are not considered regulated features under TMC 16.28.

Chapter 6. Regulatory Considerations

The site investigations in March 2021 confirmed the lack of wetland or stream presence on and within 300 feet of the subject property. No other potentially regulated wetlands or waterbodies were identified on or near the subject property. As such, local critical areas regulations are not anticipated or discussed below. Priority species were not assessed by SVC and will be submitted under separate cover.

6.1 State and Federal Considerations

In a December 2, 2008 memorandum from the Environmental Protection Agency (EPA) and USACE, joint guidance is provided that describes waters that are to be regulated under section 404 of the CWA (USACE, 2008). This memorandum was amended on February 2, 2012 where the EPA and USACE issued a final guidance letter on waters protected by the CWA.

The 2012 guidance describes the following waters where jurisdiction would be asserted: 1) traditional navigable waters, 2) interstate waters, 3) wetlands adjacent to traditional navigable waters, 4) non-navigable tributaries of traditional navigable waters that are relatively permanent meaning they contain water at least seasonally (e.g. typically three months and does not include ephemeral waters), and 5) wetlands that directly abut permanent waters. The regulated waters are those associated with naturally occurring waters and water courses and not artificial waters (i.e. stormwater pond outfalls).

The 2012 memorandum further goes on to describe waters where jurisdiction would likely require further analysis: 1) Tributaries to traditional navigable waters or interstate waters, 2) Wetlands adjacent to jurisdictional tributaries to traditional navigable waters or interstate waters, and 3) Waters that fall under the "other waters" category of the regulations.

In addition, the 2012 guidance identifies thirteen waters or areas where jurisdiction will not be asserted: 1) Wet areas that are not tributaries or open waters and do not meet the agencies regulatory definition of "wetlands", 2) Waters excluded from coverage under the CWA by existing regulations, 3) Waters that lack a "significant nexus: where one is required for a water to be jurisdictional, 4) Artificially irrigated areas that would revert to upland if the irrigation ceased, 5) Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing, 6) Artificial reflecting pools or swimming pools excavated in uplands, 7) Small ornamental waters created by excavating and/or diking dry land to retain water for primarily aesthetic reasons, and puddles, 8) Water-filled depressions created incidental to construction activity, 9) Groundwater, including groundwater drained through subsurface drainage systems, 10) Erosional features (gullies and rills), 11) Non-wetland swales, 12) Ditches that are excavated wholly in uplands, drain only uplands or non-jurisdictional waters, and have no more than ephemeral flow, and 13) Ditches that do not contribute flow, either directly or through other waterbodies, to a traditional navigable water, interstate water, or territorial sea.

As each identified onsite ditch (Ditch Z, Y, X, and W) has been artificially excavated and do not contribute flow to other waterbodies or traditionally navigable waters they are not regulated under the CWA.

Chapter 7. Closure

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

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

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

Chapter 8. References

- City of Tumwater. 2021. City of Tumwater Municipal Code Titles 16.28 (Wetlands Protection Standards). Website: https://www.codepublishing.com/WA/Tumwater/#!/Tumwater16/Tumwater1628.html# 16.28. Current through July 20, 2021.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
- Granger, T., T. Hruby, A. McMillan, D. Peters, J. Rubey, D. Sheldon, S. Stanley, and E. Stockdale. 2005. Wetlands in Washington State Volume 2: Guidance for Protecting and Managing Wetlands. Washington State Department of Ecology. Publication #05-06-008. Olympia, Washington. April, 2005.
- Hitchcock, C.L. & A. Cronquist, Ed. by D. Giblin, B. Ledger, P. Zika, and R. Olmstead. 2018. *Flora of the Pacific Northwest, 2nd Edition*. U.W. Press and Burke Museum. Seattle, Washington.
- Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.
- Natural Resources Conservation Services (NRCS). N.d. Soil Data Access Hydric Soils List (Soil Data Access Live). Website: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316620.html
- NRCS. 2018. Field Indicators of Hydric Soils in the United States, Version 8.2. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils
- Pojar, J. and MacKinnon. 2004. Plants of the Pacific Northwest Coast: Washington, Oregon, British Columbia, and Alaska. Lone Pine Publishing.
- Sheldon, D., T. Hruby, P. Johnson, K. Harper, A. McMillan, T. Granger, S. Stanley, and E. Stockdale. 2005. *Wetlands in Washington State Volume 1: A Synthesis of the Science*. Washington State Department of Ecology. Publication #05-06-006. Olympia, Washington. March, 2005.
- Pringle, Russell F. 1990. Soil Survey Report of Thurston County, Washington. US Department of Agriculture, Soil Conservation Service.
- U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development.
- USACE. 2018. National Wetland Plant List, version 3.4. http://wetland-plants.usace.army.mil/.
- U.S. Army Corps of Engineers (USACE). 2008. Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States. EPA/USACE. December 2, 2008.

USACE and Environmental Protection Agency (EPA). 2012. the Clean Water Act. EPA/USACE. February 17, 2012.	Guidance on Identifying Waters Protected by

Appendix A — Methods and Tools

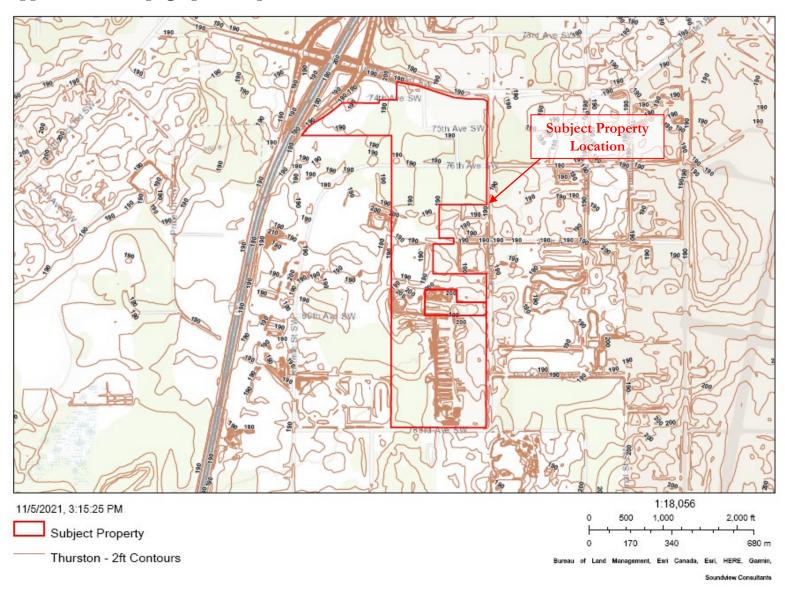
Table A-1. Methods and tools used to prepare the report.

Parameter	Method or Tool	Website	Reference
Wetland Presence/Absenc e	USACE 1987 Wetland Delineation Manual	http://el.erdc.usace.army.mil/elpu bs/pdf/wlman87.pdf	Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
	Regional Supplement to the Core of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)	http://www.usace.army.mil/CEC W/Documents/cecwo/reg/west_mt _finalsupp.pdf	U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
Wetland Indicator Status	2016 National Wetland Plant List	https://www.fws.gov/wetlands/do cuments/National-Wetland-Plant- List-2016-Wetland-Ratings.pdf	Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X.
Plant Names	USDA Plant Database	http://plants.usda.gov/	Website
	Flora of the Pacific Northwest	http://www.washington.edu/uwpr ess/search/books/HITFLC.html	Hitchcock , C.L. and A. Cronquist. 1973. Flora of the Pacific Northwest. University of Washington Press. Seattle, Washington.
Soils Data	NRCS Soil Survey	http://websoilsurvey.nrcs.usda.go v/app/WebSoilSurvey.aspx	Website GIS data based upon: Goldin, 1992. Soil Survey of Whatcom County Area, Washington. United States Department of Agriculture, Soil Conservation Service in cooperation with Washington State Department of Natural Resources, and Washington State University, Agriculture Research Center. Washington, D.C.
Hydric Soils Data	NRCS Hydric Soils List	https://www.nrcs.usda.gov/Interne t/FSE_DOCUMENTS/nrcseprd13 16620.html	Website
Threatened and Endangered Species	Washington Natural Heritage Program	http://data- wadnr.opendata.arcgis.com/datase ts/wnhp-current-element- occurrences	Washington Natural Heritage Program (Data published 07/19/17). Endangered, threatened, and sensitive plants of Washington. Washington State Department of Natural Resources, Washington Natural Heritage Program, Olympia, WA
	Washington Priority Habitats and Species	http://wdfw.wa.gov/hab/phspage. htm	Priority Habitats and Species (PHS) Program (Data requested 07/24/18). Map of priority habitats and species in project vicinity. Washington Department of Fish and Wildlife (WDFW).
	NOAA fisheries species list and maps	http://www.nwr.noaa.gov/ESA-Salmon-Listings/Salmon-Populations/Index.cfm and http://www.nmfs.noaa.gov/pr/spe cies/	Website
	USFWS species lists by County	http://www.fws.gov/westwafwo/s e/SE_List/endangered_Species.as p	Website
Species of Local Importance	WDFW GIS Data	http://wdfw.wa.gov/mapping/salm onscape/	Website
Report Preparation	Tumwater Municipal Code	https://www.codepublishing.com/ WA/Tumwater	TMC Chapter 16 Environment: 16.28 (Wetland Protection Standards), 16.32 (Fish And Wildlife Habitat Protection)

Appendix B — Background Information

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

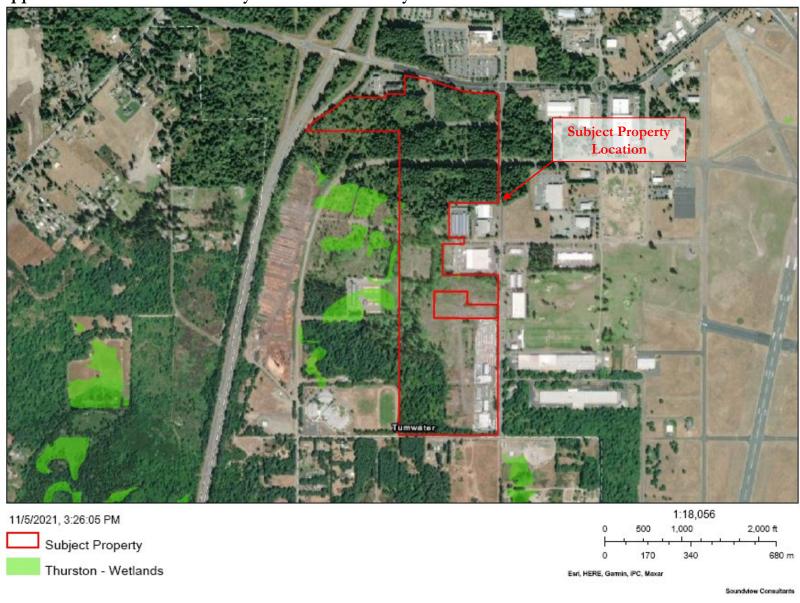
Appendix B1. Topographic Map



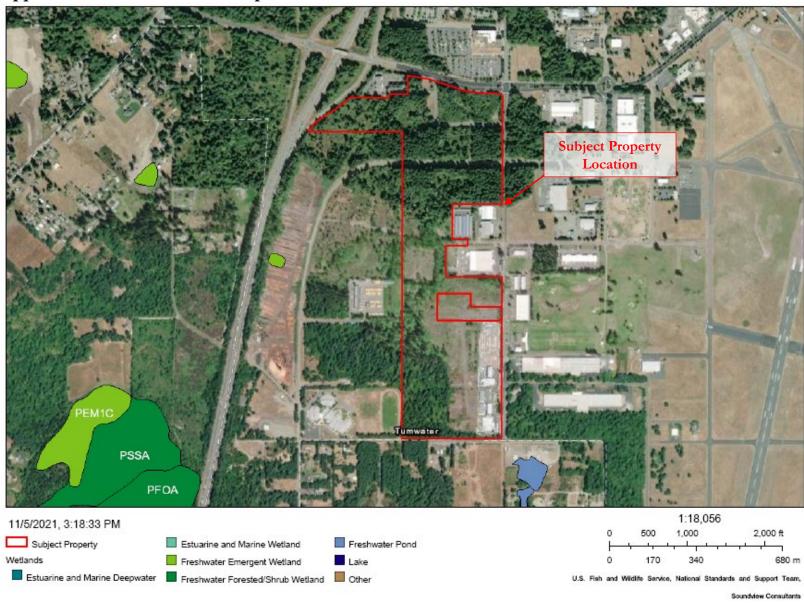
Appendix B2. NRCS Soil Survey Map



Appendix B3. Thurston County Wetlands Inventory



Appendix B4. USFWS NWI Map

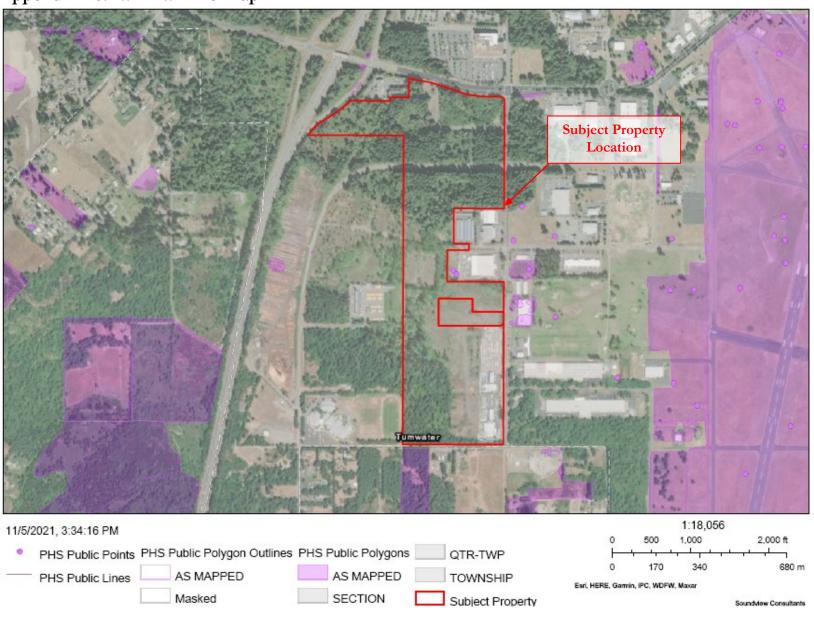


Appendix B5. DNR Stream Typing Map



1144.0031 – Port of Olympia Wetland, and Fish and Wildlife Habitat Assessment Report

Appendix B6. WDFW PHS Map



PHS Species/Habitats Overview:

Occurence Name	Federal Status	State Status	Sensitive Location
Oregon vesper sparrow	N/A	Candidate	No
Mazama (Western) pocket gopher	Threatened	Threatened	No
Big brown bat	N/A	N/A	Yes
Townsend's Big-eared Bat	N/A	Candidate	Yes

Oregon vesper sparrow	
Scientific Name	Pooecetes gramineus affinis
Priority Area	Occurrence
Site Name	OLYMPIA AIRPORT
Accuracy	1/4 mile (Quarter Section)
Notes	OREGON VESPER SPARROW. SUMMER RESIDENT & CERTAIN NESTER IN VICINITY OF OLYMPIA AIRPORT, 2015 LOC UPDATED PER WDFW RECORD REVIEW.
Source Record	70492
Source Dataset	WS_OccurPoint
Source Date	WS_OccurPoint
Source Name	SKRILETZ, J/WDFW
Source Entity	WA Dept, of Fish and Wildlife
Federal Status	N/A
State Status	Candidate
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	Υ
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa_gov/publications/pub_php?id=00026
Geometry Type	Points

Mazama (Western) pocket gopher	
Scientific Name	Thomomys mazama
Priority Area	Occurrence
Site Name	OLYMPIA AIRPORT CENTER/78TH
Accuracy	GPS
Notes	GOPHER CAPTURE SITE FOR GENETIC HAIR SAMPLE COLLECTION
Source Record	141197
Source Dataset	WS_OccurPoint
Source Date	WS_OccurPoint
Source Name	PERRY, K./WDFW
Source Entity	WA Dept, of Fish and Wildlife
Federal Status	Threatened
State Status	Threatened
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	Υ
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=01175
Geometry Type	Points

Oregon vesper sparrow	
Scientific Name	Pooecetes gramineus affinis
Priority Area	Occurrence
Site Name	OLYMPIA AIRPORT
Accuracy	1/4 mile (Quarter Section)
Notes	OREGON VESPER SPARROW, SUMMER RESIDENT & CERTAIN NESTER IN VICINITY OF OLYMPIA AIRPORT,
Source Record	70490
Source Dataset	WS_OccurPoint
Source Date	WS_OccurPoint
Source Name	SKRILETZ, J/WDFW
Source Entity	WA Dept, of Fish and Wildlife
Federal Status	N/A
State Status	Candidate
PHS Listing Status	PHS Listed Occurrence
Sensitive	N
SGCN	Υ
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa_gov/publications/pub_php?id=00026
Geometry Type	Points

Mazama (Western) pocket gopher	
Scientific Name	Thomomys mazama
Priority Area	Occurrence
Site Name	78TH AVE SW PORT OF OLYMPIA
Accuracy	Map 1:12,000 <= 33 feet
Notes	MAZAMA POCKET GOPHER MOUNDS DETECTED ON CLEARED (WESTERN) PORTION OF PARCEL, TREED PORTION (EASTERN) UNOCCUPIED. MAPPED LOCATION IS ~CENTER OF OCCUPIED PORTION OF PARCEL.
Source Record	3644
Source Dataset	WS_OccurPolygon
Source Date	WS_OccurPolygon
Source Name	SCHMIDT, T./WDFW
Source Entity	WA Dept, of Fish and Wildlife
Federal Status	Threatened
State Status	Threatened
PHS Listing Status	PHS LISTED OCCURRENCE
Sensitive	N
SGCN	Y
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=01175
Geometry Type	Polygons

Mazama (Western) pocket gopher	
Scientific Name	Thomomys mazama
Priority Area	Occurrence
Site Name	CENTER STREET/KARTING
Accuracy	GPS
Notes	MAZAMA (WESTERN) POCKET GOPHER MOUND SYSTEM, WAYPOINTS TAKEN AT 19 RECENTLY ACTIVE MOUNDS, SEE SOURCE DATA IN SURVEY BINDER FOR COORDINATES, LOCATION UPDATED 2/2011.
Source Record	3563
Source Dataset	WS_OccurPolygon
Source Date	WS_OccurPolygon
Source Name	TIRHI, M/WDFW;MCCALLUM, M/WDFW
Source Entity	WA Dept, of Fish and Wildlife
Federal Status	Threatened
State Status	Threatened
PHS Listing Status	PHS LISTED OCCURRENCE
Sensitive	N
SGCN	Υ
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa_gov/publications/pub_php?id=01175
Geometry Type	Polygons

Mazama (Western) pocket gopher	
Scientific Name	Thomomys mazama
Priority Area	Occurrence
Site Name	TUMWATER BOULEVARD INTERCHANGE
Accuracy	GPS
Notes	MAZAMA POCKET GOPHER MOUND CONCENTRATION AREA. OCCUPIED AREA AND MOUND COUNT MODIFIED PER NEW DATA SUBMITTED 2/2012.
Source Record	4387
Source Dataset	WS_OccurPolygon
Source Date	WS_OccurPolygon
Source Name	KRIPPNER, L./ADOLFSON
Source Entity	WA Dept, of Fish and Wildlife
Federal Status	Threatened
State Status	Threatened
PHS Listing Status	PHS LISTED OCCURRENCE
Sensitive	N
SGCN	Y
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=01175
Geometry Type	Polygons

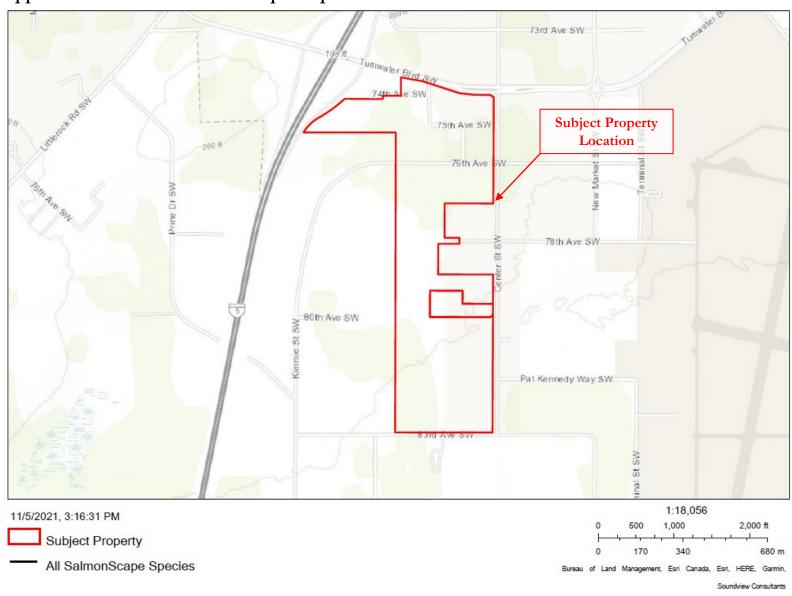
Mazama (Western) pocket gopher	
Scientific Name	Thomomys mazama
Priority Area	Occurrence
Site Name	TUMWATER BLVD.
Accuracy	GPS
Notes	MAZAMA (YELM) POCKET GOPHER MOUND CONCENTRATIONS ADJACENT TO SIDEWALK ON S, SIDE OF TUMWATER BLVD. POLYGON IS NOT PRECISE.
Source Record	4541
Source Dataset	WS_OccurPolygon
Source Date	WS_OccurPolygon
Source Name	SCHMIDT, T/WDFW
Source Entity	WA Dept, of Fish and Wildlife
Federal Status	Threatened
State Status	Threatened
PHS Listing Status	PHS LISTED OCCURRENCE
Sensitive	N
SGCN	Y
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=01175
Geometry Type	Polygons

Mazama (Western) pocket gopher	
Scientific Name	Thomomys mazama
Priority Area	Occurrence
Site Name	83RD AVENUE SW
Accuracy	1/8 mile (Quarter/Quarter Section)
Notes	SITE DELINEATED BY PARCEL BOUNDARY, CAROL SKINNER TRUSTEE PROPERTY,
Source Record	5205
Source Dataset	WS_OccurPolygon
Source Date	WS_OccurPolygon
Source Name	UNKNOWN/USFWS
Source Entity	WA Dept, of Fish and Wildlife
Federal Status	Threatened
State Status	Threatened
PHS Listing Status	PHS LISTED OCCURRENCE
Sensitive	N
SGCN	Υ
Display Resolution	AS MAPPED
ManagementRecommendations	http://wdfw.wa_gov/publications/pub_php?id=01175
Geometry Type	Polygons

Big brown bat	
Scientific Name	Eptesicus fuscus
Notes	This polygon mask represents one or more records of the above species or habitat occurrence. Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats.
Federal Status	N/A
State Status	N/A
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
SGCN	N
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00605

Townsend's Big-eared Bat	
Scientific Name	Corynorhinus townsendii
Notes	This polygon mask represents one or more records of the above species or habitat occurrence, Contact PHS Data Release (360-902-2543) for obtaining information about masked sensitive species and habitats,
Federal Status	N/A
State Status	Candidate
PHS Listing Status	PHS Listed Occurrence
Sensitive	Y
SGCN	Y
Display Resolution	TOWNSHIP
ManagementRecommendations	http://wdfw.wa.gov/publications/pub.php?id=00027

Appendix B7. WDFW SalmonScape Map

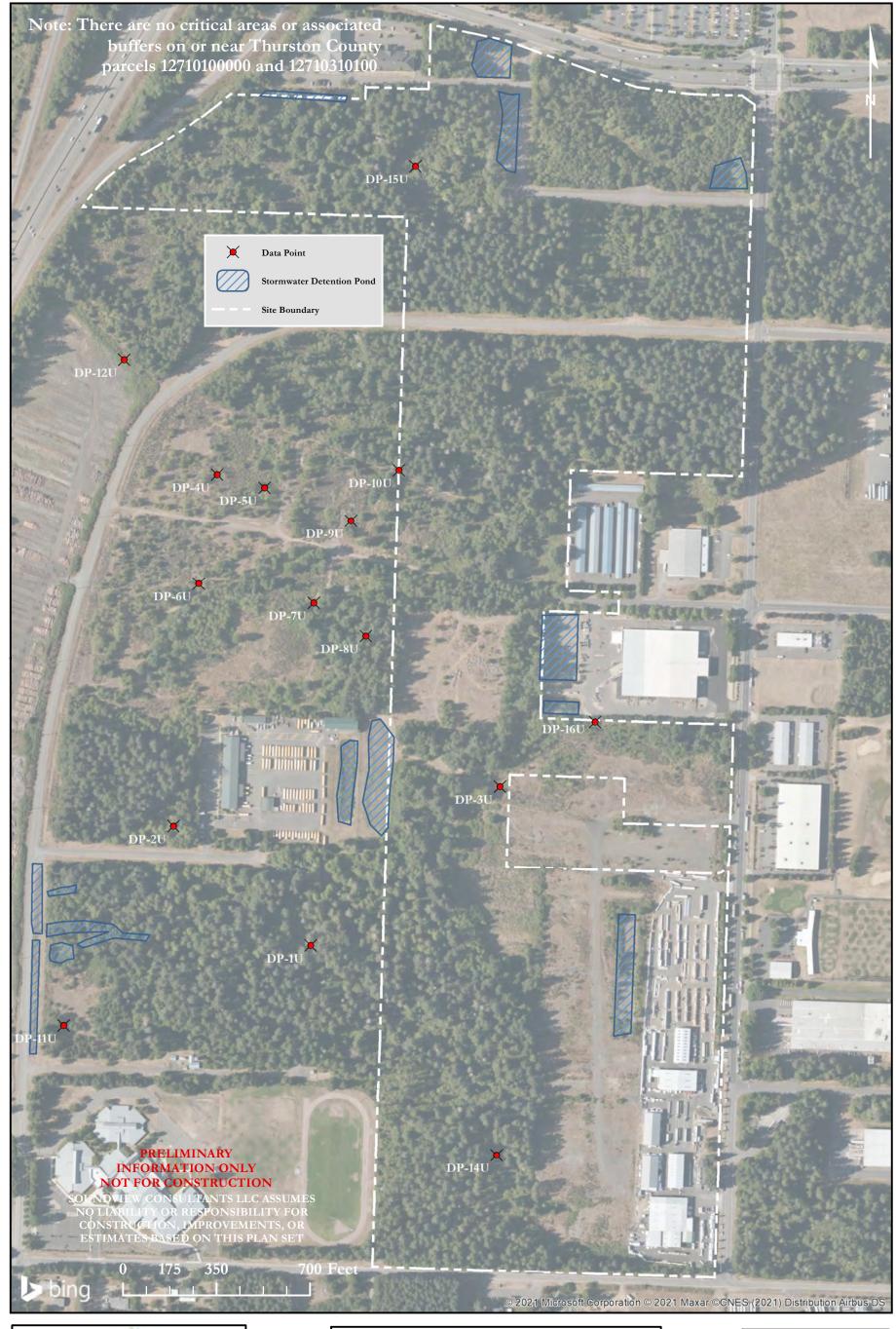


Appendix B8. FEMA Floodplain Map SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT Without Base Flood Elevation (BFE) With BFE or Depth Zone AE, AO, AH, VE, AR SPECIAL FLOOD HAZARD AREAS Regulatory Floodway 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X Future Conditions 1% Annual Chance Flood Hazard Zone X Area with Reduced Flood Risk due to Levee. See Notes. Zone X OTHER AREAS OF Area with Flood Risk due to Levee Zone D **Subject Property** NO SCREEN Area of Minimal Flood Hazard Zone X Location Effective LOMRs THER AREAS Area of Undetermined Flood Hazard Zone D AREA OF MINIMAL FLOOD HAZARD GENERAL - - - Channel, Culvert, or Storm Sewer STRUCTURES | | | | | Levee, Dike, or Floodwall T17N R2W,S10 B 20.2 Cross Sections with 1% Annual Chance 17.5 Water Surface Elevation © 53067C0281E cr Ceff. 10/16/2012 - - Coastal Transect Mase Flood Elevation Line (BFE) Limit of Study Jurisdiction Boundary - Coastal Transect Baseline OTHER Profile Baseline **FEATURES** Hydrographic Feature Digital Data Available No Digital Data Available MAP PANELS The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location. This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/5/2021 at 6:23 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or T17N R2W S10 become superseded by new data over time. This map image is void if the one or more of the following map 53067C0283F elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, eff. 9/2/2016 FIRM panel number, and FIRM effective date. Map images for 122°54'57"W 46°58'3"N Feet 1:6.000 unmapped and unmodernized areas cannot be used for regulatory purposes. 250 500 1,000 1,500 2,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Appendix C — Site Plans

PORT OF OLYMPIA - SOUTH SOUND COMMERCE CENTER - EXISTING CONDITIONS





PORT OF OLYMPIA SOUTH SOUND COMMERCE CENTER

7380 LINDERSON WAY SW TUMWATER, WA 98501

THURSTON COUNTY PARCEL NUMBERS: $127101000000 \ \mathrm{and} \ 12710310100$

DATE: 11/11/2021

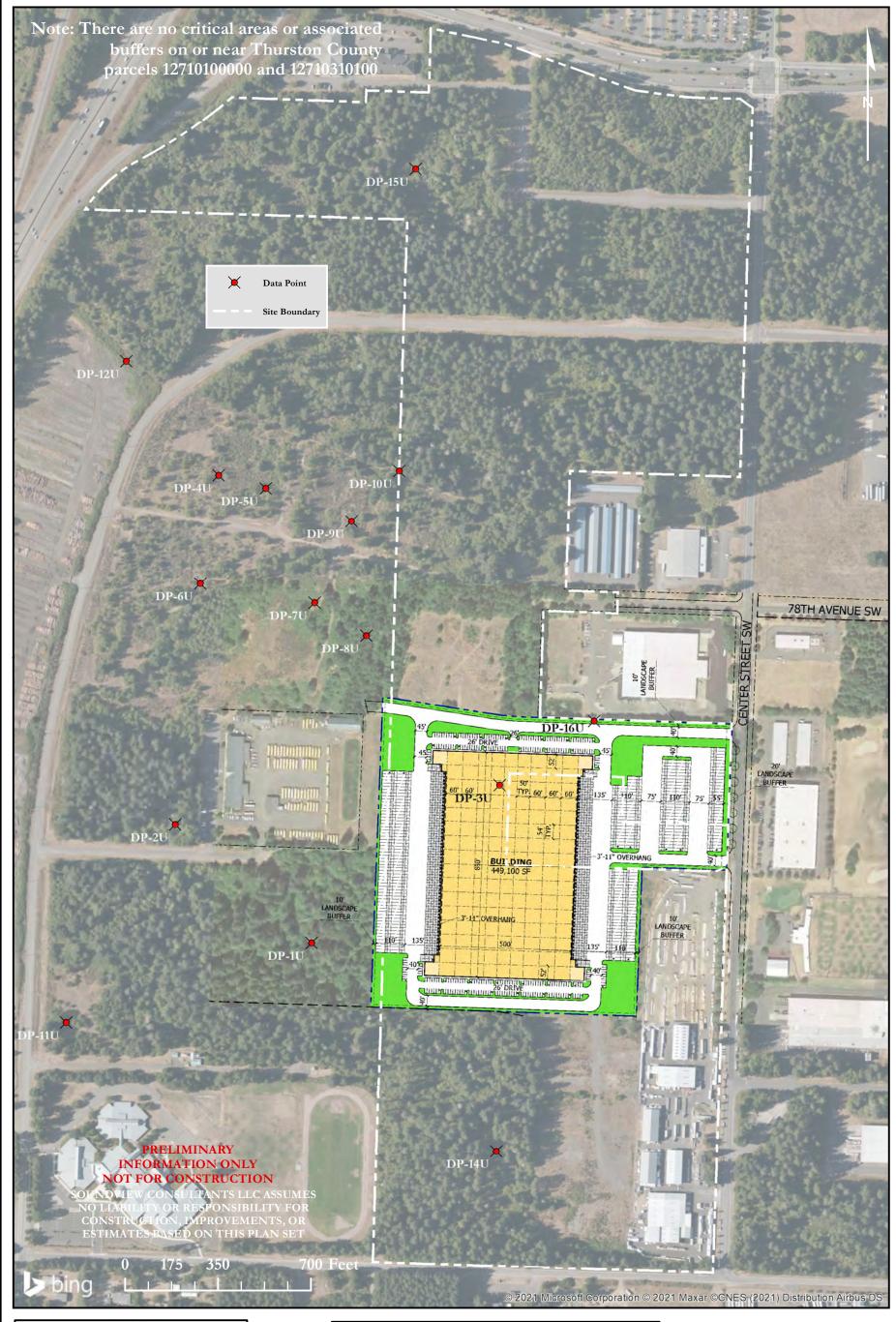
JOB: 1144.0031

BY: JML/RJK

SCALE: 1 " = 350 '

FIGURE NO. 1

PORT OF OLYMPIA - SOUTH SOUND COMMERCE CENTER - PROPOSED PROJECT





PORT OF OLYMPIA SOUTH SOUND COMMERCE CENTER

7380 LINDERSON WAY SW TUMWATER, WA 98501

THURSTON COUNTY PARCEL NUMBERS: 12710100000 and 12710310100

DATE: 11/11/2021 JOB: 1144.0031

BY: JML/RJK

SCALE: 1 " = 350 '

FIGURE NO. 2

Appendix D – Data Forms

Project/Site: 1144.0031 - Port Olympia	(City/County	_{y:} <u>Tumwa</u>	ater/ Thurston	Sampling Date: 03/18/21
Applicant/Owner: PDC Seattle, LLC				State: WA	Sampling Point: DP-1U
				ownship, Range: 10, 17N	
					re Slope (%): 0
Subregion (LRR): A2	Lat: 46.9	970619		Long: -122.9247552	25 Datum: WGS 84
Soil Map Unit Name: Cagey loamy sand				NWI classifica	
Are climatic / hydrologic conditions on the site typical for this					
Are Vegetation, Soil, or Hydrology sign	ificantly dist	turbed?	Are "No	ormal Circumstances" pres	ent? Yes ☒ No ☐
Are Vegetation, Soil, or Hydrology natu			(If need	ed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS – Attach site map					
<u>.</u>			9 0	, , , , , , , , , , , , , , , , , , , ,	
Hydrophytic Vegetation Present? Yes ☐ No 🗵		Is th	e Sampled	l Area	
Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒		with	in a Wetlar	nd? Yes ☐ No	o 🔀
Remarks:					
No wetland criteria met. Data collected	~360 soutl	h of inho	lding parc	el (no. 78110000100) or	n parcel no. 09230001003
VEGETATION – Use scientific names of plant		Dominant	Indicator	Dominance Test works	hoot
Tree Stratum (Plot size: 30 ft)	Absolute <u>% Cover</u>	Dominant Species?		Number of Dominant Sp	
1. Alnus rubra	10	Yes	FAC	That Are OBL, FACW, o	
2				Total Number of Domina	ant
3				Species Across All Strate	_
4				Percent of Dominant Spe	eries
Cooling/Chruh Ctrotum (Dlot size: 15 ft)	10	= Total C	over	That Are OBL, FACW, o	
Sapling/Shrub Stratum (Plot size: 15 ft) 1. Gaultheria shallon	35	Yes	FACU	Prevalence Index work	sheet
2. Corylus cornuta	35	Yes	FACU		Multiply by:
3. Rubus spectabilis	25	Yes	FAC		x 1 =
4. Holodiscus discolor	10	No	FACU		x 2 =
5. Tsuga heterophylla	5	No	FACU		x 3 =
	110	= Total C	over		x 4 =
Herb Stratum (Plot size: 5 ft)	0.5	V	E40	UPL species	x 5 =
1. Holcus lanatus	35	Yes		Column Totals:	(A) (B)
2. Lapsana communis	<u>20</u> 15	Yes	FACU FACU	Brovolongo Indov	= B/A =
3. Rubus ursinus		Yes		Hydrophytic Vegetation	
4				Rapid Test for Hydro	
5				Dominance Test is >	
6				☐ Prevalence Index is	
7 8					tations ¹ (Provide supporting
9.					or on a separate sheet)
10.				☐ Wetland Non-Vascul	
11					nytic Vegetation ¹ (Explain)
	70	= Total C	over	¹ Indicators of hydric soil be present, unless distur	and wetland hydrology must
Woody Vine Stratum (Plot size: 30 ft)				be present, unless distui	
1				Hydrophytic	
2				Vegetation	□ N- ₩
% Bare Ground in Herb Stratum 30	0	= Total C	over	Present? Yes	□ No ⊠
Remarks:				<u> </u>	
No hydrophytic vegetation criteria met.					

Depth	Matrix			Redo	x Features				
(inches)	Color (moist)	%	Colo	r (moist)	<u> %</u>	Type ¹	Loc ²	Texture	Remarks
0 - 10	10YR 2/2	100		-	-	-		SaLo	Sandy Loam
10 - 15	10YR 3/3	100		-	-	_		SaLo	Fine Sandy Loam
		-							<u> </u>
							-		
			_						
-									
1Tymay C. C	anacatration D. D.	anlation D	- —	used Metrix CC	Covered	or Coata			21 acetion, DL Doro Lining M Matrix
	oncentration, D=D Indicators: (App						a Sana Gr		² Location: PL=Pore Lining, M=Matrix. cators for Problematic Hydric Soils ³ :
☐ Histosol				Sandy Redox (S		u.,			2 cm Muck (A10)
	pipedon (A2)			Stripped Matrix					Red Parent Material (TF2)
☐ Black His	. ,			_oamy Mucky M	,	(except	MLRA 1)		Very Shallow Dark Surface (TF12)
	n Sulfide (A4)			oamy Gleyed N		•	,		Other (Explain in Remarks)
☐ Depleted	Below Dark Surfa	ace (A11)		Depleted Matrix	(F3)				
	rk Surface (A12)			Redox Dark Sur	` '				cators of hydrophytic vegetation and
	lucky Mineral (S1)			Depleted Dark S		·)			retland hydrology must be present,
•	leyed Matrix (S4)			Redox Depressi	ons (F8)			u T	nless disturbed or problematic.
Type: No	Layer (if present)	:							
Depth (in				•				Liveirie (Sail Brassant2 Van 🗆 Na 🔽
Remarks:								nyuric s	Soil Present? Yes ☐ No ⊠
No hydric s	soil criteria met	i.							
HYDROLO	GY								
Wetland Hy	drology Indicator	s:							
Primary Indi	cators (minimum o	f one requ	ired; che	eck all that appl	/)			<u>S</u>	econdary Indicators (2 or more required)
☐ Surface	Water (A1)			☐ Water-Stai	ned Leave	s (B9) (e x			
☐ High Wa	ter Table (A2)			1, 2, 4	, and 4B)		cept MLR	A [Water-Stained Leaves (B9) (MLRA 1, 2,
☐ Saturation	on (A3)			☐ Salt Crust (,,		ccept MLR	A [Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
☐ Water M	arks (B1)			Sail Clust	•		ccept MLR	kA □	
☐ Sedimer				Aquatic Inv	B11)		ccept MLR	:A □	4A, and 4B)
	t Deposits (B2)				B11) ertebrates	(B13)	ccept MLR		4A, and 4B) Drainage Patterns (B10)
☐ Drift Dep	oosits (B3)			☐ Aquatic Inv☐ Hydrogen S☐ Oxidized R	B11) ertebrates Sulfide Ode hizosphere	(B13) or (C1) es along l	_iving Root		4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
☐ Drift Dep☐ Algal Ma	oosits (B3) t or Crust (B4)			☐ Aquatic Inv☐ Hydrogen S☐ Oxidized R☐ Presence C☐	B11) ertebrates Sulfide Odd hizosphere f Reduced	(B13) or (C1) es along l l Iron (C4	_iving Root	ts (C3)	4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
☐ Drift Dep☐ Algal Ma☐ Iron Dep	oosits (B3) t or Crust (B4) osits (B5)			☐ Aquatic Inv☐ Hydrogen S☐ Oxidized R☐ Presence C☐ Recent Iron	B11) ertebrates Sulfide Odd hizosphere of Reduced Reductio	(B13) or (C1) es along l Iron (C4 n in Tilled	_iving Root) I Soils (C6)	ts (C3)	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)
☐ Drift Dep☐ Algal Ma☐ Iron Dep☐ Surface	oosits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6)			Aquatic Inv Hydrogen S Oxidized R Presence C Recent Iron Stunted or	B11) ertebrates Sulfide Odd hizosphere of Reduced Reductio Stressed F	(B13) or (C1) es along l Iron (C4 n in Tilled	_iving Root) I Soils (C6)	ts (C3)	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)
☐ Drift Dep☐ Algal Ma☐ Iron Dep☐ Surface☐ Inundation	oosits (B3) it or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria		. ,	☐ Aquatic Inv☐ Hydrogen S☐ Oxidized R☐ Presence C☐ Recent Iron	B11) ertebrates Sulfide Odd hizosphere of Reduced Reductio Stressed F	(B13) or (C1) es along l Iron (C4 n in Tilled	_iving Root) I Soils (C6)	ts (C3)	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)
☐ Drift Dep ☐ Algal Ma ☐ Iron Dep ☐ Surface ☐ Inundatio	oosits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria Vegetated Conca		. ,	Aquatic Inv Hydrogen S Oxidized R Presence C Recent Iron Stunted or	B11) ertebrates Sulfide Odd hizosphere of Reduced Reductio Stressed F	(B13) or (C1) es along l Iron (C4 n in Tilled	_iving Root) I Soils (C6)	ts (C3)	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)
☐ Drift Dep☐ Algal Ma☐ Iron Dep☐ Surface☐ Inundatic☐ Sparsely☐ Field Obser	osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria vegetated Concavations:	ve Surface	e (B8)	Aquatic Inv Hydrogen S Oxidized R Presence C Recent Iron Stunted or Other (Exp	B11) ertebrates Sulfide Odd hizosphere of Reduced Reductio Stressed F lain in Ren	(B13) or (C1) es along l Iron (C4 n in Tilled	_iving Root) I Soils (C6)	ts (C3)	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)
☐ Drift Dep☐ Algal Ma☐ Iron Dep☐ Surface☐ Inundatio☐ Sparsely Field Obser Surface Wat	osits (B3) It or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria Vegetated Conca vations: er Present?	Yes	e (B8)	Aquatic Inv Hydrogen S Oxidized R Presence C Recent Iron Stunted or Other (Exp	B11) ertebrates Sulfide Odd hizosphere of Reduced n Reductio Stressed Flain in Ren): None	(B13) or (C1) es along l Iron (C4 n in Tilled	_iving Root) I Soils (C6)	ts (C3)	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)
☐ Drift Dep☐ Algal Ma☐ Iron Dep☐ Surface☐ Inundatio☐ Sparsely Field Obser Surface Wat Water Table	osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria Vegetated Conca vations: er Present? Present?	Yes Yes	No X	Aquatic Inv Hydrogen S Oxidized R Presence C Recent Iron Stunted or Other (Exp Depth (inches	B11) ertebrates Sulfide Odd hizosphere of Reductio Stressed F ain in Ren): None None	(B13) or (C1) es along l Iron (C4 n in Tilled	Living Root) I Soils (C6) I) (LRR A)	ts (C3)	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)
☐ Drift Dep ☐ Algal Ma ☐ Iron Dep ☐ Surface ☐ Inundatio ☐ Sparsely Field Obser Surface Wat Water Table Saturation P	oosits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria Vegetated Conca vations: er Present? Present?	Yes Yes	e (B8)	Aquatic Inv Hydrogen S Oxidized R Presence C Recent Iron Stunted or Other (Exp	B11) ertebrates Sulfide Odd hizosphere of Reductio Stressed F ain in Ren): None None	(B13) or (C1) es along l Iron (C4 n in Tilled	Living Root) I Soils (C6) I) (LRR A)	ts (C3)	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)
☐ Drift Dep☐ Algal Ma☐ Iron Dep☐ Surface☐ Inundatio☐ Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca	oosits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria Vegetated Conca vations: er Present? Present?	Yes Yes Yes Yes Yes	No X No X No X	Aquatic Inv Hydrogen S Oxidized R Presence C Recent Iron Stunted or Other (Exp Depth (inches Depth (inches	B11) ertebrates Sulfide Odd hizosphere of Reduced n Reductio Stressed F ain in Ren): None None None	(B13) or (C1) es along la Iron (C4 en in Tillec Plants (Denarks)	Living Root) I Soils (C6) I) (LRR A) Wetla	ts (C3)	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)
☐ Drift Dep☐ Algal Ma☐ Iron Dep☐ Surface☐ Inundatio☐ Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca	osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria Vegetated Conca vations: er Present? Present? resent? pillary fringe)	Yes Yes Yes Yes Yes	No X No X No X	Aquatic Inv Hydrogen S Oxidized R Presence C Recent Iron Stunted or Other (Exp Depth (inches Depth (inches	B11) ertebrates Sulfide Odd hizosphere of Reduced n Reductio Stressed F ain in Ren): None None None	(B13) or (C1) es along la Iron (C4 en in Tillec Plants (Denarks)	Living Root) I Soils (C6) I) (LRR A) Wetla	ts (C3)	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)
☐ Drift Dep☐ Algal Ma☐ Iron Dep☐ Surface☐ Inundatio☐ Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca	osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria Vegetated Conca vations: er Present? Present? resent? pillary fringe)	Yes Yes Yes Yes Yes	No X No X No X	Aquatic Inv Hydrogen S Oxidized R Presence C Recent Iron Stunted or Other (Exp Depth (inches Depth (inches	B11) ertebrates Sulfide Odd hizosphere of Reduced n Reductio Stressed F ain in Ren): None None None	(B13) or (C1) es along la Iron (C4 en in Tillec Plants (Denarks)	Living Root) I Soils (C6) I) (LRR A) Wetla	ts (C3)	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)
☐ Drift Dep☐ Algal Ma☐ Iron Dep☐ Surface☐ Inundatio☐ Sparsely Field Obser Surface Wate Water Table Saturation P☐(includes ca☐ Describe Re	osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria Vegetated Conca vations: er Present? Present? resent? pillary fringe)	Yes	No X No X No X	Aquatic Inv Hydrogen S Oxidized R Presence C Recent Iron Stunted or Other (Exp Depth (inches Depth (inches	B11) ertebrates Sulfide Odd hizosphere of Reduced n Reductio Stressed F ain in Ren): None None None	(B13) or (C1) es along la Iron (C4 en in Tillec Plants (Denarks)	Living Root) I Soils (C6) I) (LRR A) Wetla	ts (C3)	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)
☐ Drift Dep☐ Algal Ma☐ Iron Dep☐ Surface☐ Inundatio☐ Sparsely Field Obser Surface Wate Water Table Saturation P☐(includes ca☐ Describe Re	osits (B3) t or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria Vegetated Conca vations: er Present? Present? resent? illary fringe) corded Data (strea	Yes	No X No X No X	Aquatic Inv Hydrogen S Oxidized R Presence C Recent Iron Stunted or Other (Exp Depth (inches Depth (inches	B11) ertebrates Sulfide Odd hizosphere of Reduced n Reductio Stressed F ain in Ren): None None None	(B13) or (C1) es along la Iron (C4 en in Tillec Plants (Denarks)	Living Root) I Soils (C6) I) (LRR A) Wetla	ts (C3)	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)

Project/Site: 1144.0031 - Port Olympia		City/Co	ounty	: Tumwa	iter/ Thurston	Sampling	Date: 03/1	8/21
Applicant/Owner: PDC Seattle, LLC		-			State: WA			
Investigator(s): Jake Layman					ownship, Range: 10,17N			
Landform (hillslope, terrace, etc.): terrace							Slope (%	6): 0
Subregion (LRR): A2		_						,
Soil Map Unit Name: Cagey loamy sand					NWI classificat			
Are climatic / hydrologic conditions on the site typical for this								
Are Vegetation, Soil, or Hydrology sign	ificantly dist	turbed'	?	Are "No	ormal Circumstances" pres	ent? Yes	. ⊠ No □	
Are Vegetation, Soil, or Hydrology natu	-			(If neede	ed, explain any answers in	Remarks.	.)	
SUMMARY OF FINDINGS – Attach site map			oling					es, etc.
Lhydrophytic Vocatation Dropant?								
Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☒ No ☐				e Sampled				
Wetland Hydrology Present? Yes ☐ No 🗵		'	withi	n a Wetlar	nd? Yes ☐ No) X		
Remarks:	drology Da	sta ao11	loato	d ~600 aas	et of inholding named (no	79110000	100) on nare	
Not all three wetland criteria met; lacking hy 12710100000. Area shows evidence of past dist	••	ata con	iecie	u ~ooo eas	st of infloiding parcer (no.	/6110000	ioo) on parc	ei 110.
VEGETATION – Use scientific names of plant	ts.							
	Absolute	Domii	nant	Indicator	Dominance Test works	heet:		
Tree Stratum (Plot size: 30 ft) 1	% Cover				Number of Dominant Sp That Are OBL, FACW, o		2	_ (A)
2					Total Number of Domina	nt		
3					Species Across All Strate		2	_ (B)
4					Percent of Dominant Spe	ecies		
Sapling/Shrub Stratum (Plot size: 15 ft)	0	= Tot	tal Co	over	That Are OBL, FACW, o	FAC: _	100%	_ (A/B)
1. Populus balsamifera	50	Yes	;	FAC	Prevalence Index work	sheet:		
2. Rubus armeniacus	5	No		FAC	Total % Cover of:		Multiply by:	
3					OBL species	x 1	=	
4					FACW species	x 2	=	
5					FAC species	x 3	=	_
Harb Christian (Dist size, 5 th)	55	= Tot	tal Co	over	FACU species			
Herb Stratum (Plot size: <u>5 ft)</u> 1. Phalarus arundinacea	65	Yes	;	FACW			=	
2		•	_		Column Totals:	(A)		(B)
3					Prevalence Index	= B/A = _		
4.					Hydrophytic Vegetation	Indicato	rs:	
5					☐ Rapid Test for Hydro	phytic Ve	getation	
6					Dominance Test is >	50%		
7					☐ Prevalence Index is:	≤3.0¹		
8					☐ Morphological Adapt data in Remarks			
9					☐ Wetland Non-Vascul		parate snee	
10					☐ Problematic Hydroph		tation¹ (Expl	ain)
11	GE				¹Indicators of hydric soil		, ,	,
Woody Vine Stratum (Plot size: 30 ft)	65	= Tot			be present, unless distur			
1					Hydrophytic			
2					Vegetation Present? Yes	⊠ No[\neg	
% Bare Ground in Herb Stratum 35	0	= I Ot	aı Co	over	Fresent: Yes		_	
Remarks: Hydrophytic vegetation criteria met thro	ough the	Domi	nan	co Toot	<u> </u>			
Trydrophlytto vegetation ontena met tillt	Jagii iile i	اااااا	ı ıaı ı	ve 1691.				

Sampling Point: DP-3U

	cription: (Describ		depth n				or confin	n the ab	sence	e of indicators.)
Depth (inches)	Matrix Color (moist)	%	Cold	or (moist)	ox Feature %	<u>Type</u> 1	Loc ²	Textu	re	Remarks
0 - 16	10YR 3/1	95	_	SY 5/4	5	C	M	GrLo		Gravelly Loamy Sand
-										
1Type: C-C	oncentration, D=De	enletion I	PM-Pac	luced Matrix C	S-Covere	d or Coat	ed Sand G	raine	21.0	cation: PL=Pore Lining, M=Matrix.
	Indicators: (Appl						eu Sanu C			ors for Problematic Hydric Soils ³ :
☐ Histosol				Sandy Redox (,				n Muck (A10)
	ipedon (A2)			Stripped Matrix				F		Parent Material (TF2)
☐ Black His				Loamy Mucky I	, ,	1) (excep	t MLRA 1)	Ē		y Shallow Dark Surface (TF12)
	n Sulfide (A4)			Loamy Gleyed			,	Ē		er (Explain in Remarks)
☐ Depleted	Below Dark Surfa	ice (A11)		Depleted Matri	x (F3)					
☐ Thick Da	rk Surface (A12)			Redox Dark Su	ırface (F6)			3	ndicate	ors of hydrophytic vegetation and
-	ucky Mineral (S1)			Depleted Dark	•	7)			wetla	and hydrology must be present,
	leyed Matrix (S4)			Redox Depress	sions (F8)				unles	ss disturbed or problematic.
	_ayer (if present):	:								
Type: No				_						
Depth (in	ches):_ 			-				Hydr	ic Soi	l Present? Yes 🗵 No 🗌
Remarks:										
Hydric soil:	s criteria met th	rough i	ndicate	or S5						
i i yanto oom	ontona mot a	oug	· · · · · · · · · · · · · · · · · · ·	J. C O.						
HYDROLO										
-	drology Indicator									
Primary India	cators (minimum of	f one requ	uired; ch	eck all that app	oly)				Seco	ndary Indicators (2 or more required)
☐ Surface	Water (A1)			☐ Water-Sta	ined Leav	es (B9) (e	xcept ML	RA	□ V	Vater-Stained Leaves (B9) (MLRA 1, 2,
☐ High Wa	ter Table (A2)			1, 2, 4	A, and 4B	5)				4A, and 4B)
☐ Saturation	n (A3)			☐ Salt Crust	(B11)					rainage Patterns (B10)
☐ Water M	arks (B1)			☐ Aquatic In	vertebrate	s (B13)				ry-Season Water Table (C2)
☐ Sedimen	t Deposits (B2)			☐ Hydrogen	Sulfide O	dor (C1)			□ s	aturation Visible on Aerial Imagery (C9)
☐ Drift Dep	osits (B3)			Oxidized I	Rhizosphe	res along	Living Roo	ots (C3)	□G	Geomorphic Position (D2)
☐ Algal Ma	t or Crust (B4)			☐ Presence	of Reduce	ed Iron (C	4)		□ s	hallow Aquitard (D3)
☐ Iron Dep	osits (B5)			☐ Recent Iro	n Reducti	on in Tille	d Soils (Ce	6)	□ F	AC-Neutral Test (D5)
☐ Surface	Soil Cracks (B6)			☐ Stunted or	r Stressed	Plants (D	1) (LRR A	.)	□R	aised Ant Mounds (D6) (LRR A)
☐ Inundation	on Visible on Aeria	l Imagery	(B7)	☐ Other (Ex	plain in Re	marks)			□ F	rost-Heave Hummocks (D7)
☐ Sparsely	Vegetated Conca	ve Surfac	e (B8)							
Field Obser	vations:									
Surface Wat	er Present?	Yes 🗌	No 🗵	Depth (inche	s): None)				
Water Table	Present?	Yes 🗌	No ⊠	Depth (inche						
Saturation P		Yes 🗆	No 🗵	Depth (inche			Wet	land Hve	drolog	ıy Present? Yes □ No ⊠
(includes car		. 00 🗀	. 10	Dopan (mone	o)			iaiia iiy	a. 0.09	y roccini. roc _ no _
	corded Data (strea	m gauge	, monito	ring well, aerial	photos, p	revious in	spections)	, if availa	ble:	
Remarks:										
No hydrolo	gic criteria me	t.								
	•									

Project/Site: 1144.0031 - Port Olympia		City/Cour	_{nty:} Tumwa	ater/ Thurston	Sampling Date: 03/23/21
Applicant/Owner: PDC Seattle, LLC			-		Sampling Point: DP-7U
Investigator(s): Jake Layman				ownship, Range: 10, 1	
					ave Slope (%): 0
		=	,		6587 Datum: WGS 84
				NWI classifi	
Are climatic / hydrologic conditions on the site typical for this				f no, explain in Remarks	
Are Vegetation, Soil, or Hydrology sign	-			•	resent? Yes 🔲 No 🗵
Are Vegetation, Soil, or Hydrology natu	-			ed, explain any answers	
SUMMARY OF FINDINGS - Attach site map					
Hydrophytic Vegetation Present? Yes ☒ No ☐					
Hydric Soil Present? Yes ☐ No 🗵			the Sampled		
Wetland Hydrology Present? Yes ☐ No 🗵		Wi	thin a Wetlar	nd? Yes 🗌	No 🗵
Remarks:		!	I 4 - 1		
Not all wetland criteria met; only hydrophytic ~850 feet west of 78th Ave SW. Area shows significantly statements of the control of the contr	U			in a central location of	1 parcel no. 09230001003 that is
obt feet west of 70th five 5 w. filed shows sig	gii oi past u	istaibair	· · ·		
VEGETATION – Use scientific names of plant	ts.				
	Absolute		nt Indicator	Dominance Test wor	ksheet:
Tree Stratum (Plot size: 30 ft)			Status	Number of Dominant	
1. Alnus rubra	15	Yes	FAC	That Are OBL, FACW	, or FAC: <u>3</u> (A)
2				Total Number of Domi	
3				Species Across All Str	rata: <u>4</u> (B)
4	15	= Total	Cover	Percent of Dominant S	Species 75% (A/D)
Sapling/Shrub Stratum (Plot size: 15 ft)		= 10tai	OOVCI	I nat Are OBL, FACW	, or FAC: <u>75%</u> (A/B)
1. Rubus armeniacus	30	Yes	FAC	Prevalence Index wo	rksheet:
2. Cytisus scoparius	10	No	UPL	Total % Cover of:	Multiply by:
3. Symphoricarpos albus	10	No	FACU	OBL species	x 1 =
4. Oemleria cerasiformis	10	No	FACU		x 2 =
5					x 3 =
Herb Stratum (Plot size: 5 ft)	60	= Total	Cover	·	x 4 =
1. Holcus lanatus	40	Yes	FAC		x 5 =
2. Rubus ursinus	25	Yes	FACU	Column Totals:	(A) (B)
3. Poa sp.*	15	No	FAC	Prevalence Inde	ex = B/A =
4. Cirsium vulgare	10	No	FACU	Hydrophytic Vegetat	ion Indicators:
5. Hypericum perforatum	5	No	FACU	☐ Rapid Test for Hyd	drophytic Vegetation
6. Leucanthemum vulgare	2	No	FACU	■ Dominance Test is	3 >50%
7				☐ Prevalence Index	is ≤3.0 ¹
8					aptations ¹ (Provide supporting ks or on a separate sheet)
9				☐ Wetland Non-Vase	•
10				_	ophytic Vegetation ¹ (Explain)
11					oil and wetland hydrology must
Woody Vine Stratum (Plot size: 30 ft)	97	= Total	Cover	be present, unless dis	
1					
2				Hydrophytic Vegetation	
	0	= Total	Cover		es 🗵 No 🗌
% Bare Ground in Herb Stratum 3					
Remarks: Hydrophytic vegetation criteria met thro	ough the	domina	nce test.		
*could not be identified to species, pre-				poses.	

Sampling Point: DP-7U

Depth (inches)	Matrix Color (moist)	%	Cala	or (moist)	ox Feature %	Type ¹	Loc ²	Texture	Remarks
0 - 4	10YR 3/2	100		ii (IIIOISI)	- 70	<u>rype</u>	<u> </u>	Lo	Loam
4 - 12	10YR 3/2							GrSaLo	
4 - 12	10113/2	100	- -					GISalo	Gravelly Sandy Loam
			_						
	-								
		<u> </u>							
	oncentration, D=D						ed Sand G		Location: PL=Pore Lining, M=Matrix.
-	Indicators: (App	licable to				ted.)			ators for Problematic Hydric Soils ³ :
Histosol	, ,			Sandy Redox (cm Muck (A10)
	oipedon (A2) istic (A3)			Stripped Matrix	, ,	·1) (avaan	MIDAA)		ed Parent Material (TF2) ery Shallow Dark Surface (TF12)
	en Sulfide (A4)			Loamy Mucky Loamy Gleyed			(WILKA 1)		ery Shallow Dark Surface (1F12) Other (Explain in Remarks)
	d Below Dark Surfa	ace (A11)		Depleted Matri		-)			and (Explain in Kemarks)
	ark Surface (A12)			Redox Dark Su	. ,)		³ Indic	eators of hydrophytic vegetation and
☐ Sandy N	Mucky Mineral (S1)			Depleted Dark	Surface (F7)			etland hydrology must be present,
	Sleyed Matrix (S4)			Redox Depres	sions (F8)			ur	lless disturbed or problematic.
	Layer (if present)	:							
Type: No				-					
Depth (in	nches):							Hydric S	ioil Present? Yes 🗌 No 🗵
	soil criteria me	i.							
No hydric	OGY								
IYDROLO	OGY rdrology Indicator	s:							
No hydric IYDROLO Wetland Hy Primary Indi	OGY rdrology Indicator cators (minimum c	s:	uired; ch						condary Indicators (2 or more required
IYDROLO Wetland Hy Primary Indi	OGY drology Indicator cators (minimum o Water (A1)	s:	uired; che	☐ Water-Sta	ained Leav		xcept MLF		Water-Stained Leaves (B9) (MLRA 1
IYDROLC Wetland Hy Primary Indi Surface High Wa	ogy rdrology Indicator cators (minimum o Water (A1) ater Table (A2)	s:	uired; che	☐ Water-Sta	ained Leav		xcept MLF		Water-Stained Leaves (B9) (MLRA 1 4A, and 4B)
IYDROLO Wetland Hy Primary Indi Surface High Wa Saturati	ody rdrology Indicator cators (minimum o Water (A1) ater Table (A2) on (A3)	s:	uired; ch	☐ Water-Sta 1, 2, 4 ☐ Salt Crus	ained Leav I A, and 4E t (B11)	3)	xcept MLF		Water-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10)
IYDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water M	ody cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1)	s:	uired; cho	☐ Water-Sta 1, 2, 4 ☐ Salt Crus ☐ Aquatic Ir	ained Leav IA, and 4E t (B11) nvertebrate	B) es (B13)	xcept MLF	RA	Water-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
IYDROLO Wetland Hy Primary Indi Surface High Wa Saturati Water M	ody rdrology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) larks (B1) nt Deposits (B2)	s:	uired; che	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydrogen	ained Leav IA, and 4E t (B11) nvertebrate s Sulfide C	es (B13) dor (C1)		RA -	Water-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (
Wetland Hy Primary Indi Surface High Water M Sedimen Drift De	order (Minimum of Cators (minimum of Cators (minimum of Cators (Minimum of Cators (Mater Table (A2) on (A3) on	s:	uired; che	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydrogen Oxidized	ained Leav IA, and 4E t (B11) nvertebrate i Sulfide C Rhizosphe	es (B13) dor (C1) eres along	Living Roc	RA -	Water-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2)
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Wetland Hy Primary Indi Surface High Wa Saturati Water M Sedimel Iron Dep Iron Dep Iron Dep Iron Dep Iron Dep Surface Inundati Sparsely Field Obse Surface Wa Water Table Saturation F (includes ca	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) ater Edition (B4) on (A3) at or Crust (B4) on (B5) Soil Cracks (B6) on Visible on Aeria Vegetated Concarvations: ter Present? Present? Present? pillary fringe)	s: f one requ I Imagery ve Surface Yes Yes Yes Yes Yes Yes Yes	(B7) e (B8) No 🗵 No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	ained Leav IA, and 4E t (B11) nvertebrate a Sulfide O Rhizosphe of Reduct on Reduct or Stressed plain in Re es): None Ses): None	es (B13) edor (C1) eres along ed Iron (C4) ion in Tille d Plants (Demarks)	Living Roo 4) d Soils (C6 1) (LRR A	and Hydrol	Water-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
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Wetland Hy Primary Indi Surface High Water M Sedimen Drift De Algal Ma Iron Dep Surface Inundati Sparsely Field Obser Surface Wa Water Table Saturation F (includes ca	drology Indicator cators (minimum of Water (A1) ater Table (A2) on (A3) ater Edition (B4) on (A3) at or Crust (B4) on (B5) Soil Cracks (B6) on Visible on Aeria Vegetated Concarvations: ter Present? Present? Present? pillary fringe)	s: f one requ I Imagery ve Surface Yes Yes Yes Yes Yes Yes Yes	(B7) e (B8) No 🗵 No 🗵 No 🗵	Water-Sta 1, 2, 4 Salt Crus Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o Other (Ex	ained Leav IA, and 4E t (B11) nvertebrate a Sulfide O Rhizosphe of Reduct on Reduct or Stressed plain in Re es): None Ses): None	es (B13) edor (C1) eres along ed Iron (C4) ion in Tille d Plants (Demarks)	Living Roo 4) d Soils (C6 1) (LRR A	and Hydrol	Water-Stained Leaves (B9) (MLRA 1 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
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Project/Site: 1144.0031 - Port Olympia		City/Count	_{y:} Tumwa	ater/ Thurston	Sampling Date: 03/23/21
Applicant/Owner: PDC Seattle, LLC				State: WA	Sampling Point: DP-8U
				ownship, Range: 10, 17N	
					<u>re</u> Slope (%): 1
Subregion (LRR): A2	_ Lat: 46	.973807		Long: -122.9240717	76 Datum: WGS 84
Soil Map Unit Name: Norma silt loam				NWI classifica	
Are climatic / hydrologic conditions on the site typical for thi	s time of yea	ar? Yes 🗷	l No □ (I	f no, explain in Remarks.)	
Are Vegetation, Soil, or Hydrology sig	nificantly dis	turbed?	Are "No	ormal Circumstances" pres	ent? Yes 🗵 No 🗌
Are Vegetation, Soil, or Hydrology natu	urally probler	matic?	(If need	ed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS - Attach site map	showing	samplin	g point l	ocations, transects,	important features, etc.
Hydrophytic Vegetation Present? Yes ☒ No ☐					
Hydric Soil Present? Yes ☐ No ☒			ne Sampled		
Wetland Hydrology Present? Yes ☐ No ☒		with	in a Wetlar	nd? Yes □ No	⊠
Remarks:					
Not all wetland criteria met; only hydrophytic ~1,059 feet east of Kimmie St SW. Area shows	_			I in a central location on p	parcel no. 09230001003 that is
VEGETATION – Use scientific names of plan	te				
VEGETATION – Ose scientific flames of plan	Absolute	Dominant	Indicator	Dominance Test works	sheet:
Tree Stratum (Plot size: 30 ft)		Species?		Number of Dominant Sp	
1. Populus balsamifera	60	Yes	FAC	That Are OBL, FACW, o	
2				Total Number of Domina	ant
3				Species Across All Strate	a: <u>3</u> (B)
4				Percent of Dominant Spe	ecies
Sapling/Shrub Stratum (Plot size: 15 ft)	60	= Total C	Cover	That Are OBL, FACW, o	r FAC: <u>100%</u> (A/B)
1. Rubus armeniacus	80	Yes	FAC	Prevalence Index work	sheet:
2. Populus balsamifera	10	No	FAC	Total % Cover of:	Multiply by:
3. Oemleria cerasiformis	5	No	FACU	OBL species	x 1 =
4				FACW species	x 2 =
5				FAC species	x 3 =
	95	= Total C	Cover	FACU species	x 4 =
Herb Stratum (Plot size: 5 ft)	65	Voc	ΕΛC	UPL species	x 5 =
1. Ranunculus repens 2 Agrostis capillaris	5	Yes No	FAC	Column Totals:	(A) (B)
	<u> </u>		170	Prevalence Index	= B/A =
3				Hydrophytic Vegetation	
4. 5.				☐ Rapid Test for Hydro	
6.				■ Dominance Test is > ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■	
7				☐ Prevalence Index is	≤3.0¹
8.					tations ¹ (Provide supporting
9.					or on a separate sheet)
10				Wetland Non-Vascul	
11.					nytic Vegetation ¹ (Explain)
	70	= Total C	Cover	be present, unless distur	and wetland hydrology must rbed or problematic.
Woody Vine Stratum (Plot size: 30 ft)					
1 2				Hydrophytic	
	0	= Total C	Cover	Vegetation Present? Yes	i⊠ No □
% Bare Ground in Herb Stratum 30					
Remarks: Hydrophytic vegetation criteria met thr	ough the	dominan	ce test		
, z. zp, no rogotanom omona mot um	9.1 4.10				
1					

	Matrix			Pod	ox Feature						
Depth (inches)	Color (moist)	%	Colo	or (moist)	<u>%</u>	Type ¹	Loc ²	_Textur	re	Remarks	
0 - 8	10YR 2/1	100	-		-	-	-	Lo		Loam	
8 - 16	10YR 3/3	100	-		_	-	-	SaLo)	Sandy Loam	
			_								_
											_
											_
		-								-	
17				lean al Matrice O			- 1010		21	atten. Di Dene Helen M. Metele	_
	oncentration, D=De Indicators: (Appl						ed Sand G			ation: PL=Pore Lining, M=Matrix. rs for Problematic Hydric Soils ³ :	
☐ Histosol		ioabic to		Sandy Redox (.cu.,				Muck (A10)	
	oipedon (A2)			Sandy Redox (Parent Material (TF2)	
☐ Black His				Loamy Mucky I		1) (except	t MLRA 1)			Shallow Dark Surface (TF12)	
	n Sulfide (A4)			Loamy Gleyed			,			r (Explain in Remarks)	
☐ Depleted	d Below Dark Surfa	ce (A11)		Depleted Matrix	x (F3)						
	ark Surface (A12)			Redox Dark Su	, ,			³ lı		rs of hydrophytic vegetation and	
-	lucky Mineral (S1)			Depleted Dark	•	7)				nd hydrology must be present,	
	leyed Matrix (S4)		Ш	Redox Depress	sions (F8)			1	unless	s disturbed or problematic.	
Type: No	Layer (if present):										
Depth (in				-				Llyralm	ia Cail	Drecent2 Vec □ Ne ☑	
• `				-				пуаг	10 3011	Present? Yes No 🗵	
Remarks:											
No hydric s	soil criteria met										
HYDROLO	GY										
Wotland Hy	<u> </u>										
_	drology Indicators										
_			uired; ch	eck all that app	oly)				Secon	dary Indicators (2 or more required)	
Primary India	drology Indicators cators (minimum of Water (A1)		ıired; ch	☐ Water-Sta	ined Leav		xcept MLF	RA		ater-Stained Leaves (B9) (MLRA 1, 2	
Primary India ☐ Surface \ ☐ High Wa	drology Indicators cators (minimum of Water (A1) tter Table (A2)		uired; ch	☐ Water-Sta	ined Leav A, and 4B		xcept MLF	RA	☐ Wa	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B)	
Primary India Surface High Wa Saturation	drology Indicators cators (minimum of Water (A1) Iter Table (A2) on (A3)		uired; ch	☐ Water-Sta 1, 2, 4 ☐ Salt Crust	ined Leav A, and 4B (B11)	3)	xcept MLF	RA	□ Wa	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10)	
Primary India Surface High Wa Saturatio	drology Indicators cators (minimum of Water (A1) Inter Table (A2) In (A3) In (B1)		uired; ch	☐ Water-Sta 1, 2, 4 ☐ Salt Crust ☐ Aquatic In	ined Leav A, and 4B (B11) vertebrate	s) s (B13)	xcept MLF	RA	☐ Wa	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2)	2,
Primary India Surface High Wa Saturatic Water M Sedimen	drology Indicators cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2)		uired; ch	Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen	ined Leav A, and 4B (B11) vertebrate Sulfide O	s (B13) dor (C1)			□ Wa□ Dra□ Dra□ Sa	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (Cs	2,
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep	drology Indicators cators (minimum of Water (A1) tter Table (A2) on (A3) arks (B1) nt Deposits (B2) posits (B3)		uired; ch	Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized F	ined Leav A, and 4B (B11) vertebrate Sulfide Oo	s (B13) dor (C1) res along	Living Roo		☐ Wa	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (Cs	2,
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma	drology Indicators cators (minimum of Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4)		uired; ch	Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized F Presence	ined Leav A, and 4B (B11) vertebrate Sulfide Oo Rhizosphe of Reduce	s (B13) dor (C1) res along ed Iron (C4	Living Roo 4)	ots (C3)	 □ Wa □ Dray □ Dray □ Saa □ Shan 	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) aturation Visible on Aerial Imagery (Cs comorphic Position (D2) allow Aquitard (D3)	2,
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma	drology Indicators cators (minimum of Water (A1) Iter Table (A2) Ion (A3) Iarks (B1) Int Deposits (B2) Ioosits (B3) It or Crust (B4) Ioosits (B5)		uired; ch	Water-Star 1, 2, 4 \[\] Salt Crust \[\] Aquatic In \[\] Hydrogen \[\] Oxidized F \[\] Presence \[\] Recent Ind	ined Leav A, and 4B (B11) vertebrate Sulfide Oo Rhizosphe of Reduce	s (B13) dor (C1) res along d Iron (C4 on in Tille	Living Roo 4) d Soils (C6	ots (C3)	☐ Wa	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (Cseomorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5)	2,
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface	drology Indicators cators (minimum of Water (A1) Inter Table (A2) Inter Table (A2) Inter Table (B1) Int Deposits (B2) Inter Table (B3) Inter Table (B4) Inter Table (B5) Inter Table (B6) Inter Table (B4) Inter Table (B4) Inter Table (B5) Inter Table (B6) Inter T	one requ		Water-Star 1, 2, 4 \[\] Salt Crust \[\] Aquatic In \[\] Hydrogen \[\] Oxidized F \[\] Presence \[\] Recent Ird \[\] Stunted on	A, and 4B (B11) vertebrate Sulfide Oo Rhizosphe of Reduce on Reducti r Stressed	s (B13) dor (C1) res along ed Iron (C4 on in Tille Plants (D	Living Roo 4)	ots (C3)	☐ Wa	atter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (Cseomorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) tised Ant Mounds (D6) (LRR A)	2,
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio	drology Indicators cators (minimum of Water (A1) Inter Table (A2) In (A3) In (B1) Int Deposits (B2) Int Ocitics (B3) Int or Crust (B4) Interest (B5) In Visible on Aerial	one requ	(B7)	Water-Star 1, 2, 4 \[\] Salt Crust \[\] Aquatic In \[\] Hydrogen \[\] Oxidized F \[\] Presence \[\] Recent Ind	A, and 4B (B11) vertebrate Sulfide Oo Rhizosphe of Reduce on Reducti r Stressed	s (B13) dor (C1) res along ed Iron (C4 on in Tille Plants (D	Living Roo 4) d Soils (C6	ots (C3)	☐ Wa	ater-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (Cseomorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5)	2,
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio	drology Indicators cators (minimum of Water (A1) tter Table (A2) on (A3) arks (B1) nt Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aerial of Vegetated Concar	one requ	(B7)	Water-Star 1, 2, 4 \[\] Salt Crust \[\] Aquatic In \[\] Hydrogen \[\] Oxidized F \[\] Presence \[\] Recent Ird \[\] Stunted on	A, and 4B (B11) vertebrate Sulfide Oo Rhizosphe of Reduce on Reducti r Stressed	s (B13) dor (C1) res along ed Iron (C4 on in Tille Plants (D	Living Roo 4) d Soils (C6	ots (C3)	☐ Wa	atter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (Cseomorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) tised Ant Mounds (D6) (LRR A)	2,
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely	drology Indicators cators (minimum of Water (A1) Inter Table (A2) Inter Table (A2) Inter Table (A2) Inter Table (B1) Inter Table (B2) Inter Ta	one requ	(B7) e (B8)	Water-Star 1, 2, 4 \[\] Salt Crust \[\] Aquatic In \[\] Hydrogen \[\] Oxidized F \[\] Presence \[\] Recent Iro \[\] Stunted of \[\] Other (Exp	ined Leav A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reducti r Stressed plain in Re	s (B13) dor (C1) res along ed Iron (C ² on in Tille Plants (D emarks)	Living Roo 4) d Soils (C6	ots (C3)	☐ Wa	atter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (Cseomorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) tised Ant Mounds (D6) (LRR A)	2,
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat	drology Indicators cators (minimum of Water (A1) Inter Table (A2) Inter Table (A2) Inter Table (A2) Inter Table (B1) Int Deposits (B2) Inter Table (B2) Inter Table (B4) Inter Table (B2) Inter T	Imagery ve Surfac	(B7) e (B8) No ⊠	Water-Star 1, 2, 4 \[\] Salt Crust \[\] Aquatic In \[\] Hydrogen \[\] Oxidized F \[\] Presence \[\] Recent Ird \[\] Stunted on \[\] Other (Exp	A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reducti r Stressed plain in Re	s (B13) dor (C1) res along ed Iron (C2 on in Tille Plants (Demarks)	Living Roo 4) d Soils (C6	ots (C3)	☐ Wa	atter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (Cseomorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) tised Ant Mounds (D6) (LRR A)	2,
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat	drology Indicators cators (minimum of Water (A1) Inter Table (A2) Inter Table (A2) Inter Table (B1) Int Deposits (B2) Inter Table (B3) Inter Table (B4) Inter T	Imagery ve Surfac Yes	(B7) e (B8) No ⊠ No ⊠	Water-Star 1, 2, 4 \[\] Salt Crust \[\] Aquatic In \[\] Hydrogen \[\] Oxidized F \[\] Presence \[\] Recent Ird \[\] Stunted on \[\] Other (Exp	A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reducti r Stressed plain in Re s): None	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A	ots (C3)	☐ Wa	atter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C3 comorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)	2,
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P	drology Indicators cators (minimum of Water (A1) Inter Table (A2) Inter Table (A2) Inter Table (A2) Inter Table (B1) Inter Table (B2) Inter Table (B2) Inter Table (B2) Inter Table (B3) Inter Table (B4) Inter Ta	Imagery ve Surfac	(B7) e (B8) No ⊠	Water-Star 1, 2, 4 \[\] Salt Crust \[\] Aquatic In \[\] Hydrogen \[\] Oxidized F \[\] Presence \[\] Recent Ird \[\] Stunted on \[\] Other (Exp	A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reducti r Stressed plain in Re s): None	s (B13) dor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A	ots (C3)	☐ Wa	atter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (Cseomorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) tised Ant Mounds (D6) (LRR A)	2,
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes cap	drology Indicators cators (minimum of Water (A1) Inter Table (A2) Inter Table (A2) Inter Table (A2) Inter Table (B1) Inter Table (B2) Inter Table (B2) Inter Table (B2) Inter Table (B3) Inter Table (B4) Inter Ta	Imagery ve Surfac Yes Yes Yes Yes Yes Yes	(B7) e (B8) No 🗵 No 🗷 No 🗷	Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc Stunted or Other (Exp	A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reducti r Stressed plain in Re s): None s): None	s (B13) dor (C1) res along dor Iron (C4) on in Tille Plants (D4) marks)	Living Roo 4) d Soils (C6 1) (LRR A	ots (C3) S))	☐ Wa	atter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C3 comorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)	2,
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes cap	drology Indicators cators (minimum of Water (A1) Inter Table (A2) Inter Ta	Imagery ve Surfac Yes Yes Yes Yes Yes Yes	(B7) e (B8) No 🗵 No 🗷 No 🗷	Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc Stunted or Other (Exp	A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reducti r Stressed plain in Re s): None s): None	s (B13) dor (C1) res along dor Iron (C4) on in Tille Plants (D4) marks)	Living Roo 4) d Soils (C6 1) (LRR A	ots (C3) S))	☐ Wa	atter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C3 comorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)	2,
Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes cap	drology Indicators cators (minimum of Water (A1) Inter Table (A2) Inter Ta	Imagery ve Surfac Yes Yes Yes Yes Yes Yes	(B7) e (B8) No 🗵 No 🗷 No 🗷	Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc Stunted or Other (Exp	A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reducti r Stressed plain in Re s): None s): None	s (B13) dor (C1) res along dor Iron (C4) on in Tille Plants (D4) marks)	Living Roo 4) d Soils (C6 1) (LRR A	ots (C3) S))	☐ Wa	atter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C3 comorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)	2,
Primary India Surface In High Water Maren	drology Indicators cators (minimum of Water (A1) Inter Table (A2) Inter Ta	Imagery ve Surfac Yes Yes Yes Yes m gauge,	(B7) e (B8) No 🗵 No 🗷 No 🗷	Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc Stunted or Other (Exp	A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reducti r Stressed plain in Re s): None s): None	s (B13) dor (C1) res along dor Iron (C4) on in Tille Plants (D4) emarks)	Living Roo 4) d Soils (C6 1) (LRR A	ots (C3) S))	☐ Wa	atter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C3 comorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)	2,
Primary India Surface In High Water Maren	drology Indicators cators (minimum of Water (A1) Inter Table (A2) Inter Ta	Imagery ve Surfac Yes Yes Yes Yes m gauge,	(B7) e (B8) No 🗵 No 🗷 No 🗷	Water-Sta 1, 2, 4 Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Irc Stunted or Other (Exp	A, and 4B (B11) vertebrate Sulfide Oc Rhizosphe of Reduce on Reducti r Stressed plain in Re s): None s): None	s (B13) dor (C1) res along dor Iron (C4) on in Tille Plants (D4) emarks)	Living Roo 4) d Soils (C6 1) (LRR A	ots (C3) S))	☐ Wa	atter-Stained Leaves (B9) (MLRA 1, 2 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Imagery (C3 comorphic Position (D2) allow Aquitard (D3) a.C-Neutral Test (D5) aised Ant Mounds (D6) (LRR A) ost-Heave Hummocks (D7)	2,

Project/Site: 1144.0031 - Port Olympia	(City/Cou	_{nty:} Tumwa	ater/ Thurston	Sampling Date: 03/23/21
Applicant/Owner: PDC Seattle, LLC		-	-		Sampling Point: DP-9U
• •				ownship, Range: <u>10, 17</u>	· -
					ave Slope (%): 3
Subregion (LRR): A2		="	,		
Soil Map Unit Name: Nisqually loamy fine sand, 0 to					
Are climatic / hydrologic conditions on the site typical for this	time of yea	ır? Yes [× No □ (I	f no, explain in Remarks	.)
Are Vegetation, Soil, or Hydrology sign	ificantly dist	turbed?	Are "No	ormal Circumstances" pro	esent? Yes ☒ No ☐
Are Vegetation, Soil, or Hydrology natu	rally probler	natic?	(If need	ed, explain any answers	in Remarks.)
SUMMARY OF FINDINGS - Attach site map			ing point l	ocations, transects	s, important features, etc.
Hydrophytic Vegetation Present? Yes ☒ No ☐					
Hydric Soil Present? Yes ☒ No ☐			the Sampled		
Wetland Hydrology Present? Yes ☐ No 🗷		wi	thin a Wetlar	nd? Yes 🗌	No 🗵
Remarks:	y I agatad	in a aant	mal la aation a	on marcal ma 0022000100	2 that is a 000 fact aget of
Not all wetland criteria met; lacking hydrolog Kimmie St. SW and ~730 feet south of 76th Av	-			-	3 that is ~900 feet east of
VEGETATION – Use scientific names of plant				<u></u>	
Tree Stratum (Plot size: 30 ft)	Absolute % Cover		nt Indicator s? Status	Dominance Test wor	
1. Populus balsamifera	35	Yes	FAC	Number of Dominant S That Are OBL, FACW,	
2		-			
3				Total Number of Domi Species Across All Str	_
4		-			、,
	35	= Total	Cover	Percent of Dominant S That Are OBL, FACW,	
Sapling/Shrub Stratum (Plot size: 15 ft)	40	V	LIDI		
1. Cytisus scoparius	40	Yes	UPL FACIA	Prevalence Index wo	
2. Spiraea douglasii	<u>25</u> 2	Yes No	FACW		Multiply by:
3. Rubus armeniacus			<u>FAC</u>		x 1 =
4					x 2 = x 3 =
5	67	= Total	Cover		x 4 =
Herb Stratum (Plot size: 5 ft)					x 5 =
1. Poa sp.*	35	Yes	FAC	· · · · · · · · · · · · · · · · · · ·	(A) (B)
2. Polystichum munitum	10	Yes	FACU		
3					x = B/A =
4				Hydrophytic Vegetati	
5				Rapid Test for Hyd	· · ·
6				➤ Dominance Test is	
7				☐ Prevalence Index i	
8					aptations ¹ (Provide supporting ss or on a separate sheet)
9				☐ Wetland Non-Vaso	cular Plants ¹
10				☐ Problematic Hydro	phytic Vegetation ¹ (Explain)
11	4.5	= Total	Cover		oil and wetland hydrology must
Woody Vine Stratum (Plot size: 30 ft)		= Total	Cover	be present, unless dist	urbed or problematic.
1				Hydrophytic	
2				Hydrophytic Vegetation	
% Bare Ground in Herb Stratum 55	0	= Total	Cover	Present? Ye	es 🗵 No 🗌
Remarks: Hydrophytic vegetation criteria met thro	ough the	domina	nce test.		
*could not be identified to species, pres	sumed FA	AC for s	scoring purp	poses.	

Sampling Point: DP-9U

Depth	cription: (Descri Matrix	(Red	ox Featur	<u>es</u>				, or maisure of
(inches)	Color (moist)	%_		or (moist)	%	Type ¹	Loc ²	Textu		Remarks
0 - 5	2.5Y 3/2	98	2.5	SY 5/4	2	<u>C</u>	М	LoS		Loamy Sand
5 - 15	2.5Y 3/2	95	2.5	SY 5/4	5	<u>C</u>	M	LoS	a	Loamy Sand
	-									
								_		
1T C	· · · · · · · · · · · · · · · · · · ·	\		luca al Matriu. O					21	action. DL. Dave Lining M. Matrix
	Concentration, D=D Indicators: (App						ed Sand			cation: PL=Pore Lining, M=Matrix. ors for Problematic Hydric Soils ³ :
-		ilicable to				ieu.)				•
☐ Histosol	oipedon (A2)			Sandy Redox (Stripped Matrix				L		n Muck (A10) Parent Material (TF2)
	istic (A3)			Loamy Mucky	. ,	1) (excen	t MI RA	1) [/ Shallow Dark Surface (TF12)
	en Sulfide (A4)			Loamy Gleyed				_	•	er (Explain in Remarks)
	d Below Dark Surf	ace (A11)		Depleted Matri		,		_		()
☐ Thick Da	ark Surface (A12)			Redox Dark Su	ırface (F6)		3	Indicate	ors of hydrophytic vegetation and
-	Mucky Mineral (S1))		Depleted Dark	Surface (F7)			wetla	and hydrology must be present,
	Sleyed Matrix (S4)			Redox Depress	sions (F8)				unles	ss disturbed or problematic.
	Layer (if present)):								
Type: No				_						
Depth (ir	iches):			-				Hyd	ric Soil	l Present? Yes ⊠ No □
Remarks:										
HYDROLO	ogy									
	drology Indicato	re:								
_	cators (minimum o		iirod: ch	ock all that ann	dv)				Soco	ndary Indicators (2 or more required)
		one requ	aneu, cm			100 (BO) (a	waant M	II D A		
Surface	ater Table (A2)			☐ Water-Sta	A, and 4	, , ,	except ivi	ILKA	⊔ w	/ater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
l —				I, 2, 4	•)				rainage Patterns (B10)
	larks (B1)			☐ Aquatic In	` '	oc (B13)				ry-Season Water Table (C2)
	nt Deposits (B2)			☐ Hydrogen		` '				aturation Visible on Aerial Imagery (C9)
	posits (B3)			☐ Oxidized I		, ,	Livina R	oots (C3)		ecomorphic Position (D2)
	at or Crust (B4)			☐ Presence	•	-	-	.0013 (03)		hallow Aquitard (D3)
	posits (B5)			☐ Recent Iro		,	,	C6)		AC-Neutral Test (D5)
· ·	Soil Cracks (B6)			☐ Stunted o			,	,		aised Ant Mounds (D6) (LRR A)
_	on Visible on Aeria	al Imagery	(B7)	Other (Ex			, (=:::	-7		rost-Heave Hummocks (D7)
	Vegetated Conca			(-/-		/				
Field Obse			,							
Surface Wa	ter Present?	Yes □	No 🗵	Depth (inche	s): None	Э				
Water Table		Yes 🗌	No 🗵	Depth (inche						
Saturation F		Yes 🗌	No 🗵	Depth (inche			W	etland Hv	/drolog	y Present? Yes □ No ⊠
(includes ca	pillary fringe)									,,
Describe Re	ecorded Data (stre	am gauge	, monitoi	ring well, aerial	photos, p	revious in	spection	s), if availa	able:	
Remarks:										
	ogic criteria me	^ t								
INO HYUION	ogic criteria ille	7L.								

Project/Site: 1144.0031 - Port Olympia	(City/Cou	_{ınty:} Tumwa	ater/ Thurston	Sampling Date: 03/23/21
Applicant/Owner: PDC Seattle, LLC			-		Sampling Point: DP-10U
Investigator(s): Jake Layman				ownship, Range: <u>10, 17</u>	
Landform (hillslope, terrace, etc.): terrace				·	
Subregion (LRR): A2					
Soil Map Unit Name: Nisqually loamy fine sand, 0 to					
Are climatic / hydrologic conditions on the site typical for this				f no, explain in Remarks.	
Are Vegetation, Soil, or Hydrology sign	-			ormal Circumstances" pre	
Are Vegetation, Soil, or Hydrology natu				ed, explain any answers i	
SUMMARY OF FINDINGS – Attach site map					
				<u> </u>	<u> </u>
Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☐ No ☒		Is	the Sampled	l Area	
Wetland Hydrology Present? Yes ☐ No 🗵		w	rithin a Wetlar	nd? Yes ☐ N	√0 ⊠
Remarks:					
Not all three wetland criteria met; only hydrog					ge of parcel no. 09230001003
that is ~700 feet northwest of 78th Ave SW. Ar	ea snows si	igns of p	past disturban	ice.	
VEGETATION - Use scientific names of plant	ts.				
	Absolute		ant Indicator	Dominance Test work	sheet:
Tree Stratum (Plot size: 30 ft) 1. Pinus contorta	% Cover 35	Specie Yes	es? Status FAC	Number of Dominant S	
2. Populus balsamifera	10	Yes	FAC	That Are OBL, FACW,	or FAC: <u>4</u> (A)
3				Total Number of Domin	_
4.			<u> </u>	Species Across All Stra	(,
	45	= Tota	I Cover	Percent of Dominant Sport Are OBL, FACW,	
Sapling/Shrub Stratum (Plot size: 15 ft)					
1. Gaultheria shallon	30	Yes	<u>FACU</u> FACW	Prevalence Index wor	
2. Spiraea douglasii 3. Cytisus scoparius	25 10	Yes No	UPL		Multiply by:
4. Symphoricarpos albus	10	No	FACU		x 1 = x 2 =
5. Ilex aquifolium	10	No	FACU	· · · · · · · · · · · · · · · · · · ·	x 3 =
0	85		I Cover		x 4 =
Herb Stratum (Plot size: 5 ft)					x 5 =
1. Agrostis capillaris	35	Yes	<u>FAC</u>		(A) (B)
2				Dunivalanaa laidav	. D/A
3				Hydrophytic Vegetation	= B/A =
4				Rapid Test for Hydi	
5				Dominance Test is	· ·
6				☐ Prevalence Index is	s ≤3.0¹
8					otations1 (Provide supporting
9.					s or on a separate sheet)
10				☐ Wetland Non-Vasco	
11				- ' '	ohytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 30 ft)	35	= Tota	I Cover	be present, unless distr	il and wetland hydrology must urbed or problematic.
1					
2				Hydrophytic Vegetation	
	0	= Tota	I Cover		s 🗵 No 🗌
% Bare Ground in Herb Stratum 65					
Remarks: Hydrophytic vegetation criteria met thro	ough the	domina	ance test.		

Depth	Matrix	(Redo	x Features	;			
(inches)	Color (moist)	%	Cold	or (moist)	%	Type ¹	Loc ²	Texture	<u>Remarks</u>
0 - 8	7.5YR 3/1	100	_	-	-			SaLo	Sandy Loam
8 - 15	7.5YR 3/1	100		-	-	-	-	GrSaLo	Sandy Loam
	-							-	
	-								_
	-								
1Type: C-C	anaentration D_F	Nonlotion I		duced Metrix C	S_Covered	or Coat	d Sand Ci	roino 21	continue DI - Doro Lining M-Matrix
	oncentration, D=D Indicators: (App						ed Sand Gi		ocation: PL=Pore Lining, M=Matrix. ators for Problematic Hydric Soils ³ :
☐ Histosol				Sandy Redox (S		,			cm Muck (A10)
	pipedon (A2)			Stripped Matrix					ed Parent Material (TF2)
☐ Black Hi	. , ,			Loamy Mucky N	. ,	(except	MLRA 1)		ery Shallow Dark Surface (TF12)
☐ Hydroge	n Sulfide (A4)			Loamy Gleyed I	Matrix (F2)			☐ Ot	her (Explain in Remarks)
	d Below Dark Surf	ace (A11)		Depleted Matrix	. ,				
	ark Surface (A12)			Redox Dark Su	` ,				ators of hydrophytic vegetation and
-	lucky Mineral (S1))		Depleted Dark		7)			tland hydrology must be present,
	leyed Matrix (S4) Layer (if present)	١-		Redox Depress	ions (F8)			uni	ess disturbed or problematic.
Type: No):							
Depth (in				_				Hydric S	oil Present? Yes □ No ⊠
Remarks:	,							Hyunc 30	DIFFESCIL: TES NO E
	!!!!!								
ino nyanc s	soil criteria me	τ.							
/									
Wetland Hy	drology Indicato								
Wetland Hy	drology Indicato		uired; ch						condary Indicators (2 or more required)
Wetland Hy Primary India ☐ Surface	drology Indicator cators (minimum of Water (A1)		uired; ch	☐ Water-Stai	ned Leave		xcept MLF		Water-Stained Leaves (B9) (MLRA 1, 2,
Wetland Hy Primary India ☐ Surface ☐ High Wa	drology Indicato cators (minimum o Water (A1) tter Table (A2)		uired; ch	☐ Water-Stai	ned Leave A, and 4B)		xcept MLF	RA 🗆	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
Wetland Hy Primary India ☐ Surface ☐ High Wa ☐ Saturation	drology Indicato cators (minimum o Water (A1) tter Table (A2) on (A3)		uired; ch	☐ Water-Stain 1, 2, 4	ned Leave A, and 4B) (B11)		xcept MLF	RA 🗆	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
Wetland Hy Primary India Surface High Wa Saturatio Water M	drology Indicato cators (minimum o Water (A1) Iter Table (A2) on (A3) arks (B1)		uired; ch	☐ Water-Stain 1, 2, 4 ☐ Salt Crust ☐ Aquatic Inv	ned Leave A, and 4B) (B11) /ertebrates	(B13)	xcept MLF	RA -	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimen	drology Indicato cators (minimum o Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2)		uired; ch	Water-Stain 1, 2, 4 Salt Crust Aquatic Inv	ned Leave A, and 4B) (B11) vertebrates Sulfide Od	(B13) or (C1)		RA -	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep	drology Indicato cators (minimum of Water (A1) tter Table (A2) on (A3) arks (B1) nt Deposits (B2) posits (B3)		uired; ch	Water-Stain 1, 2, 4, 4 Salt Crust Aquatic Inv Hydrogen Oxidized F	ned Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizosphere	(B13) or (C1) es along	Living Roo	RA	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)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	drology Indicator cators (minimum of Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4)		uired; ch	Water-Stain 1, 2, 4, 4 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence	ned Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduced	(B13) or (C1) es along li Iron (C4	Living Roo	ts (C3)	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)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma	drology Indicato cators (minimum of Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5)		uired; ch	Water-Stain 1, 2, 4 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence C Recent Iro	ned Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduced n Reduction	(B13) or (C1) es along d Iron (C4 n in Tille	Living Roo l) d Soils (C6	ts (C3)	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)
Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface	drology Indicator cators (minimum of Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6)	of one requ		Water-Stain 1, 2, 4, 4, 5 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Stunted or	ned Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduced n Reductio Stressed I	(B13) or (C1) es along l Iron (C4) n in Tille	Living Roo l) d Soils (C6	ts (C3)	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)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundation	drology Indicator cators (minimum of Water (A1) Inter Table (A2) on (A3) arks (B1) Int Deposits (B2) cosits (B3) Int or Crust (B4) cosits (B5) Soil Cracks (B6) on Visible on Aeria	of one requ	(B7)	Water-Stain 1, 2, 4 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence C Recent Iro	ned Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduced n Reductio Stressed I	(B13) or (C1) es along l Iron (C4) n in Tille	Living Roo l) d Soils (C6	ts (C3)	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)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatio	drology Indicator cators (minimum of Water (A1) ster Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) sosits (B5) Soil Cracks (B6) on Visible on Aeria	of one requ	(B7)	Water-Stain 1, 2, 4, 4, 5 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Stunted or	ned Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduced n Reductio Stressed I	(B13) or (C1) es along l Iron (C4) n in Tille	Living Roo l) d Soils (C6	ts (C3)	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)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely	drology Indicator cators (minimum of Water (A1) ther Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) posits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concar	of one requ al Imagery ave Surfac	(B7) e (B8)	Water-Stain 1, 2, 4, 4, 5 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence C Recent Iro Stunted or Other (Exp	ned Leave A, and 4B) (B11) /ertebrates Sulfide Od Rhizospher of Reduced n Reductio Stressed I	(B13) or (C1) es along l Iron (C4) n in Tille	Living Roo l) d Soils (C6	ts (C3)	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)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser	drology Indicator cators (minimum of Water (A1) ter Table (A2) on (A3) arks (B1) ot Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concarvations:	al Imagery ave Surfac	(B7) de (B8) No 🗵	Water-Stain 1, 2, 4, 4, 5 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence C Recent Iro Stunted or Other (Exp	ned Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduced n Reductio Stressed I plain in Rer	(B13) or (C1) es along l Iron (C4) n in Tille	Living Roo l) d Soils (C6	ts (C3)	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)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimen Drift Dep Algal Ma Iron Dep Surface Inundatic Sparsely Field Obser Surface Water Table	drology Indicator cators (minimum of water (A1) after Table (A2) on (A3) arks (B1) arks (B1) arks (B3) at or Crust (B4) arcsits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concavations: The resent?	al Imagery ave Surfac Yes Yes	(B7) te (B8) No 🗵 No 🗵	Water-Stain 1, 2, 4, 4, 5 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Stunted or Other (Exp	ned Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduced in Reductio Stressed I olain in Rer S): None	(B13) or (C1) es along l Iron (C4) n in Tille	Living Roo l) d Soils (C6 1) (LRR A)	ts (C3)	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)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Water Table Saturation P	drology Indicatoricators (minimum of Water (A1) after Table (A2) on (A3) arks (B1) arks (B1) arks (B3) after Crust (B4) arks (B5) Soil Cracks (B6) on Visible on Aeria (Vegetated Concavations: The Present? Present?	al Imagery ave Surfac	(B7) de (B8) No 🗵	Water-Stain 1, 2, 4, 4, 5 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence C Recent Iro Stunted or Other (Exp	ned Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduced in Reductio Stressed I olain in Rer S): None	(B13) or (C1) es along l Iron (C4) n in Tille	Living Roo l) d Soils (C6 1) (LRR A)	ts (C3)	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)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca	drology Indicator cators (minimum of water (A1) after Table (A2) on (A3) arks (B1) arks (B1) arks (B3) at or Crust (B4) arcsits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concavations: The resent?	al Imagery ave Surfac Yes Yes Yes Yes Yes Yes Yes	(B7) se (B8) No 🗵 No 🗵 No 🗵	Water-Stain 1, 2, 4, 4, 5 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Stunted or Other (Exp	ned Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduceo n Reductio Stressed I olain in Rer Si: None None None	(B13) or (C1) es along d Iron (C4 n in Tille Plants (D narks)	Living Roo d Soils (C6 1) (LRR A)	ts (C3)	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)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca	drology Indicatoricators (minimum of Water (A1) ster Table (A2) on (A3) arks (B1) on Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concarvations: ere Present? Present? pillary fringe)	al Imagery ave Surfac Yes Yes Yes Yes Yes Yes Yes	(B7) se (B8) No 🗵 No 🗵 No 🗵	Water-Stain 1, 2, 4, 4, 5 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Stunted or Other (Exp	ned Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduceo n Reductio Stressed I olain in Rer Si: None None None	(B13) or (C1) es along d Iron (C4 n in Tille Plants (D narks)	Living Roo d Soils (C6 1) (LRR A)	ts (C3)	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)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca	drology Indicatoricators (minimum of Water (A1) ster Table (A2) on (A3) arks (B1) on Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concarvations: ere Present? Present? pillary fringe)	al Imagery ave Surfac Yes Yes Yes Yes Yes Yes Yes	(B7) se (B8) No 🗵 No 🗵 No 🗵	Water-Stain 1, 2, 4, 4, 5 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Stunted or Other (Exp	ned Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduceo n Reductio Stressed I olain in Rer Si: None None None	(B13) or (C1) es along d Iron (C4 n in Tille Plants (D narks)	Living Roo d Soils (C6 1) (LRR A)	ts (C3)	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)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca Describe Re	drology Indicatoricators (minimum of Water (A1) ster Table (A2) on (A3) arks (B1) on Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aeria of Vegetated Concarvations: ere Present? Present? pillary fringe)	al Imagery ave Surfac Yes Yes Yes am gauge	(B7) se (B8) No 🗵 No 🗵 No 🗵	Water-Stain 1, 2, 4, 4, 5 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Stunted or Other (Exp	ned Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduceo n Reductio Stressed I olain in Rer Si: None None None	(B13) or (C1) es along d Iron (C4 n in Tille Plants (D narks)	Living Roo d Soils (C6 1) (LRR A)	ts (C3)	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)
Wetland Hy Primary India Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely Field Obser Surface Wat Water Table Saturation P (includes ca Describe Re	drology Indicatoricators (minimum of Water (A1) Inter Table (A2) Inter Table (B3) Inter Table (B4) Inter Table (B4)	al Imagery ave Surfac Yes Yes Yes am gauge	(B7) se (B8) No 🗵 No 🗵 No 🗵	Water-Stain 1, 2, 4, 4, 5 Salt Crust Aquatic Inv Hydrogen Oxidized F Presence of Recent Iro Stunted or Other (Exp	ned Leave A, and 4B) (B11) vertebrates Sulfide Od Rhizospher of Reduceo n Reductio Stressed I olain in Rer Si: None None None	(B13) or (C1) es along d Iron (C4 n in Tille Plants (D narks)	Living Roo d Soils (C6 1) (LRR A)	ts (C3)	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)

Project/Site: 1144.0031 - Port Olympia		City/Co	ounty:	Tumwa	ater/ Thurston	Samplin	g Date: 03/2	24/21
Applicant/Owner: PDC Seattle, LLC		-	-		State: WA		-	
Investigator(s): Ryan Krapp					ownship, Range: 10, 1		-	
• —					, convex, none): None			6): O
Subregion (LRR): A2		_		•	·			
Soil Map Unit Name: Cagey loamy sand					NWI classifi			
Are climatic / hydrologic conditions on the site typical for this	s time of yea	ar? Ye	s 🗙	No ☐ (I	f no, explain in Remarks	;.)		
Are Vegetation, Soil, or Hydrology sign	nificantly dis	turbed'	?	Are "No	ormal Circumstances" pr	esent? Ye	s 🗷 No 🗌	İ
Are Vegetation, Soil, or Hydrology natu	rally probler	matic?		(If need	ed, explain any answers	in Remarks	s.)	
SUMMARY OF FINDINGS - Attach site map			oling	point l	ocations, transect	s, import	ant featur	es, etc.
Hydrophytic Vegetation Present? Yes ☐ No 🗵								
Hydric Soil Present? Yes ☐ No 🗵				Sampled		=		
Wetland Hydrology Present? Yes ☐ No 🗵		'	within	n a Wetlar	nd? Yes 🗌	No 🗵		
Remarks:	orner of ner	ead no	12710	0100000.~	AED foot mouth of 82md A	vo SW and	990 ft woot o	of Contor
No wetland criteria met. Located in the SW co St SW.	orner of par	cei no.	. 12/10	J100000;~	450 feet north of 85rd A	we sw and	880 it west c	n Center
VEGETATION – Use scientific names of plan	ts.							
	Absolute			ndicator	Dominance Test wor	ksheet:		
Tree Stratum (Plot size: 30 ft)	% Cover	Spec Yes		Status FACU	Number of Dominant			
1. Pseudotsuga menziesii 2. Pinus contorta	10 5	Yes		FAC	That Are OBL, FACW	, or FAC:	_1	_ (A)
					Total Number of Domi		0	
3					Species Across All Str	ata:	6	_ (B)
4	15	= Tot	al Co		Percent of Dominant S	Species	170/	(A /D)
Sapling/Shrub Stratum (Plot size: 15 ft)		- 100	ai oo	VOI	That Are OBL, FACW	, or FAC:	17%	_ (A/B)
1. Corylus cornuta	80	Yes		FACU	Prevalence Index wo	rksheet:		
2. Gaultheria shallon	60	Yes		FACU	Total % Cover of:		Multiply by:	
3. Mahonia aquifolium	5	No		FACU	OBL species			
4					FACW species			
5	4.45	-			FAC species			
Herb Stratum (Plot size: 5 ft)	145	= Tot	al Co	ver	FACU species			—
1. Polystichum munitum	10	Yes	;	FACU		x 5		
2. Rubus ursinus		Yes		FACU	Column Totals:	(A)		(B)
3.					Prevalence Inde	x = B/A =		
4.					Hydrophytic Vegetat	ion Indicat	ors:	
5					☐ Rapid Test for Hyd	drophytic Ve	egetation	
6					☐ Dominance Test is	s >50%		
7					☐ Prevalence Index			
8					☐ Morphological Ada data in Remar			
9					☐ Wetland Non-Vase		•	;t)
10					☐ Problematic Hydro			ain)
11		-			¹Indicators of hydric so			,
Woody Vine Stratum (Plot size: 30 ft)	15	= Tot	al Co	ver	be present, unless dis			,
1					Hydrophytic			
2	^	·			Vegetation		-	
% Bare Ground in Herb Stratum 85	0	= Tot	al Co	ver	Present? Y	es 🗌 No	×	
					1			
Remarks: No hydrophytic vegetation criteria met.								

Sampling Point: <u>DP-14U</u>

Depth	ription: (Describ Matrix	e to the di	epin ne		nent tne x Feature		or contirr	ii uie ads	ence	or murcators.)
(inches)	Color (moist)	%	Colc	or (moist)	<u> </u>	Type ¹	Loc ²	Texture	<u> </u>	Remarks_
0 - 7	10YR 2/1	100	-		-	-	-	GrSal	-0	Gravelly, Sandy Loam
7 - 15	10YR 3/3	100	_		-		_	GrSal	_0	Gravelly, Sandy Loam
	-									
	-				-					-
					-					
	oncentration, D=De						ed Sand G			cation: PL=Pore Lining, M=Matrix.
	Indicators: (Appl	icable to a				ea.)				ers for Problematic Hydric Soils ³ :
☐ Histosol	` '			Sandy Redox (S				_		Muck (A10)
☐ Histic Ep	ipedon (A2)			Stripped Matrix Loamy Mucky M	. ,	l) (avcant	MI DA 1)			Parent Material (TF2) Shallow Dark Surface (TF12)
	n Sulfide (A4)			Loamy Gleyed N			. WILKA I)	H	-	er (Explain in Remarks)
	Below Dark Surfa	ce (A11)		Depleted Matrix		,			Otilic	(Explain in Nomano)
	rk Surface (A12)	,		' Redox Dark Sur				3In	dicato	ors of hydrophytic vegetation and
☐ Sandy M	ucky Mineral (S1)			Depleted Dark S	Surface (F	7)			wetla	nd hydrology must be present,
	leyed Matrix (S4)			Redox Depressi	ions (F8)				unles	s disturbed or problematic.
	Layer (if present):									
Type: No				_						
Depth (in	ches): N/A			-				Hydric	Soil	Present? Yes ☐ No ☒
Remarks:										
No hydric s	soil criteria met									
HYDROLO	GY									
	drology Indicators	s:								
_	cators (minimum of		red: ch	eck all that appl	v)			;	Secor	ndary Indicators (2 or more required)
	Water (A1)			☐ Water-Stai		es (B9) (e	xcent MI I			ater-Stained Leaves (B9) (MLRA 1, 2,
	ter Table (A2)				A, and 4B					4A, and 4B)
☐ Saturation				☐ Salt Crust	•	,			Пρ	rainage Patterns (B10)
☐ Water M	` '			☐ Aquatic Inv		s (B13)		Ì	_	ry-Season Water Table (C2)
	t Deposits (B2)			☐ Hydrogen	Sulfide Od	dor (C1)			_ □ Sa	aturation Visible on Aerial Imagery (C9)
	osits (B3)			☐ Oxidized R			Living Roc			eomorphic Position (D2)
	t or Crust (B4)			☐ Presence of			_	`		nallow Aquitard (D3)
☐ Iron Dep	osits (B5)			☐ Recent Iron	n Reductio	on in Tille	d Soils (C6	3) l	□ F	AC-Neutral Test (D5)
☐ Surface	Soil Cracks (B6)			☐ Stunted or	Stressed	Plants (D	1) (LRR A	.) [□ R	aised Ant Mounds (D6) (LRR A)
☐ Inundation	on Visible on Aerial	Imagery (B7)	☐ Other (Exp	lain in Re	marks)		[☐ Fr	ost-Heave Hummocks (D7)
☐ Sparsely	Vegetated Concar	ve Surface	(B8)							
Field Obser	vations:									
Surface Wat	er Present?	Yes 🔲 I	No 🗵	Depth (inches	_{s):} <u>None</u>	<u> </u>				
Water Table	Present?	Yes 🔲 I	No 🗵	Depth (inches	_{s):} None					
Saturation P	resent?	Yes 🔲 I	No 🗵	Depth (inches	_{s):} None		Wet	land Hydi	olog	y Present? Yes □ No ⊠
(includes cap		m acuae 1	manitar	ing well coriel	abataa ni	ovious in	nactional	if availab	lai	
Describe Re	corded Data (strea	ın gauge, i	nonitor	ırıg weii, aerial	priotos, pr	evious ins	spections),	, ii avallab	ie:	
D										
Remarks:	and a sold and	L								
ino nydrold	gic criteria met	Ι.								

Project/Site: 1144.0031 - Port Olympia	(City/County	_{/:} Tumwa	ater/ Thurston	Sampling Date: 03/24/21	
Applicant/Owner: PDC Seattle, LLC			State: WA	· -		
				ownship, Range: <u>10, 17N</u>		
					Slope (%): 0	
Subregion (LRR): A2	Lat: 46.	.978641		Long: -122.9235434	10 Datum: WGS 84	
Soil Map Unit Name: Nisqually loamy fine sand, 0 t						
Are climatic / hydrologic conditions on the site typical for this	s time of yea	ır? Yes 🗌	No □ (I	f no, explain in Remarks.)		
Are Vegetation, Soil, or Hydrology sign	nificantly dist	turbed?	Are "No	ormal Circumstances" pres	ent? Yes ☒ No ☐	
Are Vegetation, Soil, or Hydrology natu			(If need	ed, explain any answers in	Remarks.)	
SUMMARY OF FINDINGS – Attach site map			•	-	·	
		1	<u> </u>	<u> </u>		
Hydrophytic Vegetation Present? Yes ☐ No ☒ Hydric Soil Present? Yes ☐ No ☒		Is th	e Sampled	l Area		
Wetland Hydrology Present? Yes ☐ No 🗵		with	in a Wetlar	nd? Yes ☐ No		
Remarks:						
No wetland criteria met. Located in the SW co. 76th Ave SW.	orner of par	cel no. 127	10100000;~	400 feet west of Harper St	reet SW and 580 ft north of	
VEGETATION – Use scientific names of plan	ts.					
T. 0. (D. 1		Dominant		Dominance Test works	heet:	
Tree Stratum (Plot size: 30 ft) 1. Acer macrophyllum	% Cover 5	Yes	FACU	Number of Dominant Spe That Are OBL, FACW, or		
2						
3				Total Number of Domina Species Across All Strata	_	
4.						
Sapling/Shrub Stratum (Plot size: 15 ft)	5	= Total C	over	Percent of Dominant Spe That Are OBL, FACW, or		
1. Corylus cornuta	90	Yes	FACU	Prevalence Index works	sheet:	
2. Gaultheria shallon	40	Yes	FACU	Total % Cover of:	Multiply by:	
3. Symphoricarpos albus	10	No	FACU	OBL species	x 1 =	
4. Rosa gymnocarpa	10	<u>No</u>	FACU	FACW species	x 2 =	
5					x 3 =	
Harl Otrature (Distains 5 ft)	150	= Total C	over		x 4 =	
Herb Stratum (Plot size: <u>5 ft)</u> 1. Pteridium aquilinum	10	Yes	FACU		x 5 =	
2 Polystichum munitum	5	Yes	FACU	Column Totals:	(A) (B)	
3	<u> </u>		17100	Prevalence Index :	= B/A =	
4				Hydrophytic Vegetation		
5				☐ Rapid Test for Hydro		
6.				☐ Dominance Test is >	50%	
7				☐ Prevalence Index is	≤3.0 ¹	
8.					ations¹ (Provide supporting	
9				□ Wetland Non-Vascul	or on a separate sheet)	
10					ar Flants lytic Vegetation¹ (Explain)	
11				_ , ,	and wetland hydrology must	
Woody Vine Stratum (Plot size: 30 ft)	15	= Total C	over	be present, unless distur		
1				Hydrophytic		
2				Vegetation		
% Bare Ground in Herb Stratum 85	0	= Total C	over	Present? Yes	□ No ⊠	
Remarks:						
No hydrophytic vegetation criteria met.	•					

Profile Descript											
Depth (inches) Co	Matrix Ior (moist)	%	Colo	Redo or (moist)	ox Feature %	<u>s</u> Type¹	Loc ²	Textur	e e	Remarks	
	OYR 2/2	100	-	n (moist)		-	-	SaLo		Sandy Loam	
		-									
			<u> </u>								
		-			_						
		-									
			- —								
·											
¹Type: C=Conce	entration. D=Dep	letion. R	M=Red	luced Matrix. C	S=Covered	d or Coate	ed Sand Gr	rains.	² Loc	ation: PL=Pore Lining, M=M	latrix.
Hydric Soil Indi										rs for Problematic Hydric S	
☐ Histosol (A1))			Sandy Redox (S5)] 2 cm	Muck (A10)	
☐ Histic Epiped				Stripped Matrix	-				Red I	Parent Material (TF2)	
☐ Black Histic (Loamy Mucky N			MLRA 1)] Very	Shallow Dark Surface (TF12	2)
☐ Hydrogen Su	, ,			Loamy Gleyed)] Othe	r (Explain in Remarks)	
·	low Dark Surface	e (A11)		Depleted Matrix				2.			
☐ Thick Dark S	, ,			Redox Dark Su	, ,	7 \		³Ir		rs of hydrophytic vegetation	
	y Mineral (S1) ed Matrix (S4)			Depleted Dark : Redox Depress	•	7)				nd hydrology must be preser s disturbed or problematic.	II,
Restrictive Laye				redux Depress	ions (10)				uilles	s disturbed of problematic.	
Type: None	or (ii present).										
Depth (inches	s):			-				Lludei	io Soil	Present? Yes ☐ No ⊠	1
, ,	/			•				пуш	C SOII	Present? Yes ∐ No ⊠	J
Remarks:											
No hydric soil	criteria met.										
HYDROLOGY	,										
HYDROLOGY Wetland Hydrol											
Wetland Hydrol	ogy Indicators:	ne requi	red; che	eck all that app	ly)				Secon	dary Indicators (2 or more re	equired)
Wetland Hydrol Primary Indicator	ogy Indicators: rs (minimum of o	ne requi	red; che			es (B9) (e	xcept MLF	 RA		,	
Wetland Hydrol Primary Indicato	ogy Indicators: rs (minimum of o	ne requi	red; che	☐ Water-Sta			xcept MLF	RA		ater-Stained Leaves (B9) (M	
Wetland Hydrol Primary Indicator □ Surface Wate □ High Water 1	ogy Indicators: rs (minimum of o er (A1) Table (A2)	ne requi	red; che	☐ Water-Sta	ined Leave A, and 4B		xcept MLF	RA A	☐ Wa	ater-Stained Leaves (B9) (M	
Primary Indicator Surface Water	ogy Indicators: rs (minimum of o er (A1) Table (A2)	ne requi	red; che	☐ Water-Sta	ined Leave A, and 4B (B11))	xcept MLF	RA A	☐ Wa	ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10)	
Wetland Hydrol Primary Indicator Surface Wate High Water 1 Saturation (A	ogy Indicators: rs (minimum of o er (A1) Table (A2) A3) (B1)	ne requi	red; che	☐ Water-Sta 1, 2, 4 ☐ Salt Crust ☐ Aquatic In	ined Leave A, and 4B (B11) vertebrates) s (B13)	xcept MLF		□ Wa	ater-Stained Leaves (B9) (M	LRA 1, 2,
Wetland Hydrol Primary Indicator Surface Wate High Water 1 Saturation (A Water Marks Sediment De	ogy Indicators: rs (minimum of o er (A1) Table (A2) A3) (B1) eposits (B2)	ne requi	red; che	☐ Water-Sta 1, 2, 4. ☐ Salt Crust ☐ Aquatic In ☐ Hydrogen	ined Leave A, and 4B (B11) vertebrates Sulfide Oc) s (B13) lor (C1)			☐ Wa	ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Ima	LRA 1, 2,
Wetland Hydrol Primary Indicator Surface Wate High Water 1 Saturation (A Water Marks Sediment De	ogy Indicators: rs (minimum of o er (A1) Table (A2) v3) (B1) eposits (B2) s (B3)	ne requi	red; che	☐ Water-Sta 1, 2, 4. ☐ Salt Crust ☐ Aquatic In ☐ Hydrogen	ined Leave A, and 4B (B11) vertebrates Sulfide Oc	s (B13) lor (C1) res along	Living Roo		☐ Wa	ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2)	LRA 1, 2,
Wetland Hydrol Primary Indicator Surface Wate High Water 1 Saturation (A Water Marks Sediment De	ogy Indicators: rs (minimum of o er (A1) Table (A2) A3) (B1) eposits (B2) s (B3) Crust (B4)	ne requi	red; che	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence	ined Leave A, and 4B (B11) vertebrates Sulfide Oc Rhizospher of Reduce	s (B13) lor (C1) res along d Iron (C4	Living Roo	ts (C3)	☐ Wa	ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Ima comorphic Position (D2)	LRA 1, 2,
Wetland Hydrol Primary Indicator Surface Wate High Water 1 Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or	ogy Indicators: rs (minimum of o er (A1) Table (A2) A3) (B1) eposits (B2) s (B3) Crust (B4) s (B5)	ne requi	red; che	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro	ined Leave A, and 4B (B11) vertebrates Sulfide Oc Rhizospher of Reduce in Reduction	s (B13) for (C1) res along d Iron (C4 on in Tille	Living Roo 1)	ts (C3)	 □ Wa □ Dr. □ Sa □ Ge □ Sh □ FA 	ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Ima comorphic Position (D2) allow Aquitard (D3)	LRA 1, 2,
Wetland Hydrol Primary Indicator Surface Wate High Water 1 Saturation (A Water Marks Sediment De Drift Deposite Algal Mat or Iron Deposite Surface Soil	ogy Indicators: rs (minimum of o er (A1) Table (A2) A3) (B1) eposits (B2) s (B3) Crust (B4) s (B5)			Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro	ined Leave A, and 4B (B11) vertebrate: Sulfide Oc Rhizospher of Reduce on Reduction	s (B13) lor (C1) res along d Iron (C ² on in Tille Plants (D	Living Roo 4) d Soils (C6	ts (C3)	☐ Wa ☐ Dri ☐ Dri ☐ Sa ☐ Ge ☐ Sh ☐ FA	Ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Image comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5)	LRA 1, 2,
Wetland Hydrol Primary Indicator Surface Wate High Water 1 Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or Iron Deposits Surface Soil Inundation V	ogy Indicators: rs (minimum of o er (A1) Table (A2) A3) (B1) eposits (B2) s (B3) Crust (B4) s (B5) Cracks (B6)	magery (<u>(</u> B7)	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or	ined Leave A, and 4B (B11) vertebrate: Sulfide Oc Rhizospher of Reduce on Reduction	s (B13) lor (C1) res along d Iron (C ² on in Tille Plants (D	Living Roo 4) d Soils (C6	ts (C3)	☐ Wa ☐ Dri ☐ Dri ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Image comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR	LRA 1, 2,
Wetland Hydrol Primary Indicator Surface Wate High Water 1 Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or Iron Deposits Surface Soil Inundation V	ogy Indicators: rs (minimum of o er (A1) Table (A2) A3) (B1) eposits (B2) s (B3) Crust (B4) s (B5) Cracks (B6) isible on Aerial Ir getated Concave	magery (<u>(</u> B7)	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrates Sulfide Oc Rhizospher of Reduce on Reduction Stressed	s (B13) lor (C1) res along d Iron (C ² on in Tille Plants (D marks)	Living Roo 4) d Soils (C6	ts (C3)	☐ Wa ☐ Dri ☐ Dri ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Image comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR	LRA 1, 2,
Wetland Hydrol Primary Indicator Surface Wate High Water 1 Saturation (A Water Marks Sediment De Drift Deposite Algal Mat or Iron Deposite Surface Soil Inundation V Sparsely Veg	ogy Indicators: rs (minimum of o er (A1) Table (A2) A3) r (B1) eposits (B2) s (B3) Crust (B4) s (B5) Cracks (B6) isible on Aerial In getated Concave	magery (Surface	<u>(</u> B7)	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrates Sulfide Oc Rhizospher of Reduce on Reduction Stressed	s (B13) lor (C1) res along d Iron (C ² on in Tille Plants (D marks)	Living Roo 4) d Soils (C6	ts (C3)	☐ Wa ☐ Dri ☐ Dri ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Image comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR	LRA 1, 2,
Wetland Hydrol Primary Indicator Surface Water High Water To Saturation (A) Water Marks Sediment Decoited Drift Deposited Algal Mat or Iron Deposited Surface Soil Inundation V Sparsely Veg	ogy Indicators: rs (minimum of o er (A1) Fable (A2) A3) r (B1) eposits (B2) s (B3) Crust (B4) s (B5) Cracks (B6) isible on Aerial Ir getated Concave ons: resent?	magery (Surface	B7) e (B8) No 🔀	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrates Sulfide Oc Rhizospher of Reduce in Reduction Stressed blain in Re s): None	s (B13) lor (C1) res along d Iron (C ² on in Tille Plants (D marks)	Living Roo 4) d Soils (C6	ts (C3)	☐ Wa ☐ Dri ☐ Dri ☐ Sa ☐ Ge ☐ Sh ☐ FA	ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Image comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR	LRA 1, 2,
Wetland Hydrol Primary Indicator Surface Water High Water T Saturation (A Water Marks Sediment De Drift Deposite Algal Mat or Iron Deposite Surface Soil Inundation V Sparsely Veg Field Observatic Surface Water P Water Table Pre	ogy Indicators: rs (minimum of o er (A1) Table (A2) A3) (B1) eposits (B2) s (B3) Crust (B4) s (B5) Cracks (B6) isible on Aerial Ir getated Concave ons: resent? Y	magery (Surface	B7) 9 (B8) No 🗵	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrate: Sulfide Oc Rhizospher of Reduce on Reduction Stressed blain in Re s): None None	s (B13) lor (C1) res along d Iron (C ² on in Tille Plants (D marks)	Living Roo ‡) d Soils (C6 1) (LRR A)	ts (C3)	☐ Wa	ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Ima comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR ost-Heave Hummocks (D7)	LRA 1, 2, agery (C9) A)
Wetland Hydrol Primary Indicator Surface Wate High Water 1 Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or Iron Deposits Surface Soil Inundation V Sparsely Veg Field Observation Surface Water P Water Table Prese (includes capillar	ogy Indicators: rs (minimum of o er (A1) Fable (A2) A3) (B1) eposits (B2) s (B3) Crust (B4) s (B5) Cracks (B6) isible on Aerial Ir getated Concave ons: resent? yent? yfringe)	magery (Surface es es es es	B7) • (B8) No 🛭 No 🗷 No 🗷	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrates Sulfide Oc Rhizospher of Reduce on Reduction Stressed blain in Res s): None None S): None	s (B13) lor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A)	ts (C3)	☐ Wa	ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Image comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR	LRA 1, 2, agery (C9) A)
Wetland Hydrol Primary Indicator Surface Wate High Water 1 Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or Iron Deposits Surface Soil Inundation V Sparsely Veg Field Observatic Surface Water P Water Table Preservation	ogy Indicators: rs (minimum of o er (A1) Fable (A2) A3) (B1) eposits (B2) s (B3) Crust (B4) s (B5) Cracks (B6) isible on Aerial Ir getated Concave ons: resent? yent? yfringe)	magery (Surface es es es es	B7) • (B8) No 🛭 No 🗷 No 🗷	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrates Sulfide Oc Rhizospher of Reduce on Reduction Stressed blain in Res s): None None S): None	s (B13) lor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A)	ts (C3)	☐ Wa	ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Ima comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR ost-Heave Hummocks (D7)	LRA 1, 2, agery (C9) A)
Wetland Hydrol Primary Indicator Surface Wate High Water 1 Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or Iron Deposits Surface Soil Inundation V Sparsely Veg Field Observation Surface Water P Water Table Prese (includes capillar	ogy Indicators: rs (minimum of o er (A1) Fable (A2) A3) (B1) eposits (B2) s (B3) Crust (B4) s (B5) Cracks (B6) isible on Aerial Ir getated Concave ons: resent? yent? yfringe)	magery (Surface es es es es	B7) • (B8) No 🛭 No 🗷 No 🗷	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrates Sulfide Oc Rhizospher of Reduce on Reduction Stressed blain in Res s): None None S): None	s (B13) lor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A)	ts (C3)	☐ Wa	ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Ima comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR ost-Heave Hummocks (D7)	LRA 1, 2, agery (C9) A)
Wetland Hydrol Primary Indicator Surface Wate High Water 1 Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or Iron Deposits Surface Soil Inundation V Sparsely Veg Field Observation Surface Water P Water Table Prese (includes capillar	ogy Indicators: rs (minimum of o er (A1) Fable (A2) A3) (B1) eposits (B2) s (B3) Crust (B4) s (B5) Cracks (B6) isible on Aerial Ir getated Concave ons: resent? yent? yfringe)	magery (Surface es es es es	B7) • (B8) No 🛭 No 🗷 No 🗷	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrates Sulfide Oc Rhizospher of Reduce on Reduction Stressed blain in Res s): None None S): None	s (B13) lor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A)	ts (C3)	☐ Wa	ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Ima comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR ost-Heave Hummocks (D7)	LRA 1, 2, agery (C9) A)
Wetland Hydrol Primary Indicator Surface Wate High Water T Saturation (A Water Marks Sediment De Drift Deposite Algal Mat or Iron Deposite Surface Soil Inundation V Sparsely Veg Field Observation Surface Water P Water Table Pre Saturation Prese (includes capillar Describe Record	ogy Indicators: rs (minimum of o er (A1) Fable (A2) A3) (B1) eposits (B2) s (B3) Crust (B4) s (B5) Cracks (B6) isible on Aerial Ir getated Concave ons: resent? yent? y fringe) led Data (stream	magery (Surface es es es es	B7) • (B8) No 🛭 No 🗷 No 🗷	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrates Sulfide Oc Rhizospher of Reduce on Reduction Stressed blain in Res s): None None S): None	s (B13) lor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A)	ts (C3)	☐ Wa	ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Ima comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR ost-Heave Hummocks (D7)	LRA 1, 2, agery (C9) A)
Wetland Hydrol Primary Indicator Surface Wate High Water T Saturation (A Water Marks Sediment De Drift Deposits Algal Mat or Iron Deposits Surface Soil Inundation V Sparsely Vec Field Observation Surface Water P Water Table Prese (includes capillar Describe Record	ogy Indicators: rs (minimum of o er (A1) Fable (A2) A3) (B1) eposits (B2) s (B3) Crust (B4) s (B5) Cracks (B6) isible on Aerial Ir getated Concave ons: resent? yent? y fringe) led Data (stream	magery (Surface es es es es	B7) • (B8) No 🛭 No 🗷 No 🗷	Water-Sta 1, 2, 4. Salt Crust Aquatic In Hydrogen Oxidized F Presence Recent Iro Stunted or Other (Exp	ined Leave A, and 4B (B11) vertebrates Sulfide Oc Rhizospher of Reduce on Reduction Stressed blain in Res s): None None S): None	s (B13) lor (C1) res along d Iron (C4 on in Tille Plants (D marks)	Living Roo 4) d Soils (C6 1) (LRR A)	ts (C3)	☐ Wa	ater-Stained Leaves (B9) (M 4A, and 4B) ainage Patterns (B10) y-Season Water Table (C2) turation Visible on Aerial Ima comorphic Position (D2) allow Aquitard (D3) C-Neutral Test (D5) ised Ant Mounds (D6) (LRR ost-Heave Hummocks (D7)	LRA 1, 2, agery (C9) A)

Project/Site: 1144.0031 - Port Olympia	(City/Cou	_{unty:} Tur	ımwat	er/ Thurston	Samr	oling Date: 03/	/24/21
Applicant/Owner: PDC Seattle, LLC			-		State: WA		-	
Investigator(s): Ryan Krapp							-	
• . ,					convex, none): No			_{(%):} 1
Subregion (LRR): A2			•					. ,
Soil Map Unit Name: Nisqually loamy fine sand, 0 to								
Are climatic / hydrologic conditions on the site typical for this	time of yea	ar? Yes	× No [☐ (If i	no, explain in Rem	arks.)		
Are Vegetation, Soil, or Hydrology sign	ificantly dis	turbed?	Ar	re "Nor	mal Circumstances	s" present?	Yes 🗵 No [
Are Vegetation, Soil, or Hydrology natu	rally probler	matic?	(If ı	needed	d, explain any ansv	vers in Rema	arks.)	
SUMMARY OF FINDINGS - Attach site map			ling poi	int lo	cations, trans	ects, impo	ortant featu	ıres, etc.
Hydrophytic Vegetation Present? Yes ☒ No ☐								
Hydric Soil Present? Yes ☐ No 🗵			s the Sam	-				
Wetland Hydrology Present? Yes ☐ No 🗵		w	vithin a W	Vetland	1? Yes	□ No 🗷		
Remarks:			I	4 1 .	414 4-		- 1071010000	0 420 £4
Not all wetland criteria met; only hydrophytic south of 78th Ave SW and 560 ft west of Cente	_				_	e oi parcei n	10. 12/1010000	0;∼430 teet
VEGETATION – Use scientific names of plant								
Tree Stratum (Plot size: 30 ft)	Absolute <u>% Cover</u>		ant Indica es? Stat	tuc	Dominance Test			
1. Alnus rubra	20	Yes	FAC	\sim	Number of Domina That Are OBL, FA		3	(A)
2. Pseudotsuga menziesii	15	Yes	FAC					_ ('')
3.					Total Number of E Species Across Al		4	(B)
4.					·			(-/
	35	= Tota	al Cover	-	Percent of Domina That Are OBL, FA		75%	(A/B)
Sapling/Shrub Stratum (Plot size: 15 ft)	40	V	- 40					(, , _)
1. Rubus armeniacus	40	Yes	_		Prevalence Index			
2. Cornus alba	5	No	FAC		Total % Cove			 '
3					OBL species			
4					FACW species			
5	45	- Tota	al Cover		FAC species			
Herb Stratum (Plot size: 5 ft)							· ·	
1. Phalaris arundinacea	60	Yes	FAC	\cap \\\	Column Totals:			(B)
2. Hypericum perforatum	10	No	FAC	CU				
3. Holcus lanatus	10	No	<u>FAC</u>				=	
4. Agrostis capillaris	5	No	FAC	<u>C</u>	Hydrophytic Veg			
5					Rapid Test for		Vegetation	
6					■ Dominance Tell ■ Dominance Tell			
7					☐ Prevalence Inc		1 (Daniel	
8					☐ Morphological data in Re	•	i (Provide sup a separate she	
9					☐ Wetland Non-		•	,
10					☐ Problematic H	ydrophytic V	egetation¹ (Ex	plain)
11	85				¹ Indicators of hydr			gy must
Woody Vine Stratum (Plot size: 30 ft)	00	= 10ta	al Cover		be present, unless	disturbed or	r problematic.	
1								
2					Hydrophytic Vegetation			
	0	= Tota	al Cover		Present?	Yes 🗵 I	No 🗌	
% Bare Ground in Herb Stratum 15								
Remarks: Hydrophytic vegetation criteria met thro	ough dom	ninance	e test.					

Depth	ription: (Descrit Matrix		spui ile		x Feature		or commit	ii uie abs	SCHOOL	or mulcators.
(inches)	Color (moist)	%	Colc	or (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-6	10YR 3/1	100	-		-	-		SaLo		Sandy Loam
6-16	10YR 3/2	100	-		-	-	-	SaLo		Sandy Loam
								-		
			· —					-		
		-						-		-
					_					
	oncentration, D=D						ed Sand G			cation: PL=Pore Lining, M=Matrix.
=	Indicators: (App	licable to a				ed.)				ors for Problematic Hydric Soils ³ :
Histosol	• •			Sandy Redox (S	-			_		Muck (A10)
	ipedon (A2)			Stripped Matrix	. ,	1) /	MI DA 4)			Parent Material (TF2)
☐ Black His	n Sulfide (A4)			Loamy Mucky N Loamy Gleyed I			(WLKA 1)		-	r Shallow Dark Surface (TF12) er (Explain in Remarks)
	l Below Dark Surfa	ace (A11)		Depleted Matrix	•	,		Ш	Othe	(Explain in Nemarks)
	rk Surface (A12)	100 (7111)		Redox Dark Su				³ In	ndicato	ors of hydrophytic vegetation and
	lucky Mineral (S1)			Depleted Dark S	. ,	7)				nd hydrology must be present,
	leyed Matrix (S4)			Redox Depress		,				s disturbed or problematic.
	Layer (if present)	:								
Type: No				_						
Depth (in	ches): <u>N/A</u>			-				Hydri	c Soil	Present? Yes □ No ☒
Remarks:										
No hydric s	soil criteria met									
i vo riyano s	on chena me	••								
HYDROLO										
=	drology Indicator								_	
	cators (minimum o	f one requi	red; ch							ndary Indicators (2 or more required)
	Water (A1)			☐ Water-Stai			xcept MLI	RA	☐ W	ater-Stained Leaves (B9) (MLRA 1, 2,
_	ter Table (A2)				A, and 4B	5)			_	4A, and 4B)
☐ Saturation	, ,			Salt Crust					_	rainage Patterns (B10)
☐ Water M				Aquatic Inv		` '				ry-Season Water Table (C2)
	t Deposits (B2)			Hydrogen						aturation Visible on Aerial Imagery (C9)
	osits (B3)			Oxidized F		_	_	ots (C3)		eomorphic Position (D2)
	t or Crust (B4)			☐ Presence of		-	-			hallow Aquitard (D3)
-	osits (B5)			☐ Recent Iro			•	•		AC-Neutral Test (D5)
	Soil Cracks (B6)			☐ Stunted or		-	1) (LRR A)		aised Ant Mounds (D6) (LRR A)
	on Visible on Aeria			☐ Other (Exp	olain in Re	marks)			∐ Fr	rost-Heave Hummocks (D7)
	Vegetated Conca	ve Surface	(B8)							
Field Obser					None					
Surface Wat	er Present?	_	No 🔀	Depth (inches						
Water Table	Present?	Yes	No 🗵	Depth (inches						
Saturation P		Yes	No 🗵	Depth (inches	s): None	<u> </u>	Wet	land Hyd	lrolog	y Present? Yes ☐ No ⊠
(includes car Describe Re	olliary fringe) corded Data (strea	am gauge	monitor	ring well, aerial	photos n	revious in	spections)	if availah	ole:	
		3		J, aonai	,, pi		, 55110),			
Remarks:										
	gic criteria me	t								
i to riyuruk	gio oritoria me									

Appendix E— Qualifications

All field inspections, habitat assessments, and supporting documentation, including this <u>Wetland</u>, <u>and Fish and Wildlife Habitat Assessment</u> for the <u>Port of Olympia South Sound Commerce</u> <u>Center</u> were prepared by, or under the direction of Ben Wright of SVC. In addition, field investigations or report preparation were performed by Rachael Hyland and Jake Layman.

Ben Wright

Senior Fisheries Biologist Professional Experience: 18 years

Ben Wright is a Senior Fisheries Biologist with a varied background in lake ecology, stream ecology, fisheries biology, water quality and climate science. Ben has 13 years of experience at the federal level providing technical assistance for both the development of infrastructure projects and management of aquatic resources. He has experience developing biological assessments, water quality monitoring plans, and fisheries management plans. Ben has an additional 10 years of experience working on long-term ecological monitoring programs related to lakes, streams, water quality and climate.

Ben earned a Bachelor of Science degree in Genetics and Cell Biology with an emphasis in aquatic ecology from Washington State University and has a graduate certificate in Fisheries Management from Oregon State University. Ben's expertise includes endangered species monitoring, assessments and permitting, and NEPA documentation across disciplines gained during his work on federal highway projects. Ben also has experience in fish population assessments, utilizing genetic analysis, spawning escapement and movement studies. Ben has received formal training from the Washington State Department of Ecology in the Using the Revised 2014 Wetland Rating System for Western Washington, How to Determine the Ordinary High Water Mark, Navigating SEPA, How to Conduct a Forage Fish Survey and Puget Sound Costal Processes, Shoreline Modifications and Beach Restoration. Ben has completed 40-hour wetland delineation training for the Western Mountains, Valleys, & Coast and Arid West Regional Supplement. Most recently, Ben has completed a short course in River Sediment Dynamics from River Restoration Northwest.

Rachael Hyland, WPIT

Environmental Scientist & Certified Ecologist

Professional Experience: 8 years

Rachael Hyland is an Environmental Scientist with extensive wetland and stream delineation and regulatory coordination experience. Rachael has a background in wetland and ecological habitat assessments in various states, most notably Washington, Connecticut, Massachusetts, Rhode Island, and Ohio. She has experience in assessing wetland, stream, riparian, and tidal systems, as well as complicated agricultural and disturbed sites. She currently performs wetland, stream, and shoreline delineations and fish and wildlife habitat assessments; conducts environmental code analysis; and prepares environmental assessment and mitigation reports, biological evaluations, and permit applications to support clients through the regulatory and planning process for various land use projects. She also has extensive knowledge of bats and their associated habitats and white nose syndrome (*Pseudogymnoascus destructans*), a fungal disease affecting bats which was recently documented in Washington.

Rachael earned a Bachelor of Science degree in Ecology and Evolutionary Biology from the University of Connecticut, with additional ecology studies at the graduate level. Rachael is a Wetland Professional in Training (WPIT) through the Society of Wetland Scientists as well as a Certified Ecologist through the Ecological Society of America. She has completed 40-hour wetland delineation training for Western Mountains, Valleys, & Coast and Arid West Regional Supplement, in addition to formal training for the Northcentral and Northeast supplement, and experience with the Midwest, Eastern Mountains and Piedmont, and Atlantic and Gulf Coast supplements. She has also received formal training from the Washington State Department of Ecology in the Using the Revised 2014 Wetland Rating System for Western Washington, How to Determine the Ordinary High Water Mark, Navigating SEPA, Selecting Wetland Mitigation Sites Using a Watershed Approach, and Wetland Classification. Rachael has also received training from the Washington State Department of Transportation in Biological Assessment Preparation for Transportation Projects and is listed by WSDOT as a junior author for preparing Biological Assessments.